

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface](#) | [Executive Summary](#)

[Volume I TOC](#) | [Volume II TOC](#) | [PG&E Response](#) | [Contact the DCISC](#)

**Diablo Canyon Independent Safety Committee
Thirty-First Annual Report on the Safety of Diablo Canyon Nuclear
Power Plant Operations
July 1, 2020—June 30, 2021**



Peter Lam, Chair
Per F. Peterson, Member
Robert J. Budnitz, Member

Approved: October 19, 2021

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[Preface](#) | [Executive Summary](#)

[Volume I TOC](#) | [Volume II TOC](#) | [PG&E Response](#) | [Contact the DCISC](#)

[31st Annual Report, Preface](#)

This report covers the activities of the Diablo Canyon Independent Safety Committee (DCISC) for the period July 1, 2020 through June 30, 2021. This is the thirty-first annual report of the DCISC. The report is presented in two volumes.

[Volume I](#) includes a report summary and Conclusions and Recommendation ([Executive Summary](#)), a brief introduction and history regarding the DCISC, Committee activities, and documents received by the DCISC during the reporting period ([Section 1.0](#)), DCISC public meetings ([Section 2.0](#)), a review and evaluation of Nuclear Regulatory Commission (NRC) assessments and issues ([Section 3.0](#)), Committee Member and Consultant investigation topical summaries ([Section 4.0](#)), DCPD performance indicators monitored by the DCISC ([Section 5.0](#)), open items being followed by the Committee ([Section 6.0](#)), follow-up of Pacific Gas and Electric (PG&E) actions on previous DCISC recommendations ([Section 7.0](#)), input to the Committee by members of the public ([Section 8.0](#)), and PG&E's response ([Section 9.0](#)) to recommendation in this report. The conclusions and recommendation also appear in **boldface type** throughout the main body of the report with a discussion of the subject involved.

[Volume II](#) contains a list of documents received by the DCISC ([Exhibit A](#)), public meeting notices and agendas and minutes ([Exhibit B](#)), a DCPD operations summary for the reporting period and organization charts ([Exhibit C](#)), full investigation reports by Committee Members and Consultants ([Exhibit D](#)), a record of plant tours by the DCISC ([Exhibit E](#)), the DCISC Open Items List ([Exhibit F](#)), communications and correspondence with members of the public ([Exhibit G](#)), Nuclear Decommissioning Cost Triennial Proceeding Documents ([Exhibit H](#)), DCISC recommendations and PG&E responses for the previous period ([Exhibit I](#)), the DCISC informational brochure ([Exhibit J](#)), and a glossary of terms ([Exhibit K](#)).

[The DCISC invites questions and comments on this report.](#) Contact the DCISC at the following:

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[31st Annual Report](#), Executive Summary, Conclusions and Recommendations

History and Introduction

The Diablo Canyon Independent Safety Committee (DCISC) was established as part of the June 24, 1988, settlement agreement which arose from the rate proceedings for the Diablo Canyon Nuclear Power Plant (DCPP). The DCISC was formed in late 1989 with the appointments of Committee Members and began formal review activities and meetings on January 1, 1990. The original settlement agreement (D.88-12-083) was terminated by the California Public Utilities Commission (CPUC) in its decision to open the state electricity markets to competition on January 1, 1998; however, under the provisions of the Commission's Decisions 97-05-088, issued on May 21, 1997, and 04-05-055, issued on May 27, 2004, the DCISC has continued to function and fulfill its responsibilities as established under the terms of the 1988 settlement agreement.

The original settlement agreement provided for a three-member Independent Safety Committee for the purpose of "reviewing and assessing the safety of operations of DCPP." The members serve three-year staggered terms and remain on the DCISC until a new appointment or their reappointment is made. To fill an expired term or a vacancy, the CPUC issues a public notice soliciting applications from interested persons or nominations by others of prospective candidates. Under the revised process in accordance with the restated charter, candidates are selected by the CPUC from the applications plus the incumbent, if willing to serve.

The candidates must be "persons with knowledge, background and experience in the field of nuclear power facilities and nuclear safety issues." From the list of candidates, the new or returning member is appointed by the Governor of California, the Attorney General of California, or the Chairperson of the California Energy Commission (CEC), whichever made the original appointment.

On May 27, 2004, the CPUC issued Decision 04-05-055. In its decision, the CPUC changed the nomination procedures by eliminating from the process the participation of PG&E and the Dean of Engineering at the University of California at Berkeley, modified the requirements for membership on the DCISC to add "knowledge and background in nuclear safety issues" to the "experience in the field of nuclear power facilities," and modified the DCISC's mandate to require it to undertake public outreach in the community. The Decision concluded that the DCISC should retain the discretion to determine how best to accomplish its

mandate, that the DCISC shall otherwise continue to exist and to operate, and that funding through cost-of-service rates should continue. To implement this directive, the DCISC has continued to expand its public outreach as described in Section 8.0, Public Input and Outreach, and continues to consider additional outreach activities.

On January 25, 2007, the CPUC issued Decision 07-01-028. The CPUC had previously adopted new practices and expectations for the DCISC without concurrently restating the Committee's charter to reflect the changes. In its decision, the CPUC granted the DCISC application for authority to restate its charter including the incorporation into the Restated Charter of several terms, conditions, changes and clarifications necessitated by, and previously authorized by, the CPUC which govern the composition, responsibilities and operations of the Committee. In its decision, the CPUC found the Restated Charter to be in the public's interest as it reflects the latest authority and obligations of the DCISC. The Committee's application was unopposed.

On June 21, 2016, PG&E announced a Joint Proposal with Friends of the Earth, the Natural Resources Defense Council, Environment California, the International Brotherhood of Electrical Workers Local 1245, Coalition of California Utility Employees, and the Alliance for Nuclear Responsibility to retire DCCP at the expirations of the current NRC operating licenses in 2024 (Unit 1) and 2025 (Unit 2).

On August 11, 2016, PG&E filed an Application with the California Public Utilities Commission (CPUC) for approval of the retirement of DCCP, implementation of the Joint Proposal, and for recovery of associated costs through proposed ratemaking.

On January 16, 2018, the CPUC issued Decision 18-01-022 (D.18-01-022). In D. 18-02-022 the Commission approved PG&E's proposal to retire Diablo Canyon by 2025 but reduced by 40% the amount of funding sought by PG&E in its Application for employee retention and found the request for the Community Impacts Mitigation Program should be addressed to the legislature.

On February 12, 2018, State Senator William Monning introduced Senate Bill No. 1090 (SB 1090) to add Section 712.7 to the California Public Utilities Code to require the CPUC to approve full funding for the Community Impacts Mitigation Program and for the employee retention program.

On May 22, 2018, the DCISC approved a letter commenting on Senate Bill 1090 and expressing its belief that the DCCP employee retention program should not be cut as severely as required by Decision 18-01-022.

On May 29, 2018, SB 1090 was passed by the California Senate and on August 20, 2018, SB 1090 was passed by the California Assembly and on September 19, 2018, the legislation was signed into law by California Governor Edmund G. Brown Jr. Among other provisions, SB 1090 restored funding for the DCCP employee retention program as the DCISC had recommended.

At its October 2019 and February 2020 public meetings, following comments received from members of the public and representatives of certain non-governmental organizations, the DCISC continued its discussion of the issue of a continued role for the Committee to review spent nuclear fuel-related activities and issues after the power plant ceases to generate electricity. At its public meetings on October 23, 2019 and February 12, 2020, the Committee received and considered the proposed amendment of its Restated Charter to provide to a continued role for the DCISC following Diablo Canyon's cessation of electricity generating operations to review nuclear fuel-related issues and to terminate that review upon completion of the safe transfer of all spent fuel to the ISFSI. Minutes of those public meetings are contained in the Annual Report for 2019-2020 in Volume II, Exhibits B.3, and B.6.

On September 9, 2021, the CPUC approved Decision 21-09-003 adopting a Settlement Agreement proposed in the 2018 Nuclear Decommissioning Cost Triennial Proceeding to provide for a role for the Committee following Diablo Canyon's cessation of electricity generating operations in accordance with a revised charter to continue in its safety oversight role until all the DCCP spent nuclear fuel has been moved from wet storage to dry storage. The Committee will continue to monitor and report on safety of operations at Diablo Canyon while the plant operates to generate electricity including reviewing any effect of decommissioning-related activities on those operations and, under a revised charter, after cessation of generation operations until all spent fuel has been transferred from the Spent Fuel Pools to the Independent Spent Fuel Storage Installation.

The Committee Members during this period were as follows:

On October 10, 2007, Robert J. Budnitz, Ph.D. was appointed by California Attorney General Edmund G. Brown Jr. to a term on the Committee expiring June 30, 2010. On April 15, 2010, Attorney General Brown announced the reappointment of Dr. Budnitz to a second three-year term on the Committee commencing July 1, 2010 through June 30, 2013. On June 27, 2013, the CPUC ratified its President's selection of Dr. Budnitz as one of two candidates for appointment by Attorney General Kamala Harris to serve a three-year term on the DCISC for the period July 1, 2013 to June 30, 2016. During that period, Dr. Budnitz continued to serve as a member of the Committee pending his reappointment or replacement. On July 7, 2016, Attorney General Harris announced the reappointment of Dr. Budnitz to serve a three-year term on the Committee commencing July 1, 2016 through June 30, 2019. On August 14, 2019, California Attorney General Xavier Becerra announced his reappointment of Dr. Robert J. Budnitz to a three-year term on the DCISC beginning on July 1, 2019 and ending on June 30, 2022.

Dr. Budnitz served as DCISC Vice-Chair during this report period, July 1, 2020 through June 30, 2021.

On June 3, 2009, Peter Lam, Ph.D., was appointed by Chair Karen Douglas, J.D., of the California Energy Commission (CEC) to a three-year term on the Committee commencing July 1, 2009 through June 30, 2012. On July 12, 2012, CEC Chair Robert B. Weisenmiller, Ph.D., announced his reappointment of Dr. Lam to a second three-year term on the Committee commencing July 1, 2012 through June 30, 2015. Dr. Lam was reappointed by Dr. Weisenmiller to third three-year term on the Committee commencing July 1, 2015 and ending on June 30, 2018, and subsequently on June 6, 2018, Dr. Weisenmiller announced Dr. Lam's appointment to a fourth three-year term on the Committee beginning on July 1, 2018 and ending on June 30, 2021. On June 25, 2021, CEC Chair David Hochschild announced his reappointment of Dr. Lam to a fifth three-year term on the Committee beginning on July 1, 2021 and ending on June 30, 2024.

Dr. Lam served as DCISC Chair during this report period, July 1, 2020 through June 30, 2021.

On July 9, 2008, California Governor Arnold Schwarzenegger announced the appointment of Per F. Peterson, Ph.D., PE, to a three-year term on the Committee through June 30, 2011. Professor Peterson previously served as a Committee member from September 2, 2004, through October 9, 2007. Governor Edmund G. Brown Jr. reappointed Professor Peterson to a term on the Committee commencing July 1, 2011 through June 30, 2014. Professor Peterson was subsequently again reappointed by Governor Brown to a three-year term on the DCISC commencing July 1, 2014 and expiring on June 30, 2017. On October 11, 2017, Governor Brown reappointed Professor Peterson to a three-year term on the Committee commencing July 1, 2017 and expiring June 30, 2020. In February 2021 Governor Newsom reappointed Dr. Peterson to a sixth three-year term commencing July 1, 2020 through June 30, 2023.

Overview of Activities during the Current Period

The DCISC held three public meetings on the following dates during the current one-year period:

- October 22-23, 2020, remotely by Zoom - Public Meeting
- February 16-17, 2021, remotely by Zoom - Public Meeting
- June 23-24, 2021, Avila Beach, CA and remotely by Zoom - Public Meeting

*Rescheduled from June 24-25, 2020 due to schedule conflicts.

These are described in Section 2.0.

The Committee regularly performs the following activities*:

- Three two-day public meetings each year as reported above
- Tours of the Diablo Canyon Nuclear Power Plant with members of the public held whenever logistically feasible in conjunction with the

public meetings. There were no tours during this reporting period because of the COVID-19 restrictions.

- Nine fact-finding visits annually by individual Committee Members and Consultants to assess issues, review plant programs and activities, and interview PG&E and other personnel
- Reviews of technical documents received from PG&E, the Nuclear Regulatory Commission, various state and local agencies, and other interested parties. The DCISC requests, and PG&E routinely provides copies of essentially all relevant documents generated by PG&E, the NRC, and other parties.
- Visits from time-to-time by the DCISC Members and legal counsel to offices of the CPUC and appointing officials (the Governor of California, California Attorney General and California Energy Commission) to update them on DCISC activities
- Use of regular part-time technical consultants to assist the DCISC to perform assessments and reviews
- Use of legal counsel to advise the Committee on its activities
- Use of expert consultants, as needed

*Note: all public meetings and fact-finding visits between March 15, 2020 and May 31, 2021 were held using remote meeting technology due to the COVID-19 pandemic. The public meeting on June 23 and 24, 2021, was held in person with remote meeting technology simultaneously available to interested parties.

Technical Consultants & Legal Counsel

The Restated Charter provides that the Committee may contract for services including the services of consultants and experts to assist the Committee in its safety review. The DCISC Members are assisted in their important work by technical consultants and legal counsel. For this report period those persons were:

Technical Consultant: Mr. R. Ferman Wardell, a Registered Professional Engineer, holds both Bachelor and Master of Science degrees in Nuclear Engineering from North Carolina State University. He is a 54-year veteran of the nuclear power industry, having been directly involved in design, quality assurance, operation and nuclear safety oversight activities for Duke Energy Corporation's seven nuclear units. He was formerly Executive Assistant to the Chairman and CEO at Duke Energy. Mr. Wardell has been a Consultant to the DCISC since 1992.

Technical Consultant: Mr. Richard D. McWhorter, Jr., holds a Bachelor of Science in Mechanical Engineering from the United States Naval Academy. He is a 35-year veteran of the nuclear power industry. He served for ten years as a division officer and department head in the navy's nuclear submarine program in which he was

responsible for the operation of his submarine's nuclear power plant. Mr. McWhorter then served the U. S. Nuclear Regulatory Commission for ten years first as an Operator Licensing Examiner and then as Senior Resident Inspector at North Anna Power Station. He then was employed for two years as a Systems Engineering Manager for Dominion Virginia Power at North Anna Power Station.

For ten years, Mr. McWhorter was employed at Old Dominion Electric Cooperative where he served as Vice President of Operations and Asset Management. Mr. McWhorter has been a Consultant to the DCISC since 2016.

Legal Counsel: Robert R. Wellington, Esq. has been Legal Counsel for the DCISC since its organization in 1989. He is a graduate of Stanford University and the University of California (Hastings) Law School. For over 40 years his practice has been limited to representing several cities, regional wastewater and solid waste districts and other public agencies, including the DCISC. He advises the DCISC with regard to its legal and administrative matters.

Assistant Legal Counsel Robert Rathie, Esq. has been associated with the Committee through his work with the Wellington Law Offices since 1993. He obtained a bachelor's degree in Social Science and History from Chico State University in 1972 and served for 15 years in the U.S. Merchant Marine as chief purser on board passenger and freight vessels in foreign trade. He received his Juris Doctor degree from Monterey College of Law in 1993. He is a member of the State Bar of California and the Monterey County Bar Association. He assists Mr. Wellington in advising the DCISC with regard to its legal and administrative matters.

The DCISC issues a report for each reporting year, which runs from July 1 to June 30. The report is approved by the Committee Members at the fall public meeting following the end of the reporting period. The first six-month interim report and subsequent thirty annual reports covered the periods January 1, 1990 - June 30, 2020.

This thirty-first annual report covers the period July 1, 2020 - June 30, 2021.

The technical items covered during its public meetings were selected by the DCISC based on the DCISC's own priorities concerning which technical issues are important to cover. PG&E then responded by providing presentations and experts to participate in the public meetings as requested. The DCISC also occasionally requested presentations on relevant issues from others in addition to presentations by PG&E. The following significant items were reviewed during the three public meetings and nine fact-finding meetings held during this reporting period:

- DCPD Responses to the COVID-19 Pandemic
- Performance During the Unit 1 and 2 22nd Refueling Outages
- DCPD Joint Proposal
- DCPD Decommissioning Plan

- Spent Fuel Storage Technical Issues
- Status of NRC Performance Indicators
- Probabilistic Risk Assessment
- Human Performance
- Unit 2 Forced Outage
- Reactivity Management
- Results of 2020 Operating Plan and Key Elements of the 2021 Operating Plan
- Buried Piping and Tanks
- Nuclear Safety Culture
- Safety/Security Interface
- Emergency Diesel Generators
- Drones at nuclear plants
- Overview of FLEX Training
- Emergency Preparedness
- Capital Project Planning
- DCPD Employee Retention Plan
- NRC Matters
- Committee Discussion of Post-Shutdown Role Matrix and Ad Hoc Decommissioning Consultant

Individual Committee Members and consultants reviewed many other items in nine fact-finding visits, inspections, meetings, and tours at DCPD. The DCISC keeps track of past, current and future items for review in its Open Items List (Section 6.0 and Volume II, Exhibit F).

Post-DCPD Shutdown Role of DCISC

Relative to a post-shutdown role for the DCISC, CPUC Decision 21-09-003 dated September 9, 2021, adopting and approving the Settlement Agreement in the 2018 Nuclear Decommissioning Cost Triennial Proceeding, states "If the Settlement Agreement is approved, the DCISC charter would be revised to allow it to continue in its safety oversight role until all the DCPD spent nuclear fuel has been moved from wet storage to dry storage . . ." Decision 21-09-003 Finding of Fact 66 provides "Based on the Settlement Agreement, the Settling Parties agree to amend the Charter of the DCISC to extend its oversight role on nuclear safety matters until all spent fuel has been transferred from the spent fuel pools to the ISFSI." Ordering Paragraph 3 states "Pacific Gas and Electric Company shall submit any Advice Letters(s) within 30 days of the effective date of this decision to implement the specific terms of the Settlement Agreement approved in this decision." Hence, after the cessation of generation of electricity by DCPD the DCISC will continue its nuclear safety oversight role under a revised charter until all spent fuel has been moved from wet to dry storage.

COVID-19 Pandemic

During the period of the 31st Annual Report, the DCISC's operational safety review activities continued but were significantly affected by difficulties and compromises created by the COVID-19 pandemic and the inability of the Members and Technical Consultants to visit the plant in person. During the period of this Annual Report, the Committee continued with each of its previously scheduled activities using teleconference and web-based applications as required to ensure adherence to social distancing and Diablo Canyon access restriction protocols which were strictly observed at all times. During this annual report period, the Committee conducted fact-finding remotely with plant personnel using MS Teams remote conference capabilities on July 21-22, August 19-20, September 9-10, November 10, 12 and 19, and December 8-9, 2020, and on January 13-14, March 17-18, April 27-28, and May 18-19, 2021. The October 22-23, 2020, and the February 16-17, 2021, public meetings were conducted entirely remotely as Zoom webinars. The June 23-24, 2021, public meeting was conducted in person in Avila Beach and also as a Zoom webinar. The Committee has investigated the measures taken by Diablo Canyon to protect plant personnel from COVID-19 and to continue the safe operation of the power plant and reports of its investigations are contained in this Annual Report (Exhibits B.3, B.6, B.9, D.2, D.6 and D.9).

Visits by DCISC Members to California State Agencies

DCISC Member Dr. Lam had a remote Zoom meeting on October 19, 2020 with California Energy Commission Chair David Hochschild and others in his office to provide updates on DCISC activities, to discuss agency concerns and comments, and to provide copies of the Committee's Annual Report. DCISC Member Dr. Budnitz had a remote Zoom meeting on November 13, 2020 with Deputy Attorney General Megan Hey and others in her office to review topics of mutual interest and to update the Attorney General's staff on the Committee's recent activities and topical review.

Public input and questions were received at the public meetings, and by e-mail. Members of the public spoke at each of the three DCISC public meetings held during this reporting period. The DCISC has responded to all of their questions and requests during this period.

Overall Conclusion

The DCISC concludes that PG&E operated DCPD safely during the period July 1, 2020 - June 30, 2021.

Specific Conclusions

Based on its activities, the DCISC has the following specific conclusions from the major review topics examined during the current reporting period. (References to sections of this report are shown in parentheses). Conclusions here

are based on, but may vary from, information contained in Committee Fact-finding Reports in Exhibit D in Volume 2 of this report.

- 1. The DCISC received regular reports on the Nuclear Regulatory Commission (NRC) Performance Indicators, DCPD License Event Reports (LERs) sent to NRC, and NRC Inspection Reports and Enforcement Actions (violations) at each of its Public Meetings as well as copies of these documents throughout the reporting period. The DCISC investigated selected reports at its fact-finding meetings. The number of LERs has decreased down to one during this one-year period. This represents good regulatory performance.**

The Committee notes that, although the NRC concluded that DCPD operated acceptably, it identified eight Non-cited Violations and received one License Event Report of "very low safety significance." This appears to be an improvement from most previous periods.

The DCISC will continue to review DCPD's NRC regulatory performance during the next reporting period, paying particular attention to the number and significance of DCPD violations and LERs. (3.6)

- 2. DCPD Operations developed and effectively implemented a Status Control Action Plan for improvement on component mispositioning errors. DCPD's Operational Decision-Making (ODM) Program procedure and five ODMs reviewed appeared appropriate. DCPD's actions taken in response to an unexpected actuation of the Low Temperature Overpressure Protection System as well as the Apparent Cause Evaluation and corrective actions appeared appropriate. Although there were no big winter Pacific Ocean storms during the winter of 2020-2021, DCPD had available procedures and equipment, which had proved effective in the past when dealing with storm surge and kelp debris. DCPD has an effective Reactivity Management Program, which ensures conservative reactivity management by promoting a reactivity-conscious culture. With its Retention Plan, DCPD anticipated having enough operators to safely operate until power operations cease in 2025. (4.1.3)**
- 3. DCPD Maintenance performance is generally satisfactory with high performance indicators. (4.2.3)**
- 4. The DCPD Engineering organization has undergone an extensive revision in that engineers are focused more specifically on systems, components, programs and support. This appears to be a positive move to more efficiently and specifically concentrate efforts on these**

aspects of the plant. The DCPPE Engineering Excellence Plan has been shown to be effective in bringing "technical conscience" to DCPPE, not only in Engineering, but also Operations and other technical groups in the plant. (4.3.3)

5. The DCISC found that human performance events at DCPPE were being effectively captured and trended with appropriate corrective actions being initiated when needed. The station improved its performance in reducing Station Level Events but recorded an undesirably high number of Department Level Events during Refueling Outage 1R22. The number of Department Level Events was reduced during Refueling Outage 2R22. (4.4.3)
6. The DCPPE Employee Concerns Program, part of the plant's Nuclear Safety Culture program, appeared to be functioning effectively in addressing employees' concerns. (4.5.3)
7. The DCPPE Corrective Action Review Board meetings on August 19, 2020, November 10, 2020, and April 28, 2021, which were attended by DCISC members and consultants as part of their fact-finding activities, were conducted satisfactorily and discussions of significant items were comprehensive. DCPPE's Self-Assessment Program continues to be an active and effective program for evaluating and improving station performance. Following the identification that several recurring Self-Assessments had not been completed within the periodicity required by station procedures, appropriate corrective actions were initiated. (4.6.3)
8. The DCPPE Emergency Preparedness Program and Emergency Response Organization appeared to be effective and ready to respond to any plant emergencies, including given restrictions caused by the COVID pandemic. (4.7.3)
9. Probabilistic Risk Assessment is an effective tool in understanding and improving nuclear reactor safety. PG&E has established an effective PRA Program staffed by experienced personnel and utilizes PRA to the full extent in analyzing DCPPE and in operating DCPPE safely. (4.8.3)
10. Regular nuclear oversight of DCPPE by nuclear industry organizations has proved positive for DCPPE in reporting positive performance results and by providing helpful input for improved performance in achieving excellence. (4.9.3)
11. The DCPPE Radioactive Effluent Release Program and the Radiological Environmental Monitoring Program appeared satisfactory in calculating, monitoring and measuring radioactivity in the environment surrounding DCPPE. There were no abnormal releases of

radioactivity or abnormal levels of radioactivity detected. (4.10.3)

- 12. The DCPD Quality Performance Assessment Report and Quality Digest appeared to be effective tools for reporting performance in the Quality Verification area. DCPD's Quality Verification Audit Program appeared satisfactory in that audits were appropriately scheduled and performed to determine the effectiveness of various departmental and functional activities in meeting quality requirements. (4.11.3)**
- 13. The DCPD nuclear fuel has for many years performed flawlessly with no defects or leakage. Unit 1 has performed without defects since 2011, and Unit 2 since 1991. This is excellent performance. DCPD is designing their fuel for the remaining operating life with lower enrichments and shorter cycles. (4.12.3)**
- 14. DCPD's Equipment Reliability overall was Green (Healthy) with Unit 1 showing strong performance, and Unit 2 needing some corrective actions to meet plant expectations. (4.13.3)**
- 15. A Plan of the Weekend Review meeting was effectively facilitated with crisp and clear informational exchanges across a large number of planned work activities. DCPD successfully accomplished most of the objectives contained in its 2020 Operating Plan, and the 2021 Operating Plan contained appropriate focus areas with initiatives and key metrics. DCPD's Station Excellence Plan was a comprehensive, high-level plan aligning departmental and other DCPD plans. The Station Excellence Plan was appropriate for the station and had the potential to provide improved focus for the leaders' efforts in achieving and maintaining excellence. (4.14.3)**
- 16. DCPD has dealt effectively with most equipment and system problems and is focused on improving system health. DCPD's Plant Health Committee has been improved to focus more on system/component health and meets more frequently, and overall system health has improved. (4.15.3)**
- 17. The DCPD Steam Generators (SGs) have been performing well since their replacements in 2008 and 2009. The most important SG parameter, tube integrity, has been shown to meet all criteria as a result of regular Eddy Current Test inspections, and very few tubes have needed to be plugged. SG secondary side inspections have generally found very little foreign debris and only small amounts of sludge have been removed during cleanings. An evaluation has been initiated to extend the Unit 1 secondary side inspection and cleaning intervals from three to six cycles, which the DCISC has found acceptable. (4.16.3)**

18. **The remotely held Outage Training to prepare Licensed and Non-Licensed Operators for Refueling Outage 1R22 and subsequent start-up and operation appeared satisfactory. The DCPD Refueling Outage 1R22 Outage Safety Plan and Safety Schedule appeared comprehensive and effective to prevent the plant safety level from dropping below acceptable safety standards. DCPD's performance in accomplishing planned work and achieving its goals was good during Refueling Outage 1R22.**
19. **A Unit 2 Forced Outage in July 2020 (2Y22) was properly managed, and corrective actions to identify and repair a hydrogen leak in the Main Generator were appropriate. Two Outage Coordination Center meetings were conducted by conference call and effectively facilitated with crisp and clear informational exchanges across a large number of planned work activities. DCPD appropriately managed a second and then a third Unit 2 Forced Outage (2Z22 and 2G22) which were driven by similar hydrogen leaks and vibration issues on the Main Generator. Ultimately, the unit was removed from service for additional modifications during a fourth Forced Outage (2H22) and Refueling Outage 2R22. The DCISC planned to review the final Root Cause Evaluation for the problem when finalized. (4.17.3)**
20. **The DCPD Safety/Security Interface Program appeared to be implemented effectively, and the devitalization of security in the DCPD Intake Structure was based on appropriate measures. (4.18.3)**
21. **DCPD's procurement of new Spent Fuel storage casks was making steady progress towards execution of a contract in early 2022. Cask procurement proposals were being evaluated and appeared to be capable of supporting movement of all Spent Fuel from the Spent Fuel Pools to the Independent Spent Fuel Storage Installation within four years of the termination of power operations for each unit. There were no active or planned campaigns to move spent fuel from the Spent Fuel Pool to the ISFSI until the new casks arrive. (4.19.3)**
22. **DCPD's evaluation of the effects of an earthquake on the Control Room Procedures Cart, concluding that it would not cause damage to the Control Room, appeared satisfactory. (4.20.3)**
23. **Over the last few years, an increased level of attention to the health of DCPD's Fire Protection and Detection Systems has improved system performance, and the number of impairments has been significantly reduced. This is excellent performance and a notable contribution to improving overall safety at DCPD. The DCPD National Fire Protection Association-805 Fire Protection Program and the Fire Department itself both appeared satisfactory based on periodic**

exercises and audits and inspections by regulatory organizations.

Wildfire risk at DCPD has been reviewed extensively, and DCPD has fire prevention and mitigation plans to maintain fire lines and manage vegetation such that the risk of wildfire damage to the plant was low. (4.21.3)

- 24. DCPD's Control Room Simulator was performing well in supporting operator training and examinations. The simulator was being properly certified and updated, and simulator reliability was high. Learning Services Department overall performance was good, and the Department was appropriately focused on ensuring that staff remaining on site through the cessation of power operations were adequately qualified. (4.22.3)**
- 25. Although the DCISC did not review any DCPD Beyond Design Basis items during the current reporting period, it has found DCPD's program acceptable in the past. (4.23.3)**
- 26. The DCPD Employee Retention Program was proceeding generally as planned. Most operators and instrumentation and controls technicians, who are especially needed through the end of generation, were remaining. Planning for the decommissioning of DCPD was proceeding well, and the Decommissioning Engagement Panel was serving well to represent the interests of the community and other stakeholders. (4.24.3)**
- 27. DCPD's response to and actions for dealing with effects arising from the COVID-19 pandemic were based on maintaining safe, reliable operations with a healthy staff. Their initiatives appeared appropriate for handling normal operations as well as potential responses to emergencies. DCPD's COVID-19 actions did not appear to adversely affect operational safety.**
- 28. DCPD monitors any drone activity near the power plant and has acted appropriately when such activity was observed in the past. In general, drone intrusions do not seem to pose a substantial risk to nuclear safety at DCPD. (4.25.3)**

Concerns

Concerns are items which, while not necessarily warranting recommendations, need enhanced continuing Committee review and scrutiny, or attention by PG&E. Concerns are monitored more actively and frequently by the Committee than they otherwise would be. DCISC's concerns follow:

- PG&E entered into an agreement, the Joint Proposal, to close DCPD at the end of its original operating license (2024 for Unit 1 and 2025**

for Unit 2). As a result, in a previous reporting period (2018-2019), the DCISC had specific concerns in the two following areas:

- a. Retention of qualified, experienced personnel necessary to operate DCPD at an appropriate level of safety. This remains a concern, although to date the DCISC has concluded that the retention plan has been successful to date and plans are working for assuring that qualified operators are available.**
 - b. Adequate spending on programs and equipment to preserve an appropriate level of operational safety. This remains a concern, although to date the DCISC has concluded that DCPD's decisions on cancelling or postponing projects have been sound, and have not significantly affected nuclear safety.**
- PG&E's Spent Fuel Cask procurement proposals were being evaluated and appeared to be capable of supporting movement of all Spent Fuel from the Spent Fuel Pools to the Independent Spent Fuel Storage Installation within four years of the termination of power operations for each unit. The DCISC is concerned that the schedule for licensing and procurement of casks to meet the desired timetable may not be achievable without continuous and aggressive oversight of all cask-related procurement, licensing, loading, and transfer activities.**

Recommendations:

None

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface](#) | [Executive Summary](#)

[Volume I TOC](#) | [Volume II TOC](#) | [PG&E Response](#) | [Contact the DCISC](#)

[31st Annual Report, Volume I – Main Report](#)

Table of Contents

[Preface](#)

[Executive Summary and Conclusions and Recommendations](#)

1.0 [Introduction](#)

- [1.1 Formation of the Independent Safety Committee](#)
- [1.2 Appointment of Committee Members](#)
- [1.3 DCISC Public Meetings](#)
- [1.4 Committee Member Site Inspection Tours and Fact-finding Meetings](#)
 - [1.4.1 Inspections and Visits by Robert J. Budnitz](#)
 - [1.4.2 Inspections and Visits by Peter Lam](#)
 - [1.4.3 Inspections and Visits by Per F. Peterson](#)
- [1.5 Visits by DCISC Members to California State Agencies](#)
- [1.6 Retirement of Diablo Canyon Power Plant at Expiration of its Current Operating Licenses and Post-shutdown Role for the DCISC](#)
- [1.7 COVID-19 Pandemic](#)
- [1.8 Documents Provided to the DCISC](#)
- [1.9 Documentation of DCISC Activities](#)

2.0 [Public Meetings](#)

- 2.1 Public Meetings
 - [2.1.1 October 22-23, 2020](#)
 - [2.1.2 February 16-17, 2021](#)
 - [2.1.3 June 23-24, 2021](#)

3.0 [NRC Assessments and Issues](#)

- 3.1 [Summary of Licensee Event Reports](#)
 - [3.1.1 Discussion and Required LERs](#)

- 3.1.2 [Special Report LERs](#)
 - 3.1.3 [Voluntary LERs](#)
 - 3.1.4 [Reactor Trips Reported in LERs](#)
 - 3.1.5 [Other Reports to NRC](#)
 - 3.1.6 [LER Trends](#)
 - 3.1.7 [DCISC Evaluation and Conclusions](#)
- 3.2 [NRC Inspection Reports and Enforcement Actions](#)
 - 3.2.1 [Discussion](#)
 - 3.2.2 [DCISC Review of Trends of Violations and NRC-Identified Issues](#)
 - 3.2.3 [DCISC Evaluation and Conclusions](#)
- 3.3 [NRC Performance Evaluations](#)
- 3.4 [DCISC Meetings with NRC Resident Inspector](#)
- 3.5 [DCISC Conclusions and Recommendations](#)

4.0 [Summary of Major DCISC Review Topics](#)

- 4.1 [Conduct of Operations](#)
 - 4.1.1 Overview and Previous Activities
 - 4.1.2 Current Period Activities
 - 4.1.3 Conclusions and Recommendations
- 4.2 [Conduct of Maintenance](#)
 - 4.2.1 Overview and Previous Activities
 - 4.2.2 Current Period Activities
 - 4.2.3 Conclusions and Recommendations
- 4.3 [Engineering Program](#)
 - 4.3.1 Overview and Previous Activities
 - 4.3.2 Current Period Activities
 - 4.3.3 Conclusions and Recommendations
- 4.4 [Human Performance](#)
 - 4.4.1 Overview and Previous Activities
 - 4.4.2 Current Period Activities
 - 4.4.3 Conclusions and Recommendations
- 4.5 [Nuclear Safety Culture and Safety Conscious Work Environment](#)
 - 4.5.1 Overview and Previous Activities

- 4.5.2 Current Period Activities
- 4.5.3 Conclusions and Recommendations

4.6 [Performance Improvement Processes](#)

- 4.6.1 Overview and Previous Activities
- 4.6.2 Current Period Activities
- 4.6.3 Conclusions and Recommendations

4.7 [Emergency Preparedness](#)

- 4.7.1 Overview and Previous Activities
- 4.7.2 Current Period Activities
- 4.7.3 Conclusions and Recommendations

4.8 [Risk Assessment and Management](#)

- 4.8.1 Overview and Previous Activities
- 4.8.2 Current Period Activities
- 4.8.3 Conclusions and Recommendations

4.9 [Nuclear Safety Oversight and Review](#)

- 4.9.1 Overview and Previous Activities
- 4.9.2 Current Period Activities
- 4.9.3 Conclusions and Recommendations

4.10 [Radiation Protection](#)

- 4.10.1 Overview and Previous Activities
- 4.10.2 Current Period Activities
- 4.10.3 Conclusions and Recommendations

4.11 [Quality Programs](#)

- 4.11.1 Overview and Previous Activities
- 4.11.2 Current Period Activities
- 4.11.3 Conclusions and Recommendations

4.12 [Nuclear Fuel Performance/Fuel Cycles/Storage](#)

- 4.12.1 Overview and Previous Activities
- 4.12.2 Current Period Activities
- 4.12.3 Conclusions and Recommendations

4.13 [Equipment Reliability](#)

- 4.13.1 Overview and Previous Activities
- 4.13.2 Current Period Activities
- 4.13.3 Conclusions and Recommendations

4.14 [Organizational Effectiveness & Organizational Development](#)

- 4.14.1 Overview and Previous Activities
- 4.14.2 Current Period Activities
- 4.14.3 Conclusions and Recommendations

4.15 [System and Equipment Performance/Problems](#)

- 4.15.1 Overview and Previous Activities
- 4.15.2 Current Period Activities
- 4.15.3 Conclusions and Recommendations

4.16 [Steam Generator Performance](#)

- 4.16.1 Overview and Previous Activities
- 4.16.2 Current Period Activities
- 4.16.3 Conclusions and Recommendations

4.17 [Outage Management](#)

- 4.17.1 Overview and Previous Activities
- 4.17.2 Current Period Activities
- 4.17.3 Conclusions and Recommendations

4.18 [Safety/Security Interface](#)

- 4.18.1 Overview and Previous Activities
- 4.18.2 Current Period Activities
- 4.18.3 Conclusions and Recommendations

4.19 [Independent Spent Fuel Storage Installation](#)

- 4.19.1 Overview and Previous Activities
- 4.19.2 Current Period Activities
- 4.19.3 Conclusions and Recommendations

4.20 [Seismic, Tsunami and Other External Events](#)

- 4.20.1 Overview and Previous Activities
- 4.20.2 Current Period Activities
- 4.20.3 Conclusions and Recommendations

4.21 [Fire Protection](#)

- 4.21.1 Overview and Previous Activities
- 4.21.2 Current Period Activities
- 4.21.3 Conclusions and Recommendations

4.22 [Learning and Development Programs](#)

- 4.22.1 Overview and Previous Activities
- 4.22.2 Current Period Activities
- 4.22.3 Conclusions and Recommendations

4.23 [Beyond Design Basis Events](#)

- 4.23.1 Overview and Previous Activities
- 4.23.2 Current Period Activities
- 4.23.3 Conclusions and Recommendations

4.24 [Joint Proposal and Decommissioning](#)

- 4.24.1 Overview and Previous Activities
- 4.24.2 Current Period Activities
- 4.24.3 Conclusions and Recommendations

4.25 [Other DCISC Reviews](#)

- 4.25.1 Overview and Previous Activities
- 4.25.2 Current Period Activities
- 4.25.3 Conclusions and Recommendations

5.0 [DCISC Performance Indicators](#)

6.0 [DCISC Open Items List](#)

7.0 [PG&E Actions on Previous DCISC Report Recommendations](#)

8.0 [Public Outreach](#)

- 8.1 [E-mails Received by DCISC](#)
- 8.2 [DCISC Internet–World Wide Web Activity](#)
- 8.3 [Comments Received at DCISC public meetings](#)
- 8.4 [DCISC Public Tours of DCP](#)
- 8.5 [DCISC Evaluation](#)

9.0 [PG&E Response to DCISC Recommendations](#)

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface](#) | [Executive Summary](#)

[Volume I TOC](#) | [Volume II TOC](#) | [PG&E Response](#) | [Contact the DCISC](#)

[31st Annual Report, Volume II – Exhibits](#)

Table of Contents

A. [Documents Received By the DCISC](#)

B. DCISC Public Meeting Notices, Agendas and Reports

- B.1 [Notice of October 22-23, 2020 Public Meeting](#)
- B.2 [Agenda for October 22-23, 2020 Public Meeting](#)
- B.3 [Minutes of October 22-23, 2020 Public Meeting](#)
- B.4 [Notice of February 16-17, 2021 Public Meetings](#)
- B.5 [Agenda for February 16-17, 2021 Public Meetings](#)
- B.6 [Minutes of February 16-17, 2021 Public Meetings](#)
- B.7 [Notice of June 23-24, 2021 Public Meetings](#)
- B.8 [Agenda for June 23-24, 2021 Public Meetings](#)
- B.9 [Minutes of June 23-24, 2021 Public Meetings](#)
- B.10 [DCISC Service Mailing List](#)

C. [Diablo Canyon Operations](#)

- 1.0 PG&E/DCPP Organization
- 2.0 Summary of Diablo Canyon Operations
 - 2.0.1 [Capacity Factor](#)
 - 2.0.2 [Refueling Outages](#)
 - 2.0.3 [Collective Radiation Dose Equivalent Exposure](#)
 - 2.0.4 [Unplanned Reactor Trips](#)
 - 2.0.5 [Unplanned Safety System Actuations](#)
 - 2.0.6 [Chemistry Effectiveness Indicator \(CEI\)](#)
 - 2.0.7 [Fuel Reliability](#)
 - 2.0.8 [Plant Organization](#)

D. DCISC Reports on Fact-finding Meetings

D.1 [Report on Fact Finding Meeting at DCPD on July 21-22, 2020](#)

- 1.0 Summary

2.0 Introduction

3.0 Discussion

- 3.1. Meet with NRC Senior Resident Inspector
- 3.2. Compressed Air System Review with System Engineer
- 3.3. Observe Plant Health Committee Meeting (Camceled)
- 3.4. 2019 Radioactive Effluent Release Report & Radiological Environmental Operating Report
- 3.5. Containment Concrete Inspection with Camera Drone
- 3.6. Equipment Reliability Process Update
- 3.7. Operations Issue on Misposition Errors (Equipment Control Status)
- 3.8. DCPD Use of Social Media in Context of Emergency Response
- 3.9. Buried Piping and Tanks Program
- 3.10. Slight Rise in Unit 1 Power Operation Just Prior to its Curtailment to 89% Power Operation to Address an Issue with Supplemental Grid Protection
- 3.11. Update on INPO Evaluation Actions
- 3.12. Meet with DCPD Officer

4.0 Conclusions

5.0 Recommendations

6.0 References

D.2 Report on Fact Finding Meeting at DCPD on August 19-20, 2020

1.0 Summary

2.0 Introduction

3.0 Discussion

- 3.1. Meet with Nuclear Regulatory Commission (NRC) Senior Resident Inspector
- 3.2. License Amendment Request to Facilitate Auxiliary Feedwater Inspections
- 3.3. Unit 2 Forced Outage
- 3.4. Fire Protection and Detection Systems
- 3.5. Attend Corrective Action Review Board Meeting
- 3.6. Evaluation for Extending the Unit 1 Steam Generators Secondary Side Inspections
- 3.7. Containment Ventilation and Hydrogen Mitigation Systems
- 3.8. DCISC Member Meet with DCPD Officer
- 3.9. Employee Concerns Program
- 3.10. NRC Inspection Finding on Emergency Siren Maintenance
- 3.11. Status of Responding to the COVID-19 Pandemic
- 3.12. Self-Assessment Program
- 3.13. Attend Plan of the Weekend Review Meeting

- 4.0 Conclusions
- 5.0 Recommendations
- 6.0 References

D.3 Report on Fact Finding Meeting at DCPD on September 9-10, 2020

- 1.0 Summary
- 2.0 Introduction
- 3.0 Discussion
 - 3.1. NRC Licensing Issues Status
 - 3.2. Outage Safety Training
 - 3.3. Meet with DCPD Site Vice-President Paula Gerfen
 - 3.4. Auxiliary Feedwater System License Amendment Request
 - 3.5. IR22 Refueling Outage Safety Plan
 - 3.6. Meet with NRC Senior Resident Inspector
 - 3.7. Control Rod Issues
 - 3.8. Postponed/Cancelled Projects
 - 3.9. Nuclear Instrumentation Systems
 - 3.10. Overall Probabilistic Risk Assessment Program Update
 - 3.11. Operational Decision-Making Program
 - 3.12. Employee Retention Participation Update
- 4.0 Conclusions
- 5.0 Recommendations
- 6.0 References

D.4 Report on Fact-finding Meeting at DCPD November 10, 12 & 19, 2020

- 1.0 Summary
- 2.0 Introduction
- 3.0 Discussion
 - 3.1. Attend Outage Planning Meetings
 - 3.2. Attend Corrective Action Review Board Meeting
 - 3.3. Meet with Nuclear Regulatory Commission (NRC) Senior Resident Inspector
 - 3.4. Unit 2 Forced Outage
 - 3.5. Cybersecurity Program
 - 3.6. Radioactive Waste Processing Systems
 - 3.7. Meet with DCPD Officer
 - 3.8. Seismically Induced System Interactions Program
 - 3.9. Control Room Simulator
 - 3.10. Drone Sightings
 - 3.11. Engineering Reorganization and Excellence Plan
 - 3.12. Nuclear Safety Oversight Committee Exit Meeting

- 4.0 Conclusions
- 5.0 Recommendations
- 6.0 References

D.5 Report on Fact-Finding Meeting at DCPD on December 8-9, 2020

- 1.0 Summary
- 2.0 Introduction
- 3.0 Discussion
 - 3.1. Refueling Outage 1R22 Foreign Material Exclusion and COVID Experience
 - 3.2. Motor- and Air-Operated Valve Testing Programs
 - 3.3. Electronic Work Packages
 - 3.4. Meeting with NRC Senior Resident Inspector
 - 3.5. Workplace Seismic Safety: Control Room Procedure Cart Stability
 - 3.6. Operations Equipment Status Control Issue Update
 - 3.7. Meeting with Jim Welsch, DCPD Chief Nuclear Officer
 - 3.8. Safety-Security Interface and Intake Structure Devitalization
 - 3.9. Turbine/Generator Health
 - 3.10. Meeting with Maureen Zawalick, Vice President, Generation, Business & Technical Services
- 4.0 Conclusions
- 5.0 Recommendations
- 6.0 References

D.6 Report on Fact Finding Meeting at DCPD on January 13-14, 2020

- 1.0 Summary
- 2.0 Introduction
- 3.0 Discussion
 - 3.1. Institute of Nuclear Power Operations Corporate Evaluation
 - 3.2. Steam Generator Inspection Results
 - 3.3. Safety System Functional Failures
 - 3.4. Large Transformer Health
 - 3.5. Meet with Nuclear Regulatory Commission (NRC) Senior Resident Inspector
 - 3.6. Meet with DCPD Officer
 - 3.7. Licensed Operator Training Class Observation
 - 3.8. Low Temperature Overpressurization Protection System Event
 - 3.9. Chemical and Volume Control and Emergency Core Cooling Systems
 - 3.10. Control Room Ventilation Systems
 - 3.11. COVID-19 Pandemic Response

3.12. Learning Services Department Update

3.13. Unit 2 Main Generator Issues and Root Cause Evaluation Update

4.0 Conclusions

5.0 Recommendations

6.0 References

D.7 Report on Fact Finding Meeting at DCPD on March 17-18, 2021

1.0 Summary

2.0 Introduction

3.0 Discussion

3.1. Station Excellence Plan

3.2. Meet with Quality Verification Director

3.3. Reactor Protection System

3.4. Vibration Monitoring Program

3.5. Tornado Missile Licensing Update

3.6. Winter Storm Response

3.7. Fire Protection: NFPA-805

3.8. Maintenance Department Update

3.9. Nuclear Fuel Performance

3.10. Meet with NRC Resident Inspector

4.0 Conclusions

5.0 Recommendations

6.0 References

D.8 Report on Fact Finding Meeting at DCPD on April 27-28, 2021

1.0 Summary

2.0 Introduction

3.0 Discussion

3.1. Radiation Monitoring Systems

3.2. Meet with DCPD Officer

3.3. Auxiliary Building Ventilation System

3.4. Meet with Nuclear Regulatory Commission (NRC) Senior Resident Inspector

3.5. Human Performance Update

3.6. Maintenance Rule Program

3.7. Boric Acid Corrosion Control Program

3.8. Unit 2 Main Generator Issues and Root Cause Evaluation Update

3.9. Post-Shutdown Technical Specifications License Amendment Request

3.10. Low Temperature Overpressurization Protection System Event

3.11. Spent Fuel Cask Procurement Update

3.12. Observe Corrective Action Review Board Meeting

4.0 Conclusions

5.0 Recommendations

6.0 References

D.9 Report on Fact Finding Meeting at DCPD on May 18-19, 2021

1.0 Summary

2.0 Introduction

3.0 Discussion

3.1. Reactivity Management Update

3.2. Meet with the NRC Senior Resident Inspector

3.3. Wildfire Risk

3.4. Independent Spent Fuel Storage Installation (ISFSI) Update

3.5. DCPD After COVID Pandemic

3.6. Reactor Vessel Specimen Testing Program

3.7. Emergency Preparedness Virtual Capabilities

3.8. Meet with Paula Gerfen, DCPD Site Vice-President

3.9. Quality Verification (QV) Audits

3.10. Operator Concerns/Issues

4.0 Conclusions

5.0 Recommendations

6.0 References

E. Record of DCISC Tours of DCPD

F. DCISC Open Items List

G. Public Contacts

G.1 Email Correspondence Log

G.2 DCISC Correspondence

G.3 Public Comments Received at Public Meetings

H. Proposed Restatement of the Charter for the Diablo Canyon Independent Safety Committee

I. Past DCISC Recommendations and DCPD Response

J. DCISC Informational Brochure

K. Glossary of Terms

November 18, 2021

PG&E Letter ISC-21-001

Dr. Robert Budnitz
c/o The Diablo Canyon Independent Safety Committee
857 Cass Street, Suite D
Monterey, CA 93940

Response to the Diablo Canyon Independent Safety Committee Thirty-First
Annual Report on the Safety of Diablo Canyon Power Plant Operations - July 1,
2020, to June 30, 2021

Dear Dr. Budnitz:

On November 15, 2021, Pacific Gas and Electric Company (PG&E) received the Diablo Canyon Independent Safety Committee's (DCISC) Thirty-First Annual Report on the Safety of Diablo Canyon Operations for the period of July 1, 2020, to June 30, 2021.

Your report concludes that PG&E continues to operate Diablo Canyon Power Plant (DCPP) safely and has no recommendations for PG&E during this report period.

As you are aware, operating the plant conservatively to protect public health and safety is our highest priority, and we will continue to ensure that we fulfill this commitment.

We welcome the DCISC independent review and oversight, which contributes to the continued safe operation of DCPP.

Sincerely,



James M. Welsch
Senior Vice President, Generation and Chief Nuclear Officer

Dr. Peter Lam
November 18, 2021
Page 2

PG&E Letter ISC-21-001

cc/: Dr. Robert J. Budnitz
Dr. Peter Lam
Dr. Per F. Peterson
Richard McWhorter
Robert W. Rathie
Ferman Wardell
Robert R. Wellington
Thomas Baldwin

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface](#) | [Executive Summary](#)

[Volume I TOC](#) | [Volume II TOC](#) | [PG&E Response](#) | [Contact the DCISC](#)

For more information about DCISC contact:

Diablo Canyon Independent Safety Committee
Office of the Legal Counsel
857 Cass Street, Suite D
Monterey, California 93940

Telephone:

In California call 800-439-4688
Outside of California call 831-647-1044

Send E-mail to: dcsecurity@dcisc.org

31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021

[Preface](#) | [Executive Summary](#)

[Volume I TOC](#) | [Volume II TOC](#) | [PG&E Response](#) | [Contact the DCISC](#)

1.0 Introduction

- 1.1 [Formation of the Independent Safety Committee](#)
- 1.2 [Appointment of Committee Members](#)
- 1.3 [DCISC Public Meetings](#)
- 1.4 [Committee Member Site Inspection Tours and Fact-finding meetings](#)
- 1.5 [Visits by DCISC Members to California State Agencies](#)
- 1.6 [Retirement of Diablo Canyon Power Plant at Expiration of its Current Operating Licenses and Post-Shutdown Role for the DCISC.](#)
- 1.7 [COVID-19 Pandemic](#)
- 1.8 [Documents Provided to the DCISC](#)
- 1.8 [Documentation of DCISC Activities](#)

[31st Annual Report](#), [Volume I](#), Section 2.0, Public Meetings

During its July 1, 2020 - June 30, 2021, reporting period, the Diablo Canyon Independent Safety Committee (DCISC) held two two-day Public remotely via Zoom and one two-day Public Meeting in the vicinity of the plant. There were no public tours of Diablo Canyon Power Plant (DCPP) as part of its public outreach program this period due to the COVID-19 pandemic.

2.1 Public Meetings

During this reporting period, the DCISC heard presentations from PG&E on DCPP activities and from Committee Members and Consultants on Committee activities and provided the opportunity for public input at the following DCISC public meetings:

[October 22-23, 2020, remotely by Zoom](#)

[February 16-17, 2021, remotely by Zoom](#)

[June 23-24, 2021, Avila Beach, CA and remotely by Zoom](#)

Minutes of the meetings are located in this report as described below. Copies of the Committee's Annual Reports are located in the Library Reference Department at the California Polytechnic State University at San Luis Obispo, California. Each meeting is streamed live on the internet on www.slospan.org and shown at various later times on one of the local public access television channels.

2.1.1 October 22-23, 2020 Public Meeting

A Notice of Meeting (see Volume II, [Exhibit B.1](#)) was published in the local newspaper and was mailed to the media and those persons on the Committee's service list (see Volume II, [Exhibit B.10](#)). The meeting agenda is shown in Volume II, [Exhibit B.2](#), and minutes of the meeting are included in Volume II, [Exhibit B.3](#).

2.1.2 February 16-17, 2021 Public Meetings

A Notice of Meeting (see Volume II, [Exhibit B.4](#)) was published in the local newspapers, along with several display advertisements, and was mailed to the media and those persons on the Committee's service list (see Volume II, [Exhibit B.10](#)). The meeting agenda is shown in Volume II, [Exhibit B.5](#), and minutes of the meeting are included in Volume II, [Exhibit B.6](#).

2.1.3 June 23-24, 2021 Public Meetings

A Notice of Meeting (see Volume II, [Exhibit B.7](#)) was published in the local newspapers, along with several display advertisements, and was mailed to the media and those persons on the Committee's service list (see Volume II, [Exhibit B.10](#)). The meeting agenda is shown in Volume II, Exhibit B.8, and minutes of the meeting are included in Volume II, [Exhibit B.9](#).

[31st Annual Report, Volume I, Section 3.0, Nuclear Regulatory Commission \(NRC\) Assessments and Issues](#)

This section of the DCISC Annual Report describes the DCISC review of PG&E's interface with the US Nuclear Regulatory Commission (NRC). The NRC is the Federal regulatory agency charged with assuring the safety and security of domestic nuclear power plants; by agreement with the State, NRC also performs these functions for the State of California. As regulator, the NRC employs two full-time Resident Inspectors at the plant (and other specialist inspectors at its US headquarters and regional locations), performs and reports on its inspections at DCPD on matters of nuclear safety and security, investigates significant plant events, maintains a set of plant performance indicators, and performs an annual assessment of DCPD regulatory performance which it reports at a public meeting in the plant vicinity. The NRC also must approve significant changes, additions and deletions to plant designs, procedures and Technical Specifications.

PG&E is required to submit routine, periodic reports to the NRC on selected activities and submit special reports when triggered by off-normal plant incidents, events or occurrences.

The DCISC monitors the aforementioned activities and resulting documents in the following ways: (1) receipt and review of correspondence and reports between PG&E and the NRC, (2) on-site review (at fact-finding meetings at the plant) of selected NRC inspections, investigations and reports, (3) meetings with the NRC Resident Inspectors, and (4) presentations by PG&E and the NRC Resident Inspectors at DCISC public meetings on NRC matters.

3.1 Summary of License Event Reports

3.1.1 Discussion and Required LERs

License Event Reports (LERs) are reports required of the nuclear power plant licensee by Nuclear Regulatory Commission (NRC) regulations when an off-normal event occurs. These events include operations or conditions outside of or in violation of station Technical Specifications (TS), procedures or NRC regulations. Events are to be promptly reported by telephone and by written report within 60 days of the event or initial knowledge of the event. Voluntary LERs are submitted for events, which NRC should know about, or are significant but are not specifically required by NRC. Each of these reports is reviewed in DCISC public meetings and is made available to each DCISC Member and Consultant.

The LER is the responsibility of the Licensee, in this case PG&E. Therefore, it is the Licensee who makes the determination of the level of risk or significance to safety of the event. The NRC has a Significance Determination Process, which sets forth its rules for making these determinations; however, events may be complex or may not easily fit the rules. The NRC may concur or it can question or challenge the Licensee's determination. Discussions or meetings may be required to reach understandings between the parties.

There one LER reported during this reporting period. This is good performance.

The event reported in the LER was Unit 2 LER 2020-002-00, submitted on September 15, 2020, regarding a manual reactor trip, and the subsequent actuation of the Auxiliary Feedwater System (as expected). Unit 2 was manually tripped in accordance with plant procedures due to increased main electric generator hydrogen usage. The LER was not directly associated with the main generator hydrogen issue, but the manual reactor trip and actuation of the auxiliary feedwater system are required to be reported in accordance with 10 CFR 50.73(a)(2)(iv).

The DCISC received the LER in its monthly document package for review, and DCPD reported on the first LER at the October 22, 2020 DCISC public meeting, and DCPD's corrective action, as submitted in the LER submittal to NRC, was determined to be satisfactory by the DCISC. The event associated with the second LER was still under review by the DCISC at the end of the period.

3.1.2 Special Report LERs

There were no special LERs submitted by DCPD during the reporting period.

3.1.3 Voluntary LERs

There were no voluntary LERs during this period.

3.1.4 Reactor Trips Reported in LERs

During the reporting period, there were no automatic but one manual reactor trips reported in the above LER. In the past five DCISC reporting periods the following numbers of trips have occurred:

	Number of Trips	
Reporting Period	Automatic	Manual
2016/2017	0	0
2017/2018	0	0
2018/2019	1	0
2019/2020	0	0
2020/2021	0	1

The number of reactor trips continues to be commendably low.

3.1.5 Other Reports to NRC

There were no other significant reports made to NRC.

3.1.6 LER Trends

The following table depicts the LER history for DCPD for the last five DCISC reporting periods:

Time Period	Number of LERs Submitted
7/1/16-6/30/17	1
7/1/17-6/30/18	1
7/1/18 - 6/30/19	1
7/1/19 - 6/30/20	2
7/1/20 - 6/30/21	1

3.1.7 DCISC Evaluation and Conclusions

The DCISC recognizes that off-normal events will occur in any large complex system. The goal is to identify them and understand them and take action to minimize the consequences and likelihood of any significant increase in risk. The design basis for nuclear power plants involves defense-in-depth. This recognizes that in real systems, unanticipated events will occur, so protective systems are designed to provide protection even if systems do not always perform as anticipated. For this reason, it is important to investigate events and to share information about them with other plants. DCPD's performance in regard to LERs was good - one LER.

DCPD's operations resulted in one LER reported during the current (July 1, 2020 - June 30, 2021) reporting period. This is good performance.

3.2 NRC Inspection Reports and Enforcement Actions

3.2.1 Discussion

The NRC performs inspections at each nuclear power plant. The purpose is to determine how well the plant personnel are implementing and following NRC regulations, plant Technical Specifications, and other requirements, procedures, or commitments. Generally, better regulatory performance results in fewer inspections. NRC meets with the nuclear plant operator twice per year to review plant safety performance under the NRC Reactor Oversight Process (see Section 3.4 below). These meetings are usually open to the public

Inspections are performed by the plant Resident NRC Inspectors, inspectors from

the NRC Region Office, experts from other NRC organizations, and NRC consultants. The bulk of inspections are routine, announced visits focusing on one or more specific areas of operation such as As Low As Reasonably Achievable (ALARA) radiation dose minimization program, maintenance, chemistry, security, operator examinations, or corrective actions. Special inspections are often made for investigation into previous events affecting plant safety and into special programs, such as NRC Generic Letter 89-10, Testing of Motor-Operated Valves.

Each inspection usually concludes with an exit meeting with PG&E personnel, followed by a written inspection report. Inspections can result in the following categories of findings:

- Unresolved Items are items for which information is not yet available or awaiting licensee response or action.
- Deviations are variances from NRC regulations and/or licensee procedures or other requirements or commitments, which are not as severe as outright violations.
- Findings are NRC-identified or self-revealing issues of concern associated with a performance deficiency by the licensee.
- Concerns, typically including more than one individual weakness in a single area, are to alert the licensee to situations which could become violations if not corrected.
- Non-cited Violations are violations for which NRC credits the licensee for identifying the violation and/or for prompt, effective corrective action completed before or taken during the inspection. These are usually non-recurring, non-safety-significant items.
- Violations of NRC regulations, plant Technical Specifications, and other commitments, procedures, etc. require a formal response and corrective action. Violations carry four severity levels as described in Section 3.3, NRC Enforcement Actions and below.

Fewer violations generally mean better performance. Some in the industry believe having a significant number of non-cited violations indicates an effective, aggressive regulatory program, meaning the licensee quickly finds and corrects its own problems/violations rather than the NRC identifying them.

NRC considers items not in compliance with its regulations or with the licensee's commitments or procedures to be violations. Corrective action is required for all violations. NRC identifies four severity levels for violations.

Level I is the most severe, representing the most significant regulatory concern which usually involves actual or high potential impact on the safety of the public. Level IV violations are more than minor concern and should be corrected so as to prevent a more serious concern. Civil penalties (monetary fines) are usually imposed for Level I and II violations, are considered for Level III, and usually not imposed for Level IV violations. Most low-level violations are reported as Non-cited

Violations provided the licensee places the violation into its corrective action program and provided the violation is not willful or repetitive. NRC has increased its scrutiny of corrective action programs. The categorization of violations in this report follows NRC's actual classification in each notice of a violation.

NRC issued the following inspection reports during this reporting period:

- Second Quarter 2020 Integrated Inspection Report (2020-002, 7/22/2020)
- 2020 Updated Inspection Plan (2020-005, 9/01/2020)
- Third Quarter 2020 Integrated Inspection Report (2020-003, 10/29/2020)
- 2020 Problem Identification and Resolution (PI&R) Inspection (2020-010, 10/30/2020)
- Fourth Quarter 2020 Integrated Inspection Report (2020-004, 01/26/2021)
- 2021 Triennial Fire Protection Inspection (2021-010, 03/11/2021)
- 2021 Cyber Security Inspection (2021-403, 03/31/2021)
- First Quarter 2021 Integrated Inspection Report (2021-001, 05/07/2021)

These inspection reports (plus assessment letter) are typical of recent previous periods for DCP. Cross-cutting performance appears good with no cross-cutting themes identified by NRC. The DCISC receives and reviews all NRC inspection reports. Additionally, DCISC members regularly discuss NRC inspection findings with Resident Inspectors during Fact-Finding Meetings.

3.2.2 DCISC Review of Trends of Violations and NRC-Identified Issues

Non-Cited Violations (NCVs) are usually items of very low safety significance (called "Green"). All NCVs are entered into the DCP Correction Action Program (CAP), and a Notification is issued. Notifications are reports used to identify and document plant problems in the CAP. The NCVs are reviewed for their safety significance, and cross-cutting issues. DCP will perform an Apparent Cause Evaluation (ACE) for the NCVs as determined by plant director-level management.

NRC Non-Cited Violations (NCVs)

NCVs are violations of NRC regulations, which have very low safety significance, and, as such, are not "cited" as violations by NRC.

NRC violations are included in the DCP CAP Trending Program and are not trended separately. An Event Trend Record (ETR) is issued for each NCV associated with an AT-NCV AR (A-type Non-Cited Violation Action Request). Periodic evaluation of the ETRs is undertaken to identify adverse trends.

NRC issued the following nine Non-Cited Violations and one Finding during the reporting period:

(Note: the following terms are used:

- *NCV = NRC Non-Cited Violation*
 - *SLIV = NRC Safety Level IV Violation*
 - *FIN = NRC Finding*
 - *Green = NRC considers very low safety significance*
 - *PG&E-Identified = violation was first found by PG&E and reported to NRC*
 - *C-C Aspect = NRC cross-cutting category for the violation)*
- **Green Non-Cited Violation** associated with the documented level of detail for a scaffolding evaluation performed in support of maintenance on a diesel generator. (A Cross-cutting aspect of H.1, "Inadequate Procedure," was assigned to this violation)
 - **Green Finding** associated with the inadequate use of industry operating experience associated with environmental corrosion of outdoor piping (No Cross-Cutting aspects were assigned to this violation.)
 - **Green Non-Cited Violation** associated with a Containment Spray Drain Valve misposition that occurred during refueling outage 1R22. (A Cross-cutting aspect of H.12, "Avoid Complacency," was assigned to this violation.)
 - **Green Non-Cited Violation** associated with sequence of testing associated with the carbon dioxide fire suppression system. (No Cross-cutting aspects were assigned to this violation.)

The history of violations for this and the previous four DCISC reporting periods is as follows:

DCISC Reporting Period	Number of Inspections	Violation Severity Level			Violations Total
		III	IV	Non-Cited	
7/1/16–6/30/17	10	1	–	7	8
7/1/17–6/30/18	10	-	-	9	9
7/1/18 - 6/30/19	5	-	-	9	9
7/1/19 - 6/30/20	6	-	-	6	6
7/1/20 - 6/30/21	8		-	4	4

There were no NCVs in the last four quarters that had four or more common Cross-cutting Aspects. This means that the NRC does not need to closely monitor any particular Cross-cutting aspects, and that DCPD is not close to receiving an NRC Substantive Cross-cutting Issue.

3.2.3 DCISC Evaluation and Conclusions

The numbers of NRC inspections in prior periods had been consistent at about

ten, until the last three periods for which there were five, six, and eight respectively. This relatively low number is a direct result of good regulatory performance as measured primarily by NRC Performance Indicators (see Section 3.5 below). The DCISC will continue to follow NRC violations and trends.

The DCISC received reports and heard presentations by DCPD on each non-cited violation and finding at its public meetings and has reviewed each cited violation and DCPD's corrective actions, where applicable. DCPD corrective actions appeared adequate. There were no individual items of significance to warrant DCISC recommendations or actions.

All of DCPD's four NCVs and one License Event Report were classified by the NRC as having "very low safety significance (Green)." The DCISC reviewed these violations and DCPD's respective corrective actions and concluded they were satisfactory.

3.3 NRC Performance Evaluations

The Nuclear Regulatory Commission (NRC) inspection, assessment, and enforcement programs for commercial nuclear power plants take into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC-licensed plants.

The NRC Revised Reactor Oversight Process (RROP) monitors licensee performance in three broad areas (called strategic performance areas):

1. Reactor Safety (avoiding accidents and reducing the consequences of accidents if they occur)
2. Radiation Safety (protecting plant employees and the public during routine operations)
3. Safeguards (protecting the plant against sabotage or other security threats).

The process focuses on licensee performance within each of "Seven Cornerstones" of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
• Initiating Events	• Occupational	• Physical Protection
• Mitigating Systems	• Public	
• Barrier Integrity		
• Emergency Preparedness		

To monitor these Seven Cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations:

1. Inspections
2. Performance Indicators

Inspection findings are evaluated according to their potential significance for safety, using the significance determination process, and assigned colors of GREEN, WHITE, YELLOW, or RED.

- GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance.
- WHITE findings indicate issues that are of low to moderate safety significance.
- YELLOW findings are issues that are of substantial safety significance.
- RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance Indicator data are compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, or RED.

- GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections.
- WHITE corresponds to performance that may result in increased NRC oversight at the Resident Inspector or Regional level.
- YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight at the NRC Region level.
- RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety. NRC response at the Agency level could include public meeting, utility-developed performance improvement plan, and/or special inspection teams.

The oversight process integrates performance indicators and inspections so the NRC can reach objective conclusions regarding overall plant performance. The NRC uses an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

The NRC Performance Indicators (PIs) and Most Significant Inspection Findings Categorization for DCPD through the second quarter 2020 are depicted in Table 3.1 through 3.4 at the back of Section 3.0.

The NRC inspection program uses a risk-informed approach to select areas of the plant to inspect within each cornerstone. The selection is based on potential risk, past operational experience, and regulatory requirements.

Each calendar quarter, NRC inspectors and the regional office review plant performance indicators and inspection findings. Each year, NRC regional and

headquarters offices make a final review, to include a more detailed assessment of plant performance over the 12-month period, preparation of a performance report, and preparation of a six-month inspection plan. The report is sent to each plant and discussed in a public meeting.

NRC Annual Assessment Letter March 3, 2021

The following paragraphs are excerpts from the NRC's most-recent annual assessment letter for DCP:

The U.S. Nuclear Regulatory Commission (NRC) has completed its end-of-cycle performance assessment of Diablo Canyon Power Plant, Units 1 and 2, reviewing performance indicators (PIs), inspection results, and enforcement actions from January 1, 2020, through December 31, 2020. This letter informs you of the NRC's assessment of your facility during this period and its plans for future inspections at your facility. The NRC concluded that overall performance at your facility preserved public health and safety. The baseline inspection program was completed at your facility as defined in Inspection Manual Chapter 2515, "Light-Water Reactor Inspection Program - Operations Phase."

The NRC determined the performance at Diablo Canyon Power Plant, Units 1 and 2 during the most recent quarter was within the Licensee Response Column, the highest performance category of the NRC's Reactor Oversight Process (ROP) Action Matrix, because all inspection findings had very low safety significance (i.e., Green), and all PIs were within the expected range (i.e., Green). Therefore, the NRC plans to conduct ROP baseline inspections at your facility.

The enclosed inspection plan lists the inspections scheduled through December 31, 2022. The NRC provides the inspection plan to allow for the resolution of any scheduling conflicts and personnel availability issues. Routine inspections performed by resident inspectors are not included in the inspection plan. The inspections listed during the last twelve months of the inspection plan are tentative and may be revised. The NRC will contact you as soon as possible to discuss changes to the inspection plan should circumstances warrant any changes.

Additionally, during this period the NRC scheduled an additional inspection per a revised version Temporary Instruction (TI) 2515/194, "Inspection of the Licensee's Implementation of Industry Initiative Associated with the Open Phase Condition Design Vulnerability in Electrical Power Systems (NRC Bulletin 2012-01)" for any sites who elect to implement the guidance of the Industry Initiative on Open Phase Condition, Revision 3 (ML19163A176), which included an option for relying on annunciation and operator manual actions instead of automatic protective features to isolate a power supply affected by an open phase condition.

In response to the COVID-19 public health emergency (PHE), the NRC is adjusting inspection plans and schedules in order to safeguard the health and safety of both NRC and licensee staff while still effectively implementing the ROP. Each planned inspection is being carefully reviewed in order to determine if any portions of the

inspection can be performed remotely, how best to perform on-site portions to minimize personnel health risks, and adjust inspection schedules if needed. This is done in accordance with guidance contained in the February 1, 2021 memo, "Calendar Year 2021 Inspection Guidance During COVID-19 Telework Restrictions" (ML21027A274). For inspections requiring extensive coordination with offsite organizations, such as evaluated emergency preparedness exercises, NRC guidance and frequently asked questions for security and emergency preparedness can be found here: <https://www.nrc.gov/about-nrc/covid-19/security-ep/>. Similarly, the NRC has developed guidance if force-on-force inspections cannot be completed as scheduled due to an emergency, such as the COVID-19 PHE. These changes help ensure the health and safety of both NRC and licensee staff while maintaining the NRC's important safety and security mission during the COVID-19 PHE. The attached inspection plan is accurate on the date of issuance but remains subject to change based on approval of potential exemption requests or other changes needed due to changing conditions in the COVID-19 PHE. NRC staff will contact your appropriate regulatory affairs staff in order to coordinate inspection planning and scheduling.

In accordance with Title 10 of the Code of Federal Regulations 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

The DCISC understands this to mean acceptable regulatory performance and no increased inspections above baseline. The DCISC will continue to follow this area closely.

The DCISC concurs with the NRC assessment of DCP's having acceptable regulatory performance and will continue monitoring DCP regulatory performance.

3.4 DCISC Meetings with NRC Resident Inspectors

The DCISC held nine meetings with the NRC Resident Inspectors (NRC RIs) as follows:

July 21-22, 2020 Fact-finding Meeting (Volume II, [Exhibit D.1](#), Section 3.8)

- Mr. Newport will be leaving DCP in September or October of 2020 and starting his new assignment at the Seabrook Nuclear Station in New Hampshire. Mr. John Reynoso, the DCP NRC Resident Inspector, left DCP in June for his new plant assignment. This is part of the NRC's normal practice of moving resident inspectors on a periodic, usually seven-year, basis. Mr. Newport's replacement, Don Krause, is experienced in nuclear plant operations and with the NRC inspection process.

Unit 2 was recently shut down due to a hydrogen leak in the main generator. Troubleshooting was under way. Operators shut down the unit without a problem using their normal procedures.

- Mr. Newport was following three issues:
 - Debris was found in a battery cell, and Maintenance temporarily jumpered the cell, awaiting a replacement. There was concern that DCPD hadn't properly addressed operability concerns.
 - Scaffold in an Emergency Diesel Generator (EDG) room was placed too close to an EDG fuel line, which was a seismic interaction concern.
 - DCPD has had several COVID cases, but otherwise good COVID performance.
- There is an NRC Resident Inspector on-site every day and on weekends.

August 19-20, 2020 Fact-finding Meeting (Volume II, [Exhibit D.2](#), Section 3.4)

- Resident Inspector Assignment Changes
- John Reynoso (Resident Inspector) has been replaced by Ayesha Athar
- Chris Newport (Senior Resident Inspector) will be replaced by Don Krause in October
- July Unit 2 Forced Outage
- Unit 2 Auxiliary Feedwater (AFW) Leak and Unit 1 Inspection Plans
- COVID-19 Pandemic Response

September 9-10, 2020 Fact-finding Meeting (Volume II, [Exhibit D.3](#), Section 3.9)

- The origins, make up, and purpose of the DCISC
- NRC's COVID-19 on-site schedules
- Fire Protection - painted sprinklers
- Auxiliary Saltwater System valve protection

November 10, 12 and 19, 2020 Fact-finding Meeting (Volume II, [Exhibit D.4](#), Section 3.1)

- Mr. Krause's experience prior to his assignment at DCPD
- Unit 2 Forced Outage performance
- Refueling Outage 1R22 performance

December 8-9, 2020 Fact-finding Meeting (Volume II, [Exhibit D.5](#), Section 3.1)

- Refueling Outage 1R22
- The second forced outage due to the Unit 2 generator hydrogen leak
- The access the resident inspectors have to DCPD data and information
- DCPD safety culture as end-of-operations nears

Workplace seismic safety

January 13, 14 and 21, 2021 Fact-finding Meeting (Volume II, [Exhibit D.6](#), Section 3.7)

- Mr. Krause's experience prior to his assignment at DCPD
- Recent NRC inspection results and concerns
- Forced Outage 2G22 performance

March 4, 17, 18 and 24, 2021 Fact-finding Meeting (Volume II, [Exhibit D.7](#), Section 3.1)

- Security escorting not being implemented properly
- Procedures for Operations equipment postings
- Some sump debris found on Containment walkdown following the Unit 1 refueling outage
- The two NRC resident inspectors are each working two days physically at the plant on different days
- The FFT reviewed its agenda items for this fact-finding meeting

April 27-28, 2021 Fact-finding Meeting (Volume II, [Exhibit D.8](#), Section 3.1)

- Refueling Outage 2R22 performance
- Recent NRC inspection results and concerns
- COVID-19 Pandemic response

May 18-19, 2021 Fact-finding Meeting (Volume II, [Exhibit D.9](#), Section 3.1)

1. Unit 2 generator hydrogen leak
2. Unit 2 condenser leak
3. Biennial NRC operator requalification inspection
4. NRC current COVID activity
5. Spent fuel storage
6. NRC's monitoring of DCPD's staff adequacy
7. A recent event involving chains under fire doors
8. The DCISC fact-finding meeting agenda

At the September 9-10, 2020 Fact-finding Meeting the DCISC reviewed the following NRC licensing issues with DCPD:

Below in *italics* are the regulatory items status from the previous Fact-finding Meetings with September 2020 updates shown Underlined.

1. Containment Sump Blockage: The issue of potential debris blockage of a containment sump during a potential Loss of Coolant Accident (LOCA) has been the subject of detailed and lengthy research by the industry and the NRC (Generic

Safety Issue 191). Extensive enlargements and modifications have been made to DCP's containment sump screens in order to substantially reduce the risk of interrupting recirculation to the Reactor Vessel in the later phases of a LOCA. PG&E's decision to pursue resolution of this long-standing industry issue through a risk informed process appears to be a reasonable and achievable approach, recognizing that the deterministic approach is well established practice.

March 2017 Update: DCP has removed/replaced substantial amounts of containment insulation and other materials which could have blocked/clogged sump screens and pumps. It is waiting for the completion and approval of a Westinghouse topical report documenting the final testing performed on the ability of containment sump screens and Residual Heat Removal pumps to handle expected containment sump mixtures. The topical uses a risk-informed approach to the debris problem. The final resolution will require Technical Specification changes.

January 2018 Update: No changes. Pending final generic resolution for Technical Specifications.

September 2020 Update: This issue has been closed by NRC for DCP.

2. EDG Health and Performance: DCP has resolved most of the significant issues with its Emergency Diesel Generators (EDGs) and reports the health of Unit 1 as Green and Unit 2 as White (and trending towards Green). This is good progress. Additionally, DCP has implemented an impressive EDG Reliability Improvement Plan, which the DCISC has followed.

March 2017 Update: The EDGs exhibit good health resulting from DCP's recent and current actions. The DCISC FFR received and reviewed the DCP EDG Reliability Improvement Plan, dated March 10, 2017. The plan is comprehensive and action-based. The Plan implements more targeted maintenance at appropriate intervals, completion of overdue design changes for known deficiencies, increasing critical spare parts stocking levels, and enhancing operating and maintenance procedures.

January 2018 Update: No changes. EDG performance indicators for Units 1 and 2 are both NRC Green and meeting plant goals ($MSPI < 3.0 \times 10^{-7}$, NRC Green $< 1.0 \times 10^{-6}$).

September 2020 Update: This issue has been closed for DCP.

3. 230kV Emergency Power: The DCP 230kV System health has improved, and several corrective actions made to date to address system problems have been successfully completed. [December 7-8, 2016 Fact-finding Meeting]

March 2017 Update: All 230kV disconnect switches have been replaced. Static VAR compensators at the Mesa Substation feeding DCP have been added. Unit 1 circuit switches are being replaced in Outage 1R20, and Unit 2

switches are being replaced in Outage 2R20. This concludes the design and component upgrades for the 230kV System.

January 2018 Update: All actions have been completed. This item was closed.

September 2020 Update: There have been no further developments.

4. Open Phase Power: DCPD has satisfactorily committed to and added temporary compensatory actions to deal with the Open Phase Electric Power Issue. It has also added permanent solutions for monitoring and trip functions completed in the R21 refueling outages in 2018.

March 2017 Update: These design modifications will be installed in Outages 1R20 and 2R20. Unit 1 trip functions will be enabled by June 30, 2018. Unit 2 trip functions will be enabled by December 31, 2018.

January 2018 Update: The design modification has been installed for Unit 1 and will be installed for Unit 2 in upcoming Refueling Outage 2R20 beginning in February 2018. DCPD is considering replacing the power supplies for improved reliability. This may affect the date for full implementation.

September 2020 Update: All modifications have been installed. The monitoring portion is active, but the trip portion is on hold awaiting NRC approval of DCPD's risk-based analysis. An NRC inspection is expected in 2021.

5. Control Room Habitability: DCPD has resolved issues with its Control Room Ventilation System (CRVS). The two remaining issues, upgrading the CRVS air conditioning system and NRC approval of Control Room Envelope accident radiation dose calculations using the Alternate Source Term (AST), are complete.

March 2017 Update: DCPD expects NRC approval of its submittal in April 2017. [Note: the NRC approved this submittal on April 27, 2017 for use of the Alternate Source Term.] The Control Room Briefing Room shielding is currently being installed. The new Control Room air conditioning compressors have been funded and are scheduled for installation in 2018.

January 2018 Update: AST is on track to be implemented by the required date of 4/27/18. Procedure changes are in progress and final modifications are being performed in Outage 2R20.

September 2020 Update: The AST was used for a reanalysis, and this issue has been closed by NRC for DCPD.

6. NRC White Finding for Inoperability of Valve SI-1-8982B Interlock:

March 2017 Update: DCPD is preparing for the NRC 95-001 inspection in late May or early June 2017. If satisfactory, NRC will move DCPD inspection frequencies back to Column 1 (normal).

January 2018 Update: The NRC 95-001 inspection in June 2017 identified several open items; however, re-inspection in December 2017 resolved these open items, and NRC returned DCPD inspection frequencies to Column 1 (normal).

September 2020 Update: This issue has been closed by the NRC for DCPD.

7. NRC Assessment of the DCPD March 2015 Local Intense Precipitation and Tsunami Analysis: DCPD's Local Intense Precipitation analyses appear satisfactory to assure protection for safety-related equipment in the Auxiliary Building either analytically or by pre-planned mitigation using sandbags. DCPD's tsunami analyses were completed and submitted to NRC in March 2015, and they have received NRC's Final Safety Evaluation. Meanwhile, DCISC has requested a separate analysis for which DCPD is seeking funding.

March 2017 Update: The NRC Final Safety Evaluation is expected by the end of May 2017. The DCISC-requested tsunami analysis should begin in August if funding is approved.

January 2018 Update: As reported in Item 3.6 above, the NRC found the DCPD flood and tsunami analyses acceptable and closed the items.

September 2020 Update: There have been no further developments.

8. Cyber Security (New - January 2018) - DCPD completed implementation of its Cyber Security Program by the NRC's required date of 12/31/17.

September 2020 Update: The NRC inspection has been delayed until March 2010.

9. Spent Fuel Pool Evaluation (New - January 2018) - DCPD submitted on December 18, 2017 its "Spent Fuel Pool Evaluation Report - Response to NRC Request for Information Pursuant to 10CFR50.54, Regarding Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident." The NRC staff is now reviewing this submittal.

September 2020 Update: This issue has been closed by NRC.

10. Auxiliary Feedwater System License Amendment Request - The LAR was submitted to NRC in August 2020 for the purpose of facilitating inspections and potential repairs to the Unit 1 Auxiliary Feedwater System (AFW), which was identified with possible corrosion-generated leaks. DCPD discussed submitting an LAR on an exigent basis with the NRC, and the NRC responded that such an LAR could be issued within a few weeks if the basis was appropriate and the change was found to adequately protect the safety of the public. DCPD concluded that this approach was appropriate for the timeliness of corrective actions given the situation. (This issue is reported in more detail in Section 3.4 below.)

September 2020 Update: The NRC approved the LAR, and DCPD proceeded

with inspections. No leaks were found, and no repairs were required.

11. Refueling Water Storage Tank Water Level - The tank water level showed lower than permitted by Technical Specifications - approximately 14 gallons low. This would require plant shutdown within an hour; however, a DCPD analysis concluded the level was acceptable. NRC may issue a minor violation for inadequate water level monitoring.

September 2020 Update: Awaiting NRC action.

12. Scaffolding Issues: Scaffolding was found installed close to Containment air lines, causing potential seismic interaction problems. NRC believed the DCPD Engineering Scaffold Program was not adequately robust to account for potential interaction items.

September 2020 Update: This item was entered into the DCPD Corrective Action Program with a proposed resolution of improving the engineering scaffold process. DCPD is waiting for a response from the NRC.

13. Debris in Battery Cell: Debris was found in a safety-related battery cell, causing it to be declared inoperable.

September 2020 Update: DCPD bypassed the cell temporarily, until the battery was replaced. NRC was concerned about ineffective communication between Operations and Engineering and about not having a timely operability determination. Awaiting NRC action.

The number of DCPD outstanding NRC licensing issues have decreased, and none of them is a major safety issue. DCPD is addressing them responsibly.

3.5 DCISC Conclusions and Recommendations

Conclusions: The DCISC received regular reports on the Nuclear Regulatory Commission (NRC) Performance Indicators, DCPD License Event Reports (LERs) sent to NRC, and NRC Inspection Reports and Enforcement Actions (violations) at each of its Public Meetings as well as copies of these documents throughout the reporting period. The DCISC investigated selected reports at its fact-finding meetings. The number of LERs has decreased down to one during this one-year period. This represents good regulatory performance.

The Committee notes that, although the NRC concluded that DCPD operated acceptably, it identified eight Non-cited Violations and received one License Event Report of "very low safety significance." This appears to be an improvement from most previous periods.

The DCISC will continue to review DCPD's NRC regulatory performance during the next reporting period, paying particular attention to the

number and significance of DCPD violations and LERs.

Recommendations: None

[31st Annual Report, Volume I, Section 4.0, Summary of Major DCISC Review Topics](#)

The DCISC reviews a broad spectrum of topics and issues at DCP. Detailed reports of these topics are contained in Volume II, Exhibit B–DCISC Public Meeting Notices, Agendas and Reports and Volume II, Exhibit D–DCISC reports on Fact-finding meetings. This section contains summaries of these reports along with conclusions and any recommendations.

- 4.1 [Conduct of Operations](#)
- 4.2 [Conduct of Maintenance](#)
- 4.3 [Engineering Programs](#)
- 4.4 [Human Performance: Human Errors and Improving Safety and Efficiency of Plant Performance](#)
- 4.5 [Nuclear Safety Culture, and Safety Conscious Work Environment](#)
- 4.6 [Performance Improvement Programs](#)
- 4.7 [Emergency Preparedness](#)
- 4.8 [Risk Assessment and Management](#)
- 4.9 [Nuclear Safety Oversight and Review](#)
- 4.10 [Radiation Protection](#)
- 4.11 [Quality Programs](#)
- 4.12 [Nuclear Fuel Performance](#)
- 4.13 [Equipment Reliability](#)
- 4.14 [Organizational Effectiveness and Development](#)
- 4.15 [System and Equipment Performance/Problems](#)
- 4.16 [Steam Generator Performance](#)
- 4.17 [Outage Management](#)
- 4.18 [Plant Safety-Security Interface](#)
- 4.19 [Independent Spent Fuel Storage Installation \(ISFSI\)](#)
- 4.20 [Earthquakes and Tsunamis](#)
- 4.21 [Fire Protection](#)
- 4.22 [Learning and Development Programs](#)
- 4.23 [Beyond Design Basis Events](#)
- 4.24 [Joint Proposal and Decommissioning](#)
- 4.25 [Other DCISC Reviews](#)

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface](#) | [Executive Summary](#)

[Volume I TOC](#) | [Volume II TOC](#) | [PG&E Response](#) | [Contact the DCISC](#)

[31st Annual Report, Volume I, Exhibit 5.0, Performance Indicators](#)

DCPP operational performance is reported in Volume II, [Exhibit C](#), "Diablo Canyon Power Plant (DCPP) Operations."

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface](#) | [Executive Summary](#)

[Volume I TOC](#) | [Volume II TOC](#) | [PG&E Response](#) | [Contact the DCISC](#)

[31st Annual Report, Volume I, Exhibit 6.0, DCISC Open Items List](#)

The DCISC Open Items List is a database used to track items for follow-up and monitoring. The List is updated and reviewed at each public meeting. The Open Items List included in [Exhibit F](#) in Volume II was used at the DCISC June 23-24, 2021 Public Meetings.

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface](#) | [Executive Summary](#)

[Volume I TOC](#) | [Volume II TOC](#) | [PG&E Response](#) | [Contact the DCISC](#)

[31st Annual Report, Volume I, Exhibit 7.0, PG&E Actions on Previous DCISC Report Recommendations](#)

The DCISC has made 223 recommendations in its previous 30 Annual Reports. The recommendations, PG&E responses and DCISC dispositions from the previous DCISC reporting period are included in [Exhibit I](#), Volume II,, along with references to the location for the basis for each recommendation.

The DCISC had one recommendation in its 2016 - 2017 report.

The DCISC had no recommendations in its 2017 - 2018 report.

The DCISC had no recommendations in its 2018 - 2019 report.

The DCISC had one recommendation in its 2019 - 2020 report.

The DCISC has no recommendations in this (2020- 2021) report

The DCISC concludes that the actions taken by PG&E relative to past DCISC recommendations have been satisfactory and have helped to maintain or improve safety and reliability.

[31st Annual Report, Volume I, Exhibit 8.0, Public Input](#)

8.0 Public Input and Outreach

The DCISC has welcomed and encouraged input from the public since its inception in 1990. As part of its Public Outreach Program the Committee has established a number of channels of communication opportunities in an effort to foster public outreach. Until the onset of the COVID-19 pandemic in early 2020 these have been in the form of three public meetings each year in the local community together with plant tours at certain meetings that are open to the public. During this annual report period two public meetings were conducted virtually as webinars using Zoom remote meeting technology and one public meeting was conducted in Avila Beach, California and this meeting included a Zoom-hybrid component. No public tours were conducted during this annual report period and the Committee will evaluate its future ability to offer tours to members of the public given the restrictions on access to the plant which continue to be imposed by the COVID-19 pandemic, the needs of the power plant as it proceeds into decommissioning and in light of a reduced demand for touring the power plant by members of the public. Notice of all three public meetings was published in local newspapers and on the DCISC website and was sent to those persons and entities on the DCISC's Service Mailing List (see Volume II, Exhibit B-10) maintained in accordance with California Government Code §1491. A notice was sent to all such persons and entities during this Annual Report period of the opportunity to receive notice of DCISC public meetings by email. The Committee's public meetings were each webcast in real time and are available for subsequent viewing on the web through archived streaming video linked to each meeting agenda. The public meetings are subsequently broadcast on Channel 21 the local government access channel.

Each meeting during this annual report period provided access to members of the public to participate remotely by Zoom using a computer or by telephone. The Committee maintains a toll-free telephone line and a convenient link for emailing the Committee is provided on its website. The DCISC also issues public notices, press releases and advertisements for every public meeting. Input from the public has been received as described in this section.

8.1 [Telephone Calls and E-mails Received by the DCISC](#)

8.2 [DCISC Internet - Worldwide Web Page Activity](#)

8.3 [Comments Received at DCISC public meetings](#)

8.4 [DCISC Public Tours of DCP](#)

8.5 [DCISC Evaluation](#)

EXHIBIT A

DOCUMENTS RECEIVED BY THE DCISC

July
List of Documents Transmitted Electronically

A. Licensing Basis Impact Evaluations

Date	LBIE No.	Title
		There are no LBIEs for this month.

B. NRC Outgoing Correspondence (incl. LERs, LARs, etc.)

Date	Letter No.	Title
7/1/2020	DCL-20-053, DIL-20-007	Emergency Plan Update
7/9/2020	DCL-20-058	Temporary Exemption Request from 10 CFR 50 Appendix E Biennial Emergency Preparedness Exercise Requirements due to COVID-19 Pandemic
7/21/2020	DCL-20-061	Request for Exemption from Specific Requirements of 10 CFR 73, Firearms Qualification (2.390)
7/30/2020	DCL-20-064 DIL-20-008	Revision 15 of the Physical Security Plan (2.390)

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
7/30/2020	DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 – EXEMPTION FROM CERTAIN REQUIREMENTS OF 10 CFR PART 73, APPENDIX B, "GENERAL CRITERIA FOR SECURITY PERSONNEL," SECTION VI (EPID L-2020-LLE-0117 [COVID-19])

D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title
6/16/20	2020-009	Physical Security Plan
7/14/20	2020-010	E-Plan, Section 4
7/20/20	2020-011	Review FDOR on 2Y22 Scope Decision for Unit 2 RCP Seals and Make Recommendation to Station Director
7/29/20		PSRC Members/Alternates

E. CAP Documents (RCAs, WGEs, CAP Effectiveness Evaluations)

Type	Doc. No.	Title
2 WGE	SAPN 51017810	DA-QDEF - Shielding inspection not perfo
2 WGE	SAPN 51036900	DA-Declining Human Performance Trend
2 WGE	SAPN 51042617	DA-U2 SFP crane contact w/ swing gate
2 WGE	SAPN 51049177	DA-TVA-21 Radiator Old vs. New fitup
2 WGE	SAPN 51054432	DA-RHR 2-1 recirc flow above Action High
2 WGE	SAPN 51065019	DA-U1 - PC 98 - Fire Protective Barriers
2 WGE	SAPN 51070277	DA-QAAF-5 Examples of Pkg Protection Def

July
List of Documents Transmitted Electronically

2 WGE	SAPN 51070292	DA-QAAF: Procurement Self-Assessments
2 WGE	SAPN 51070568	DA-assessment of comp measure
2 WGE	SAPN 51071819	DA-Security Negative HU Trend
2 WGE	SAPN 51074279	DA-Eval Continued Increased Siren Failur
2 WGE	SAPN 51077760	DA-Comp measure released w/ inactive zon
2 WGE	SAPN 51078462	DA-Control Band D, Group 1 is 9 steps of
2 WGE	SAPN 51078534	DA-Ammunition Discovered During Search
2 WGE	SAPN 51070291	DA-QAAF: SDS sheet program deficient
Eff. Eval	SAPN 50939622	IER L2-17-9 Weakness in MA Fundamentals
7/31/2020		List of DN 5.1 and 5.2 Created 7-1-20 – 7-31-20
7/31/2020		DCPP 1 WGE and 2 WGE Notifications Completed 7/1/20 – 7/31/20
7/1/2020		DN-DA Initiation Rate
7/27/2020		DCPP CAP Station Index
7/6/2020		CAP Summary
7/27/2020		Open LTCA DA Notifs Station Significance 1 & 2 as of 7/27/2020
7/6/2020		20 Oldest Non-LTCA DA Notifications as of 7/6/2020
7/27/2020		Open RCEs As of 7/27/2020
7/6/2020		Performance Improvement Status Summary

F. QV Documents (QPAR, Audit Reports, Audit Schedule, Assessments)

Date	Doc. No.	Title
7/7/2020		Quality Digest Information You Can Use, July Edition 2020
7/2/2020	# 2020-QP-01	Quality Performance Assessment Report (QPAR) – First Period 2020 – December 2, 2019 through June 1, 2020
7/9/2020	QVA # 2020-AS-05	1R22 Nuclear Fuel Receipt Inspection
7/28/2020	#	2020 Cyber and Physical Security Audit

July
List of Documents Transmitted Electronically

	2020-IA-03	
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G. Nuclear Safety Culture Monitoring Panel Reports

Date	Doc. No.	Title
		There is no Nuclear Safety Culture Monitoring Panel Report for this month.

H. Self Assessment/Benchmarking (SA/BM Reports/Schedules)

Date	Doc. No.	Title
7/29/2020	SAPN 51042025	Benchmark LTDN sys Demin/Filtr performanc
3/23/2020	SAPN 51070563	Region 4 RPM/NRC meeting benchmark
8/4/2020	SAPN 51073764	Benchmark - Site Std Handbook
7/29/2020	SAPN 51061519	QHSA for OP1.ID3 reactivity management
6/30/2020	SAPN 51068603	QHSA - Tactical Proficiency
7/14/2020	SAPN 51080124	QHSA of WHSE Packaging/Storage practices
7/14/2020	SAPN 51081322	QHSA of Procurement RMS practices
7/15/2020	SAPN 51081501	Quick Hit Self Assessment - Crit Spares

I. Performance Information (PPIR, Operating Plan, Station Initiatives)

Date	Doc. No.	Title
1/7/2020		Generation Operating Plan 2020 – 2024, No new updates this month.
6/25/2020	PPIR	Diablo Canyon Power Plant; Plant Performance Improvement Report; Achieving Results; Data: May 2020
7/27/2020	PPIR	Diablo Canyon Power Plant; Plant Performance Improvement Report; Achieving Results; Data: June 2020
Station Initiative		There are no new Station Initiatives for this month.
7/9/2020		July 2020 Security & Emergency Services Performance Improvement Dashboard
7/16/2020		July 2020 Engineering Services Performance Improvement Dashboard
7/15/2020		July 2020 Maintenance PI Dashboard

July
List of Documents Transmitted Electronically

7/16/2020		July 2020 Operations Services Performance Improvement Dashboard
7/15/2020		2Q20 Industrial Safety Performance Improvement Dashboard

J. INPO

Date	Doc. No.	Title
		There are no INPO documents for this month.

K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
ODMs		There are no ODMs for this month.
POA		There are no new POAs for this month.
8/4/2020		Diablo Canyon Power Plant Daily Load Profile; Daily Capacity Factor Power History Curves

L. Safety Limit Violation Report

Date	Doc. No.	Title
		There are no Safety Limit Violation Reports for this month.

M. Significance Determination Process Calculations

Date	Doc. No.	Title
		Battery 1-1 Debris Risk Assessment

N. Miscellaneous

Date	Title
	There are no miscellaneous documents for this month.

O. Functional Area Documents

Subcommittee	Date/Doc	Title
Maintenance	Week 2026	T+1 Performance Critique
	Week 2027	T+1 Performance Critique
	Week 2028	T+1 Performance Critique
	Week 2029	T+1 Performance Critique
	Week 2030	T+1 Performance Critique
	Week 2023-2027	T+1 Monthly Performance Critique 2023-2027

August
List of Documents Transmitted Electronically

A. Licensing Basis Impact Evaluations

Date	LBIE No.	Title
		There are no LBIEs for this month.

B. NRC Outgoing Correspondence (incl. LERs, LARs, etc.)

Date	Letter No.	Title
8/12/2020	DCL-20-066	License Amendment Request 20-01 Exigent Request for Revision to Technical Specification 3.7.5, "Auxiliary Feedwater System"
8/13/2020	DCL-20-067 DIL-20-009	Revision 16 of the Physical Security Plan (2.390)
8/16/2020	DCL-20-068	Response to NRC Request for Additional Information Regarding "License Amendment Request 20-01, Exigent Request for Revision to Technical Specification 3.7.5, 'Auxiliary Feedwater System'"
8/18/2020	DCL-20-069	Response to NRC Request for Additional Information Regarding "License Amendment Request 20-01, Exigent Request for Revision to Technical Specification 3.7.5, 'Auxiliary Feedwater System'"
8/20/2020	DCL-20-072	Response to Additional NRC Request for Additional Information Regarding "License Amendment Request 20-01, Exigent Request for Revision to Technical Specification 3.7.5, 'Auxiliary Feedwater System'"
8/25/2020	DCL-20-070, DIL-20-010	Emergency Plan Update
8/31/2020	DCL-20-063	License Amendment Request 20-02, Non-Voluntary License Amendment Request to Revise Technical Specifications 3.2.1, F _Q (Z), to Implement Methodology from WCAP-17661, Revision 1, "Improved RAOC and CAOC F _Q Surveillance Technical Specifications"

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
8/31/2020	DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 – ISSUANCE OF AMENDMENT NOS. 236 AND 238 RE: REVISION TO TECHNICAL SPECIFICATION 3.7.5, AUXILIARY FEEDWATER (AFW) SYSTEM" (EXIGENT CIRCUMSTANCES) (EPID L-2020-LLA-0176)

D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title
PSRC Minutes		
8/18/2020	2020-016	Response to Request for Additional Information Regarding License , Emergency Risk-Informed License Amendment Request to Revise 1 "Auxiliary Feedwater System"

August
List of Documents Transmitted Electronically

8/20/2002	2020-017	Response to Request for Additional Information Regarding License Am. Emergency Risk-Informed License Amendment Request to Revise Tec. "Auxiliary Feedwater System"
8/25/2020	2020-018	License Amendment Request 20-02, Non-Voluntary License Amendment Request to Revise Technical Speci Implement Methodology from WCAP-17661, Revision 1, "Improved RA Surveillance Technical Specifications"

E. CAP Documents (RCAs, WGEs, CAP Effectiveness Evaluations)

Type	Doc. No.	Title
ACE	SAPN 51078484	DA-Permit Required Confined Space Entere
ACE	SAPN 51080669	DA-Debris found in Batt 1-1, Cell 47
1 WGE		There are no 1 WGEs for this month.
2 WGE	SAPN 51068044	DA-OPS trend in N/As and partial proc
2 WGE	SAPN 51068066	DA-Fan S-33 Low Flow trip
2 WGE	SAPN 51071850	DA-Improper storage of pistol
2 WGE	SAPN 51074953	DA-QAAF: Do Not Repair Process
2 WGE	SAPN 51078547	DA-QDEF AD3.ID6 not desig Form as record
2 WGE	SAPN 51078549	DA-QDEF Problem not reported in CAP
2 WGE	SAPN 51078670	DA-QDEF Inef Mgmt of SGI combo changes
2 WGE	SAPN 51079554	DA-QAAF: Security Lighting #2020-IA-03
2 WGE	SAPN 51079929	DA-PI-5001 ISO valve 1-23P-13C found CLO
2 WGE	SAPN 51080599	DA-VA Door 163 Found Unsecure
2 WGE	SAPN 51083325	DA-Potential Trend OPS procedure review
2 WGE	SAPN 51083332	DA-Incorrect circuit breaker cycled
2 WGE	SAPN 51082264	DA-STP R-19 not performed per STP I-1b
2 WGE	SAPN 51082319	DA-Late Fire Rove Zone 8-B-2

August
List of Documents Transmitted Electronically

Eff. Eval	SAPN 51041900	Eff Eval SAPN 51035842 (Bus F Transfer)
8/31/2020		List of DN 5.1 and 5.2 Created 5-1-20 – 5-31-20
8/31/2020		DCPP 1 WGE and 2 WGE Notifications Completed 8/1/20 – 8/31/20
8/24/2020		DCPP CAP Station Index
8/3/2020		CAP Summary
8/3/2020		DN – DA Initiation Rate
8/24/2020		Open LTCA DA Notifs Station Significance 1 & 2 as of 8/24/2020
8/3/2020		20 Oldest Non-LTCA DA Notifications as of 8/3/2020
8/24/2020		Open RCEs As of 8/24/2020
8/3/2020		Performance Improvement Status Summary

F. QV Documents (QPAR, Audit Reports, Audit Schedule, Assessments)

Date	Doc. No.	Title
8/4/2020		Quality Digest Information You Can Use, August Edition 2020
8/10/2020	QVA # 2020-AS-06	Geosciences Quality Related Work
8/19/2020	#2020-IA-08	2020 Training and Qualifications Program Audit

G. Nuclear Safety Culture Monitoring Panel Reports

Date	Doc. No.	Title
		There is no Nuclear Safety Culture Monitoring Panel Report for this month.

H. Self Assessment/Benchmarking (SA/BM Reports/Schedules)

Date	Doc. No.	Title
9/2/2020	SAPN 50989761	Operability Program Simplific. Benchmrk
9/2/2020	SAPN 51029324	Informal Benchmark - FPP Palo Verde
9/2/2020	SAPN 51061648	Conduct Access/FFD benchmarking
9/2/2020	SAPN 51011244	QHSA - Documentation
9/2/2020	SAPN 51035987	QHSA: 2018 Engineering Reorg Efficacy

August
List of Documents Transmitted Electronically

9/2/2020	SAPN 51041906	2019 WANO Feedback - OWA/OB/Alarms
9/2/2020	SAPN 51058478	QHSA For NRC IP 71124.05
9/2/2020	SAPN 51065233	QHSA: Perf. Monitor. Prog. Effectiveness
9/2/2020	SAPN 51065500	Perform QHSA against NRC IP 71124.08
9/2/2020	SAPN 51068613	Quick Hit SA- Access Control 2020
9/2/2020	SAPN 51077470	Pre-Fire Protection Team Inspection SA

I. Performance Information (PIIR, Operating Plan, Station Initiatives)

Date	Doc. No.	Title
1/7/2020		Generation Operating Plan 2020 – 2024, No new updates this month.
8/27/2020	PIIR	Diablo Canyon Power Plant; Plant Performance Improvement Report; Achieving Results; Data: July 2020
Station Initiative		There are no new Station Initiatives for this month.
8/5/2020		August 2020 Security & Emergency Services Performance Improvement Dashboard
8/13/2020		August 2020 Engineering Services Performance Improvement Dashboard
8/11/2020		August 2020 Maintenance PI Dashboard
8/16/2020		August 2020 Operations Services Performance Improvement Dashboard

J. INPO (NSOC Only)

Date	Doc. No.	Title
8/30/2020		Diablo Canyon Station IPSR
8/21/2020		PG&E Corporate IPSR

K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
ODMs		There are no ODMs for this month.
POA		There are no new POAs for this month.

August
List of Documents Transmitted Electronically

L. Safety Limit Violation Report

Date	Doc. No.	Title
		There are no Safety Limit Violation Reports for this month.

M. Significance Determination Process Calculations

Date	Doc. No.	Title
		There are no Significance Determination Process Calculations for this month.

N. Miscellaneous

Date	Title
	There are no miscellaneous documents for this month.

O. Functional Area Documents

Subcommittee	Date/Doc	Title
Maintenance	Week 2031	T+1 Performance Critique
	Week 2032	T+1 Performance Critique
	Week 2033	T+1 Performance Critique
	Week 2034	T+1 Performance Critique
	Week 2035	T+1 Performance Critique
		T+1 Monthly Performance Critique 2028-2031

September
List of Documents Transmitted Electronically

A. Licensing Basis Impact Evaluations -

Date	LBIE No.	Title
		There are no LBIEs for this month.

B. NRC Outgoing Correspondence (incl. LERs, LARs, etc.)

Date	Letter No.	Title
9/10/2020	DCL-20-075	Submittal of Updated Final Safety Analysis Report, Revision 25
9/10/20	DCL-20-076	Technical Specification Bases, Revision 12
9/15/2020	DCL-20-077	Unit 2 Licensee Event Report 2020-002-00, Unit 2 Manual Reactor Trip Due to Increased Main Generator Hydrogen Usage
9/24/2020	DCL-20-081, DIL-20-011	Annual Review of the Emergency Action Levels
9/24/2020	DCL-20-082, DIL-20-012	Annual Review of the Emergency Action Levels

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
7/22/2020	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 – INTEGRATED INSPECTION REPORT 05000275/2020002 AND 05000323/2020002
8/13/2020	Teleconference with Pacific Gas and Electric Company Regarding an Exigent Amendment Request to Modify Diablo Canyon Power Plant, Units 1 and 2, Technical Specification 3.7.5, "Auxiliary Feedwater (AFW) System" (EPID L-2020-LLA-0176)
8/13/2020	Diablo Canyon Nuclear Power Plant, Units 1 and 2 – Public Notice of Application for Amendments to Facility Operating Licenses (EPID L-2020-LLA-0176)
8/14/2020	Diablo Canyon request for additional information: Exigent License Amendment Request for Application to provide a new Technical Specification 3.7.5, "Auxiliary Feedwater System," Condition G (EPID: L-2020-LLA-0176)
8/17/2020	Diablo Canyon additional request for additional information: Exigent License Amendment Request for application to provide a new Technical Specification 3.7.5, "Auxiliary Feedwater System," Condition G (EPID: L-2020-LLA-0176)
8/20/2020	Diablo Canyon additional request for additional information: Exigent License Amendment Request for application to provide a new Technical Specification 3.7.5, "Auxiliary Feedwater System," Condition G (EPID: L-2020-LLA-0176)
8/24/2020	SUMMARY OF AUGUST 14, 2020, TELECONFERENCE WITH PACIFIC GAS AND ELECTRIC COMPANY REGARDING AN EXIGENT LICENSE AMENDMENT REQUEST TO MODIFY TECHNICAL SPECIFICATION 3.7.5, "AUXILIARY FEEDWATER (AFW) SYSTEM," FOR DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 (EPID L-2020-LLA-0176)

September
List of Documents Transmitted Electronically

9/1/2020	UPDATED INSPECTION PLAN FOR DIABLO CANYON POWER PLANT, UNITS 1 AND 2 (REPORT 05000275/2020005 AND 05000323/2020005)
9/3/2020	DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 – INDIVIDUAL NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENTS TO FACILITY OPERATING LICENSES AND OPPORTUNITY FOR A HEARING (EPID L-2020-LLA-0176)
9/11/2020	DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 – ISSUANCE OF AMENDMENT NOS. 237 AND 239 TO RELOCATE TECHNICAL SPECIFICATION 5.3, "UNIT STAFF QUALIFICATIONS," TO THE UPDATED FINAL SAFETY ANALYSIS REPORT (EPID L-2019-LLA-0268)
9/18/2020	DIABLO CANYON NUCLEAR POWER PLANT – TEMPORARY EXEMPTION FROM BIENNIAL EMERGENCY PREPAREDNESS EXERCISE FREQUENCY REQUIREMENTS OF 10 CFR PART 50, APPENDIX E, "EMERGENCY PLANNING AND PREPAREDNESS FOR PRODUCTION AND UTILIZATION FACILITIES," SECTIONS IV.F.2.b AND IV.F.2.c (EPID L-2020-LLE-0111 [COVID-19])
9/21/2020	Request for additional information: Diablo Canyon Unit 2 Fall 2019 Steam Generator Tube Inspection Report (EPID: L-2020-LRO-0026)

D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title
PSRC Minutes		There are no PSRC minutes for this month.

E. CAP Documents (RCAs, WGEs, CAP Effectiveness Evaluations)

Type	Doc. No.	Title
1 WGE	SAPN 51084931	DA-24 hr telephone report to the NRC
2 WGE	SAPN 51034258	DA-Unit 1 acid storage tank leak
2 WGE	SAPN 51065105	DA-Missing SGI usb drive
2 WGE	SAPN 51071395	DA-Neg Trend for MW-12
2 WGE	SAPN 51072524	DA-Pot Adv Trend-Dirty Intake Motor Wind
2 WGE	SAPN 51075604	DA-QAAF-Incomplete Signatures
2 WGE	SAPN 51079924	DA-QAAF - SP 501 Forms not in use
2 WGE	SAPN 51079927	DA-QAAF-SGI program ownership

September
List of Documents Transmitted Electronically

2 WGE	SAPN 51085695	DA-Untimely reporting of JP Gate 1 failu
Eff. Eval	SAPN 51071817	Line of Sight to the Reactor Core Effectiveness Evaluation
9/30/2020		List of DN 5.1 and 5.2 Created 9-1-20 – 9-30-20
9/30/2020		DCPP 1 WGE and 2 WGE Notifications Completed 9/1/20 – 9/30/20
9/28/2020		DCPP CAP Station Index
8/31/2020		CAP Summary
9/28/2020		Open LTCA DA Notifs Station Significance 1 & 2 as of 9/28/2020
8/31/2020		20 Oldest Non-LTCA DA Notifications as of 8/31/2020
9/28/2020		Open RCEs As of 9/28/2020
8/31/2020		Performance Improvement Status Summary

F. QV Documents (QPAR, Audit Reports, Audit Schedule, Assessments)

Date	Doc. No.	Title
9/1/2020		Quality Digest Information You Can Use, September Edition 2020
9/15/2020		Quality Digest Information You Can Use, September Edition Second Edition 2020
9/9/2020	2020-IA-07	2020 Maintenance Services Audit
9/15/2020	2020-AS-07	Radioactive Waste Shipments
9/15/2020	2020-EL-01	Second Escalation of Untimely Resolution of Security Intrusion Detection Equipment Issues
9/21/2020	2020-AS-08	Review of Security Shift Orders (SO) from 2015-2020
9/21/2020	2020-AI-09	2020 Quality Assurance Program Audit

G. Nuclear Safety Culture Monitoring Panel Reports

Date	Doc. No.	Title
		There is no Nuclear Safety Culture Monitoring Panel Report for this month.

H. Self Assessment/Benchmarking (SA/BM Reports/Schedules)

Date	Doc. No.	Title
9/21/2020	SAPN 50955391	2017 Fall Holtec Users Group Trip Report
9/24/2020	SAPN 51022268	Engineering Org Benchmark
9/29/2020	SAPN 51039233	NANTeL Industry Mtg Action Items

September
List of Documents Transmitted Electronically

4/9/2020	SAPN 51071823	FAC Program - Jan 2020 CHUG Trip Report
9/10/2020	SAPN 51084193	Trend Evaluation Timeliness Benchmarking
9/16/2020	SAPN 51087571	Benchmark EPRI Rigging Group
9/17/2020	SAPN 50983506	2020 Self-Assessment - SPA
9/2/2020	SAPN 51064372	2020 DCCP Mid Cycle AFI Review
10/13/2020	SAPN 51067430	EQ: Tracking 2020 Self-Assessment
9/28/2020	SAPN 51086757	Perform a QHSA against NRC IP 71124.03

I. Performance Information (PIR, Operating Plan, Station Initiatives)

Date	Doc. No.	Title
1/7/2020		Generation Operating Plan 2020 – 2024, No new updates this month.
	PIR	There is no PIR for this month.
Station Initiative		There are no new Station Initiatives for this month.
9/14/2020		Diablo Canyon Department Performance Improvement Dashboards - September 2020

J. INPO

Date	Doc. No.	Title
		There are no INPO documents for this month.

K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
ODMs		There are no ODMs for this month.
POA		There are no new POAs for this month.

L. Safety Limit Violation Report

Date	Doc. No.	Title
		There are no Safety Limit Violation Reports for this month.

September
List of Documents Transmitted Electronically

M. Significance Determination Process Calculations

Date	Doc. No.	Title
9/2020	SDP20-03 Rev. 0	Unit 2 AFW Pipe Leak

N. Miscellaneous

Date	Title
	There are no miscellaneous documents for this month.

O. Functional Area Documents

Subcommittee	Date/Doc	Title
Maintenance	Week 2036	T+1 Performance Critique
	Week 2037	T+1 Performance Critique
	Week 2038	T+1 Performance Critique
	Week 2039	T+1 Performance Critique
	August T+1	T+1 Monthly Performance Critique 2032-2035

October
List of Documents Transmitted Electronically

A. Licensing Basis Impact Evaluations

Date	LBIE No.	Title
		There are no LBIEs this month.

B. NRC Outgoing Correspondence (incl. LERs, LARs, etc.)

Date	Letter No.	Title
10/14/2020	DCL-20-084	(OUO) Request for a One-Time Exemption from 10 CFR 73, Appendix B, Section VI, Subsection F.5.(a) Regarding firearms requalification, Due to COVID 19 Pandemic
10/14/2020	DCL-20-085	(OUO) Request for a One-Time Exemption from 10 CFR 73, Appendix B, Section VI, Subsection C.3.(I)(1) Regarding Annual Force-on-Force (FOF) Exercises, Due to COVID 19 Pandemic
10/14/2020	DCL-20-086	Material Status Report for the Period Ending August 31, 2020
10/16/2020	DCL-20-088	Response to NRC Request for Additional Information Regarding "Diablo Canyon Unit 2 Fall 2019 Steam Generator Tube Inspection Report"
10/22/2020	DCL-20-090, DIL-20-013	Emergency Plan Update

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
10/27/2020	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 - NOTIFICATION OF AN NRC FIRE PROTECTION BASELINE INSPECTION (NRC INSPECTION REPORT 05000275/2021010 AND 05000323/2021010) AND REQUEST FOR INFORMATION
10/14/2020	(OUO) DIABLO CANYON POWER PLANT, UNITS 1 AND 2 - MATERIAL CONTROL AND ACCOUNTING PROGRAM INSPECTION REPORT 05000275/2020403 AND 05000323/2020403
10/29/2020	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 - INTEGRATED INSPECTION REPORT 05000275/2020003 AND 05000323/2020003
10/30/2020	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 - BIENNIAL PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT 05000275/2020010 AND 05000323/2020010

D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title
PSRC Minutes		There are no PSRC minutes for this month.

E. CAP Documents (RCAs, WGEs, CAP Effectiveness Evaluations)

Type	Doc. No.	Title
1 WGE		The are no 1 WGEs for this month.
2 WGE	SAPN 50985638	DA-2018 DBA EQ: IH-06 Conduit Config MSI

October
List of Documents Transmitted Electronically

2 WGE	SAPN 50985638	DA-2018 DBA EQ: IH-06 Conduit Config MSI
2 WGE	SAPN 51025112	DA-CCW Flow Indicators Underrated
2 WGE	SAPN 51028584	LTCA - AST Additional Scope
2 WGE	SAPN 51055048	DA-QESC Security EQPR Intrusion Detectio
2 WGE	SAPN 51062909	DA-Met Twr non comply CFR 47 SEC 17.47
2 WGE	SAPN 51071230	DA-SA DEF-QV Cert Records Not Found in R
2 WGE	SAPN 51077863	DA-QAAF: HR2.ID1 Signature ID Exclusion
2 WGE	SAPN 51086462	DA-HU Event security door found unsecure
2 WGE	SAPN 51087724	DA-Door 144 found unsecured
2 WGE	SAPN 51088342	DA-Security Door 163 Discovered Unsecure
2 WGE	SAPN 51088344	DA-QESC - Second Level Security Equipmen
2 WGE	SAPN 51090469	DA-QAAF: Scaffold Structure Gaps
2 WGE	SAPN 51091445	DA-Lost Key card in PA
Eff. Eval		There are no effectiveness evaluations for this month.
ACE	SAPN 51087564	DA-Unacceptable 1RWST water inv during C
RCE	SAPN 51067154	Unit 2 Rod Control Issue Results in Mode 3, Revision 1
10/31/2020		List of DN 5.1 and 5.2 Created 5-1-20 – 5-31-20
10/31/2020		DCPP 1 WGE and 2 WGE Notifications Completed 10/1/20 – 10/31/20
10/26/2020		DCPP CAP Station Index
10/5/2020		CAP Summary
10/26/2020		Open LTCA DA Notifs Station Significance 1 & 2 as of 5/21/2020
10/5/2020		20 Oldest Non-LTCA DA Notifications as of 10/5/2020
10/26/2020		Open RCEs As of 10/26/2020
10/5/2020		Performance Improvement Status Summary
10/31/2020		DA DN Curve as of 10/31/2020

October
List of Documents Transmitted Electronically

F. QV Documents (QPAR, Audit Reports, Audit Schedule, Assessments)

Date	Doc. No.	Title
10/6/2020		Quality Digest Information You Can Use, October Edition 2020
10/20/2020		Quality Digest Information You Can Use, October Second Edition 2020
10/7/2020	QVA # 2020-AS- 10	Unit 2 Fire Alarms During Trips

G. Nuclear Safety Culture Monitoring Panel Reports

Date	Doc. No.	Title
		There is no Nuclear Safety Culture Monitoring Panel Report for this month.

H. Self Assessment/Benchmarking (SA/BM Reports/Schedules)

Date	Doc. No.	Title
10/14/2020	SAPN 50983503	2020 Self-Assessment - SPM
11/9/2020	SAPN 50993941	2018 Planning Department QHSA
9/28/2020	SAPN 51049822	Perform 2020 Part 37 Assessment
10/21/2020	SAPN 51057845	QHSA: DG-SAFE Task Assessment
9/29/2020	SAPN 51086756	Perform a QHSA against NRC IP 71124.01

I. Performance Information (PIIR, Operating Plan, Station Initiatives)

Date	Doc. No.	Title
1/7/2020		Generation Operating Plan 2020 – 2024, No new updates this month.
10/7/2020	PPIR	Diablo Canyon Power Plant; Plant Performance Improvement Report; Achieving Results; Data: August 2020
10/27/2020		Generating Excellence 2002 – Generation Performance Improvement
10/19/2020		October 2020 Engineering Services Performance Improvement Dashboard
10/27/2020		NSOC ISSUE PI 2020-01 Quality of Event Investigations

October
List of Documents Transmitted Electronically

		NSOC ISSUE EN 2020-01 Shortfalls in Engineering Evaluation and Resolution of Equipment Problems
10/2020		Diablo Canyon Department Performance Improvement Dashboards

J. INPO

Date	Doc. No.	Title
		There are no INPO documents for this month.

K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
ODMs		There are no ODMs for this month.
POA		There are no new POAs for this month.
11/4/2020		Nuclear Safety Oversight Committee (NSOC) & Diablo Canyon Independent Safety Committee (DCSIC) Daily Load Profile; Daily Capacity Factor Power History Curves

L. Safety Limit Violation Report

Date	Doc. No.	Title
		There are no Safety Limit Violation Reports for this month.

M. Significance Determination Process Calculations

Date	Doc. No.	Title
11/10/2020		Battery 1-1 Cell 47 Risk Assessment

N. Miscellaneous

Date	Title
	There are no miscellaneous documents for this month.

O. Functional Area Documents

Subcommittee	Date/Doc	Title
Maintenance	2040	T+1 Performance Critique
	2041	T+1 Performance Critique
	2042	T+1 Performance Critique
	2043	T+1 Performance Critique
		T+1 Monthly Performance Critique 2036-2040

November
List of Documents Transmitted Electronically

A. Licensing Basis Impact Evaluations

Date	LBIE No.	Title
		There are no LBIEs for this month.

B. NRC Outgoing Correspondence (incl. LERs, LARs, etc.)

Date	Letter No.	Title
11/19/2020	DCL-20-098	Core Operating Limits Report for Unit 1 Cycle 23

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
	There is no incoming correspondence for this

D. PSRC Documents (PSRC Memo, PSRC Minutes)

Date	Doc. No.	Title
11/5/2020	2020-020	Readiness for Restart- Mode 5 to Mode 4 Change
11/25/2020		Plant Staff Review Committee Members/Alternates

E. CAP Documents (RCAs, ACEs, CAP Effectiveness Evaluations)

Type	Doc. No.	Title
1 WGE		
2 WGE	SAPN 51023734	DA-86G11 Failed to Reset
2 WGE	SAPN 51066114	DA-AP-35 entry for grid disturbance
2 WGE	SAPN 51083409	DA-PTZ 364 discovered miss-positioned
2 WGE	SAPN 51083939	DA-Adverse Trend - AVSS Joystic
2 WGE	SAPN 51084781	DA-QAAF: PMT Coord./SRO Reviews of OVT
2 WGE	SAPN 51086093	DA-Employee entered area w/out status
2 WGE	SAPN 51086296	DA-2020 PIR SA - Procedure Use and Adher
2 WGE	SAPN 51086891	DA-PA vehicle gate operated out of proce
2 WGE	SAPN 51086892	DA-PA vehicle gate operated out of proce
2 WGE	SAPN 51088340	DA-Individuals in the PA not logged in
2 WGE	SAPN 51089154	DA-QARMA - Security Shift Order Controls
2 WGE	SAPN 51091184	DA-Bad Status keycard entered Vital Area

November
List of Documents Transmitted Electronically

2 WGE	SAPN 51092245	DA-Sample size test less than RPE requir
2 WGE	SAPN 51093295	DA-Lost Key Card
2 WGE	SAPN 51095738	DA-U1 PZR LI-459A does not channel check
2 WGE	SAPN 51097216	DA-Delay Gate 31 found unsecure.
11/19/2020		DCPP CAP Station Index
11/5/2020		CAP Summary
10/31/2020		DN DA Six Month Initiation
10/31/2020		DNs and DAs Six Month Count
11/30/2020		List of DN 5.1 and 5.2 Created 11-1-20 – 11-30-20
11/30/2020		DCPP 1 WGE and 2 WGE Notifications Completed 11/1/20-11/30/20
10/31/2020		NRC QV Identification
11/5/2020		20 Oldest Non-LTCA DA Notifications
11/19/2020		Open RCEs
11/5/2020		Performance Improvement Status Summary
RCEs		There are no RCEs for this month.
ACE		There are no ACEs for this month.
Eff. Eval		There are no Evals for this month.

F. QV Documents (QPAR, Audit Reports, Audit Schedule, Assessments)

Date	Doc. No.	Title
		There is no QPAR for this month.
11/2/2020	QVA # 2020-AS-11	1R22 Confined Space Assessment
11/23/2020	QVA # 2020-AS-12	Human Performance Evaluations and Actions
11/17/2020		Quality Digest, Information You Can Use, November Second Edition 2020

G. Nuclear Safety Culture Monitoring Panel Reports

Date	Doc. No.	Title
		There is no report for this month.

November
List of Documents Transmitted Electronically

H. Self Assessment/Benchmarking (SA/BM Reports/Schedules)

Date	Doc. No.	Title
12/1/2020	SAPN 51057888	2019 Winter EPRI ESCP Trip Report
12/1/2020	SAPN 51065577	Design Engineering - STARS Benchmark
12/1/2020	SAPN 51076791	ISI Benchmark Cvd 19 Reg Actions

I. Performance Information (PIIR, Operating Plan, Station Initiatives, IPMs)

Date	Doc. No.	Title
1/7/2020		Nuclear Generation Operating Plan 2020 – 2024, No new updates this month.
PIIR		Diablo Canyon Power Plant; Plant Performance Improvement Report Achieving Results; Data:
Station Initiative		If none, state none
		Generation Quarterly CAP News; Nuclear and Power Generation 3Q2020
		Diablo Canyon Department Performance Improvement Dashboards – November 2020
11/23/2020		Performance Improvement Status Summary

J. INPO (NSOC Only)

Date	Doc. No.	Title
		2020Q3 PGE Corporate IPSR
		Diablo Canyon IPSR

K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
ODMs		There are no ODMs for this month.
POA		There are no new POAs.

L. Safety Limit Violation Report

Date	Doc. No.	Title
		There are no Safety Limit Violation Reports for this month.

M. Significance Determination Process Calculations

Date	Doc. No.	Title
	SDP20-04 Rev. 0	Raw Water Reservoir Inadvertently Isolated

November
List of Documents Transmitted Electronically

N. Miscellaneous

Date	Title
	There are no miscellaneous documents for this month.

O. Functional Area Documents

Subcommittee	Date/Doc	Title
Maintenance	Week 202044	T+1 Performance Critique
	Week 202045	T+1 Performance Critique
	Week 202046	T+1 Performance Critique
	Week 202047	T+1 Performance Critique
	Week 202048	T+1 Performance Critique
	Weeks 2041 - 2044	T+1 Performance Critique 2041-2044

December
List of Documents Transmitted Electronically

A. Licensing Basis Impact Evaluations

Date	LBIE No.	Title
		There are no LBIEs for this month.

B. NRC Outgoing Correspondence (incl. LERs, LARs, etc.)

Date	Letter No.	Title
12/3/2020	DCL-20-092	License Amendment Request 20-03, Proposed Technical Specifications and Revised License Conditions for the Permanently Defueled Condition
12/3/2020	DCL-20-099	(OUO) Response to NRC Request for Additional Information Regarding "Request for a One-Time Exemption from 10 CFR 73, Appendix B, Section VI, Subsection F.5.(a) Regarding firearms requalification, Due to COVID 19 Pandemic"
12/3/2020	DCL-20-100	(OUO) Response to NRC Request for Additional Information Regarding "Request for a One-Time Exemption from 10 CFR 73, Appendix B, Section VI, Subsection C.3.(I)(1) Regarding Annual Force-on-Force (FOF) Exercises, Due to COVID 19 Pandemic"
12/24/2020	DCL-20-106	Nuclear Material Transaction Report for New Fuel
12/24/2020	DCL-20-107	Nuclear Material Transaction Report for Special Nuclear Material
12/29/2020	DCL-20-108	Use of Risk-Informed Evaluation Methodology to Address Open Phase Condition

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
	There is no incoming correspondence for this month.

D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title
PSRC Minutes		There are no PSRC documents for this month.

E. CAP Documents (RCAs, WGEs, CAP Effectiveness Evaluations)

Type	Doc. No.	Title
1 WGE	SAPN 51099292	Unit 2 Gen/SCCW elevated H2 leakage
2 WGE	SAPN 50979713	U1 480V conduit dn meet seismic gap
2 WGE	SAPN 51082078	STP R-19 not performed per STP I-1b
2 WGE	SAPN 51096090	STP P-AFW-A11 low RPM
2 WGE	SAPN 51099877	Security HU-Gate 1 VBS Configuration

December
List of Documents Transmitted Electronically

Eff. Eval	SAPN 51026480	EFEV: ASW PP 2-1 Motor Bearing Degraded
12/31/2020		List of DN 5.1 and 5.2 Created 12-1-20 – 12-31-20
11/30/2020		DN DA Initiation Rate
11/30/2020		DN DA Six Month Count
12/31/2020		DCPP 1 WGE and 2 WGE Notifications Completed 12/1/20 – 12/31/20
12/28/2020		DCPP CAP Station Index
12/14/2020		CAP Summary
12/28/2020		Open LTCA DA Notifs Station Significance 1 & 2
12/14/2020		20 Oldest Non-LTCA DA Notifications
12/28/2020		Open RCEs
12/10/2020		Performance Improvement Status Summary
11/30/2020		NRC QV Six Month Identification

F. QV Documents (QPAR, Audit Reports, Audit Schedule, Assessments)

Date	Doc. No.	Title
12/14/2020		Quality Digest, December Edition 2020
12/14/2020	#2020-QP-02	Quality Performance Assessment Report (QPAR); Second Period 2020; June 1, 2020 through December 1, 2020
12/1/2020	QVA # 2020-AS-13	Evaluation of Corrective Action Program Issue Resolution and Closure Documentation

G. Nuclear Safety Culture Monitoring Panel Reports

Date	Doc. No.	Title
		There is no Nuclear Safety Culture Monitoring Panel Report for this month.

H. Self Assessment/Benchmarking (SA/BM Reports/Schedules)

Date	Doc. No.	Title
12/14/2020	SAPN 51022258	Proj Serv informal benchmark
12/14/2020	SAPN 51067798	Wolf Creek Pre-PI&R self-assess peer rep
12/14/2020	SAPN 51068709	WPUG benchmark Report for Jan 2020
1/12/2021	SAPN 51077697	Security STARS benchmark
1/12/2021	SAPN 51048651	2020 PI&R Self-Assessment

December
List of Documents Transmitted Electronically

12/14/2020	SAPN 50989088	Biennial Target Set SA 2020
12/15/2020	SAPN 51066112	Self-Assessment Procedure Reqmt. Review
1/12/2021	SAPN 50983504	2020 Self-Assessment – SPO
1/12/2021	SAPN 51047465	QHSA: Eval Electronic Rcrds w/TG 15-1998
1/12/2021	SAPN 51071854	2020 DFMP Self Assessment per DF1.ID1
1/12/2021	SAPN 51078402	QHSA Qualification Optimization
1/12/2021	SAPN 51097868	QHSA - 1R22 Maint Technical Fundamentals

I. Performance Information (PIR, Operating Plan, Station Initiatives)

Date	Doc. No.	Title
1/11/2021		2021-2025 Generation Operating Plan
	PPIR	There is no PPIR for this month.
12/9/2020		December 2020 Security & Emergency Services Performance Improvement Dashboard
12/14/2020		December 2020 Engineering Services Performance Improvement Dashboard
12/14/2020		December 2020 Maintenance PI Dashboard
12/14/2020		December 2020 Operations Services Performance Improvement Dashboard
12/14/2020		Performance Improvement Status Summary
12/28/2020		Performance Improvement Status Summary

J. INPO

Date	Doc. No.	Title
		There are no INPO documents for this month.

K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
ODMs		There are no ODMs for this month.
POA		There are no new POAs for this month.

L. Safety Limit Violation Report

Date	Doc. No.	Title
		There are no Safety Limit Violation Reports for this month.

December
List of Documents Transmitted Electronically

M. Significance Determination Process Calculations

Date	Doc. No.	Title
		There are no Significance Determination Process Calculations for this month.

N. Miscellaneous

Date	Title
	There are no miscellaneous documents for this month.

O. Functional Area Documents

Subcommittee	Date/Doc	Title
Maintenance	Week 2049	T+1 Performance Critique 2049
	Week 2050	T+1 Performance Critique 2050
	Week 2051	T+1 Performance Critique 2051
	Week 2052	T+1 Performance Critique 2052
	Week 2053	T+1 Performance Critique 2053
	Weeks 2050-2053	T+1 Monthly Performance Critique 2050-2053

January
List of Documents Transmitted Electronically

A. Licensing Basis Impact Evaluations

Date	LBIE No.	Title
		There are no LBIEs for this month.

B. NRC Outgoing Correspondence (incl. LERs, LARs, etc.)

Date	Letter No.	Title
1/27/2021	DCL-21-008	Owner's Activity Report for Unit 1 Twenty-Second Refueling Outage

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
1/26/2021	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 – INTEGRATED INSPECTION REPORT 05000275/2020004 AND 05000323/2020004

D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title
PSRC Minutes		There are no PSRC minutes for this month.

E. CAP Documents (RCAs, WGEs, CAP Effectiveness Evaluations)

Type	Doc. No.	Title
1 WGE	SAPN 51103653	DA-24 hr telephone report to the NRC
2 WGE	SAPN 50591454	LTCA -Tornado Missile Lic. Basis Ques
2 WGE	SAPN 50592094	LTCA-Rev Missile Assump, Calc 65-T-825
2 WGE	SAPN 51079217	DA-U2 Sys 39A SR Rad Monitor - Goal Sett
2 WGE	SAPN 51091478	DA- DEG 2-1 oil leak
2 WGE	SAPN 51093297	DA-Door 144 found unsecured - HU Eval
2 WGE	SAPN 51100767	DA-MW 26 OOS top head hit by man lift
ACE	SAPN 51088472	DA-NRC Concern: Scaffold in DG 1-1 room
	SAPN 51099523	DA-U2 SG 2-2 Safety Lifted Early
RCE	SAPN 51083213	Leak on AFW Piping After LCV-111
Eff. Eval	SAPN 51026480	EFEV: ASW PP 2-1 Motor Bearing Degraded

January
List of Documents Transmitted Electronically

1/31/2021		List of DN 5.1 and 5.2 Created 1-1-2021 – 1-31-2021
1/31/2021		DCPP 1 WGE and 2 WGE Notifications Completed 1/1/2021 – 1/31/2021
1/25/2021		DCPP CAP Station Index
1/11/2021		CAP Summary
1/11/2021		20 Oldest Non-LTCA DA Notifications as of 1/11/2021
1/25/2021		Open RCEs As of 1/25/2021
1/12/2021		Performance Improvement Status Summary
12/31/2020		DN DA Initiation Rate

F. QV Documents (QPAR, Audit Reports, Audit Schedule, Assessments)

Date	Doc. No.	Title
1/5/2021		Quality Digest, January Edition 2021
1/21/2021	QVA # 2021-AS- 01	Safety Issue Resolution

G. Nuclear Safety Culture Monitoring Panel Reports

Date	Doc. No.	Title
		There is no Nuclear Safety Culture Monitoring Panel Report for this month.

H. Self Assessment/Benchmarking (SA/BM Reports/Schedules)

Date	Doc. No.	Title
1/11/2021	SAPN 51080792	Benchmark – Virtual Learning
1/13/2021	SAPN 51078417	QHSA for CA ELAP changes
1/19/2021	SAPN 51097955	Pre-Internal Audit QHSA for DCPP Records

I. Performance Information (PIIR, Operating Plan, Station Initiatives)

Date	Doc. No.	Title
1/11/2021		Generation Operating Plan 2021 – 2025, No new updates this month.
12/17/2020	PIIR	Diablo Canyon Power Plant ; Plant Performance Improvement Report; Achieving Results; Data: November 2020
1/21/2021	PIIR	Diablo Canyon Power Plant ; Plant Performance Improvement Report; Achieving Results; Data: December 2020

January
List of Documents Transmitted Electronically

1/28/2021	PRM	Performance Review Meeting Agenda
1/11/2021		Performance Improvement Status Summary
1/21/2021		January 2021 PI Status Summary
1/18/2021		January 2021 Engineering Services Performance Improvement Dashboard
1/13/2021		January 2021 Maintenance PI Dashboard
1/13/2021		January 2021 Operations Services Performance Improvement Dashboard
1/11/2021		January 2021 Security & Emergency Services Performance Improvement Dashboard

J. INPO

Date	Doc. No.	Title
		There are no INPO documents for this month.

K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
ODMs	1/12/2021	DCPP Update - Operational Decision Making (ODM) Meeting on Unit 2
POA		There are no new POAs for this month.

L. Safety Limit Violation Report

Date	Doc. No.	Title
		There are no Safety Limit Violation Reports for this month.

M. Significance Determination Process Calculations

Date	Doc. No.	Title
		There are no Significance Determination Process Calculations for this month.

N. Miscellaneous

Date	Title
	There are no miscellaneous documents for this month.

O. Functional Area Documents

Subcommittee	Date/Doc	Title
Maintenance	202101	T+1 Performance Critique
	202102	T+1 Performance Critique
	202103	T+1 Performance Critique
	202104	T+1 Performance Critique

February
List of Documents Transmitted Electronically

A. Licensing Basis Impact Evaluations

Date	LBIE No.	Title
		There are no LBIEs for this month.

B. NRC Outgoing Correspondence (incl. LERs, LARs, etc.)

Date	Letter No.	Title
2/3/2021	DCL-21-012, DIL-21-001	Emergency Plan Update
2/4/2021	DCL-21-011	Request for One-Time Exemption from Select 10 CFR 55.59 Requirements
2/4/2021	DCL-21-013	(OUO) Request for a Temporary Exemption from 10 CFR 73, Appendix B, Section VI, Subsection C.3.(I)(1) and Subsection A.7, Regarding Annual Force-On-Force Exercises, Due to Coronavirus Disease 2019 Pandemic.

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
	There is no incoming correspondence for this month.

D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title
PSRC Minutes		There are no PSRC documents for this month.

E. CAP Documents (RCAs, WGEs, CAP Effectiveness Evaluations)

Type	Doc. No.	Title
2 WGE	SAPN 51072525	DA-Adverse Trend: Incipient Cloud Chambe
2 WGE	SAPN 51081138	DA-Neg trend: Pri & B/u MET Tower Aspirat
2 WGE	SAPN 51086295	DA-8/25/20 DEP Drill Classification Fail
2 WGE	SAPN 51091473	DA-Inadequate Clearance Boundar
2 WGE	SAPN 51094793	DA-Work Order attached to wrong clearanc
2 WGE	SAPN 51097839	DA-Trend Clearance Issues
Eff. Eval		There are no effectiveness evaluations for this month.
CE	SAPN 51095730	DA-Unit 1 PORVs opened momentarily
CE	SAPN 51098549	DA-NSOC ESI PI 20-01: Shortfalls in CAP

February
List of Documents Transmitted Electronically

2/28/2021		List of DN 5.1 and 5.2 Created 2-1-21 – 2-28-21
2/28/2021		DCPP 1 WGE and 2 WGE Notifications Completed 2/1/21 – 2/28/21
2/22/2021		DCPP CAP Station Index
2/8/2021		CAP Summary
2/4/2021		Open LTCA DA Notifs Station Significance 1 & 2 as of 2/4/21
2/4/2021		20 Oldest Non-LTCA DA Notifications as of 2/4/2021
2/22/2021		Open RCEs As of 2/22/21
2/8/2021		Performance Improvement Status Summary
		SAPNs Initiated per Month August 2019 – January 2021

F. QV Documents (QPAR, Audit Reports, Audit Schedule, Assessments)

Date	Doc. No.	Title
2/2/2021		Quality Digest, February Edition 2021
2/4/2021	#2021-IA-01	2021 Chemistry and Environmental Operations Audit
2/1/2021	#2021-AS-2	Assessment of Engineering Evaluations
2/4/2021	#2021-AS-3	Station Equipment Reliability

G. Nuclear Safety Culture Monitoring Panel Reports

Date	Doc. No.	Title
2/12/2021		Nuclear Safety Culture Review Report for the 1st Period 2021

H. Self Assessment/Benchmarking (SA/BM Reports/Schedules)

Date	Doc. No.	Title
2/16/2021	SAPN 51076798	ISI Benchmark EOL Insp Reqs
2/19/2021	SAPN 51021455	2019 Safety Culture Assessment
2/10/2021	SAPN 51071331	Perform Formal SA: Elec Safety 2020
2/1/2021	SAPN 51033736	IST QHSA tracking
1/29/2021	SAPN 51069553	1R22 Post-Outage HU QHSA

February
List of Documents Transmitted Electronically

I. Performance Information (PIIR, Operating Plan, Station Initiatives)

Date	Doc. No.	Title
1/11/2021		Generation Operating Plan 2021 – 2025, No new updates this month.
3/4/2021	PIIR	Diablo Canyon Power Plant; Plant Performance Improvement Report; Achieving Results; Data: January 2021
2/11/2021		February 2021 Security & Emergency Services Performance Improvement Dashboard
2/16/2021		February 2021 Engineering Services Performance Improvement Dashboard
2/16/2021		February 2021 Maintenance PI Dashboard
2/16/2021		February 2021 Operations Services Performance Improvement Dashboard
2/8/2021		February 2021 PI Status Summary
2/22/2021		February 2021 PI Status Summary

J. INPO

Date	Doc. No.	Title
		There are no INPO documents for this month.

K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
ODMs		There are no ODMs for this month.
POA		There are no new POAs for this month.

L. Safety Limit Violation Report

Date	Doc. No.	Title
		There are no Safety Limit Violation Reports for this month.

M. Significance Determination Process Calculations

Date	Doc. No.	Title
		There are no Significance Determination Process Calculations for this month.

N. Miscellaneous

Date	Title
	There are no miscellaneous documents for this month.

February
List of Documents Transmitted Electronically

O. Functional Area Documents

Subcommittee	Date/Doc	Title
Maintenance	202105	T+1 Performance Critique
	202106	T+1 Performance Critique
	202107	T+1 Performance Critique
	202107	T+1 Performance Critique
	January	T+1 Monthly Performance Critique 2101-2104

March
List of Documents Transmitted Electronically

A. Licensing Basis Impact Evaluations

Date	LBIE No.	Title
		There are no LBIEs for this month.

B. NRC Outgoing Correspondence (incl. LERs, LARs, etc.)

Date	Letter No.	Title
3/1/2021	DIL-21-003	Annual Radioactive Effluent Release Report for 2020
3/29/2021	DCL-21-020	License Amendment Request 21-03 Request for Revision to Technical Specification 3.8.1, "AC Sources - Operating" to Support Diesel Fuel Oil Transfer System Component Planned Maintenance
3/31/2021	DCL-21-026	Decommissioning Funding Report for Diablo Canyon Power Plant, Units 1 and 2
3/31/2021	DCL-21-027	2020 Diablo Canyon Power Plant (DCPP) 10 CFR 50.54(t) Assessment
3/31/2021	DCL-21-028	2020 Diablo Canyon Power Plant (DCPP) 10 CFR 50.54(t) Assessment

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
3/2/2021	Request for additional information for Diablo Canyon Generic Letter 2004-02 Submittal (L-2017-LRC-0000)
3/3/2021	DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 – EXEMPTION FROM ANNUAL FORCE-ON-FORCE EXERCISE REQUIREMENT OF 10 CFR PART 73, APPENDIX B, "GENERAL CRITERIA FOR SECURITY PERSONNEL," SUBSECTION A.7 (EPID L-2021-LLE-0008 [COVID-19])
3/3/2021	ANNUAL ASSESSMENT LETTER FOR DIABLO CANYON POWER PLANT, UNITS 1 AND 2 (REPORT 05000275/2020006 AND 05000323/2020006)
3/11/2021	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 – TRIENNIAL FIRE PROTECTION INSPECTION REPORT 05000275/2021010 AND 05000323/2021010
3/12/2021	DIABLO CANYON POWER PLANT – NOTIFICATION OF INSPECTION (NRC INSPECTION REPORT 05000275/2021002, 05000323/2021002) AND REQUEST FOR INFORMATION
3/31/2021	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 – CYBER SECURITY INSPECTION REPORT 05000275/2021403 AND 05000323/2021403

D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title
PSRC Minutes		There are no PSRC minutes for this month.

March
List of Documents Transmitted Electronically

E. CAP Documents (RCAs, WGEs, CAP Effectiveness Evaluations)

Type	Doc. No.	Title
2 WGE	SAPN 50945755	LTCA Eval air comp config vs lic basis
2 WGE	SAPN 51088341	DA-NRC Green Finding - OE reviews
2 WGE	SAPN 51091733	DA-CS-1-37 found Open
2 WGE	SAPN 51105724	DA-QAAF - CAP A-12 records not IAW reqme
2 WGE	SAPN 51105994	DA-Low Oxygen Alarm U2 Containment
Eff. Eval		There are no effectiveness evaluations for this month.
3/31/2020		List of DN 5.1 and 5.2 Created 3-1-21 – 3-31-21
3/31/2020		DCPP 1 WGE and 2 WGE Notifications Completed 3/1/21 – 3/31/21
3/29/2021		DCPP CAP Station Index
3/8/2021		CAP Summary
3/29/2021		Open RCEs As of 3/29/2021
3/31/2021		SAPNs Initiated Per Month

F. QV Documents (QPAR, Audit Reports, Audit Schedule, Assessments)

Date	Doc. No.	Title
3/2/2021		Quality Digest, March Edition 2021
2/25/2021	Audit #2021-IA-03	2021 Emergency Preparedness, FLEX, and SFP Instrumentation Audit
3/1/2021	QVA # 2021-AS-04	2R22 Early Start
3/18/2021	QVA # 2021-AS-5	Assessment of Engineering Work Product Review Team
3/31/2021	QVA # 2021-AS-7	Assessment of Station Response to 2R22 Human Performance Trend

G. Nuclear Safety Culture Monitoring Panel Reports

Date	Doc. No.	Title
		There is no Nuclear Safety Culture Monitoring Panel Report for this month.

March
List of Documents Transmitted Electronically

H. Self Assessment/Benchmarking (SA/BM Reports/Schedules)

Date	Doc. No.	Title
3/10/2021	SAPN 51110054	FAC Program - Winter 2021 CHUG Trip Rpt
3/18/2021	SAPN 51109489	Industry Benchmark - Non-DEP Failure
3/23/2021	SAPN 51109540	Industry Benchmark - ACAD 07-002
3/29/2021	SAPN 51054289	Decom Benchmarking - Indian Point
3/11/2021	SAPN 51061510	Formal Self Assessment ER through OR Len
3/23/2021	SAPN 51078318	Jan 2021 71111.11 FSA
3/18/2021	SAPN 51109182	-
3/26/2021	SAPN 51050752	Track Quick Hit Self-Assess for OM1.ID6
3/26/2021	SAPN 51108445	Perform a QHSA against NRC IP 71124.01

I. Performance Information (PIIR, Operating Plan, Station Initiatives)

Date	Doc. No.	Title
1/11/2021		Generation Operating Plan 2021 – 2025, No new updates this month.
	PIIR	Diablo Canyon Power Plant; Plant Performance Improvement Report; February Data: April 2, 2021
3/8/2021		March 2021 Security and Emergency Services Performance Improvement Dashboard
3/11/2021		March 2021 Operations Services Performance Improvement Dashboard
3/13/2021		March 2021 Engineering Services Performance Improvement Dashboard
3/15/2021		March 2021 Maintenance PI Dashboard
3/8/2021		March 2021 PI Status Summary
3/22/2021		March 2021 PI Status Summary

J. INPO

Date	Doc. No.	Title
		There are no INPO documents for this month.

March
List of Documents Transmitted Electronically

K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
ODMs		There are no ODMs for this month.
POA		There are no new POAs for this month.
4/5/2021		Daily Load Profile

L. Safety Limit Violation Report

Date	Doc. No.	Title
		There are no Safety Limit Violation Reports for this month.

M. Significance Determination Process Calculations

Date	Doc. No.	Title
Draft	Calc No. SDP21-03 Rev. 0	Unit 2 SI-8803B Degraded

N. Miscellaneous

Date	Title
	There are no miscellaneous documents for this month.

O. Functional Area Documents

Subcommittee	Date/Doc	Title
Maintenance	202109	T+1 Performance Critique
	202110	T+1 Performance Critique
	202111	T+1 Performance Critique
	202112	T+1 Performance Critique
	202113	T+1 Performance Critique
	202114	T+1 Performance Critique
		T+1 February Monthly Performance Critique
		T+1 March Monthly Performance Critique

April
List of Documents Transmitted Electronically

A. Licensing Basis Impact Evaluations

Date	LBIE No.	Title
4/6/2021	2021-002	Accept welds for use as-is

B. NRC Outgoing Correspondence (incl. LERs, LARs, etc.)

Date	Letter No.	Title
4/1/2021	DCL-21-022	2020 Annual Radiological Environmental Operating Report
4/1/2021	DCL-21-019	Supplement to License Amendment Request 20-03 Proposed Technical Specifications and Revised License Conditions for the Permanently Defueled Condition
4/1/2021	DCL-21-030, HBL-21-005	2021 Annual Statement of Insurance for Pacific Gas and Electric Company's Diablo Canyon Power Plant and Humboldt Bay Power Plant
4/8/2021	DCL-21-031	Annual Report of Occupational Radiation Exposure for 2020
4/15/2021	DCL-21-035	Diablo Canyon Units 1 and 2 - 1Q2021 - PI Data Elements (QR)
4/15/2021	DCL-21-034	Response to Request for Additional Information on Final Supplemental Response to Generic Letter 2004-02
4/20/2021	DCL-21-023	2020 Annual Radioactive Effluent Release Report
4/29/2021	DCL-21-039	Alert and Notification System Design Report, Revision 5

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
3/31/2021	(OUO) DIABLO CANYON POWER PLANT, UNITS 1 AND 2 - CYBER SECURITY INSPECTION REPORT 05000275/2021403 AND 05000323/2021403
4/1/2021	DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 – EXEMPTION FROM SELECT REQUIREMENTS OF 10 CFR PART 55, “OPERATORS LICENSES” (EPID L-2021-LLE-0007)
4/12/2021	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 –NOTIFICATION OF NRC DESIGN BASES ASSURANCE INSPECTION (PROGRAMS) (05000275/2021011 AND 05000323/2021011) AND INITIAL REQUEST FOR INFORMATION
4/14/2021	Request for additional information - Diablo Canyon proposed technical specifications and revised license conditions for the permanently defueled condition (EPID: L-2020-LLA-0261)

D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title
PSRC Minutes		There are no PSRC Minutes for this month.
PSRC Memo	4/12/2021	Plant Staff Review Committee; Members and Alternates
	4/13/2021	Plant Staff Review Committee; Members and Alternates

April
List of Documents Transmitted Electronically

E. CAP Documents (RCAs, WGEs, CAP Effectiveness Evaluations)

Type	Doc. No.	Title
1 WGE		There are no WGE 1s for this month.
2 WGE	SAPN 51054198	LTCA -Flush water introduced to waterbox
2 WGE	SAPN 51060524	DA-DCPP SPS Maintenance Alarms
2 WGE	SAPN 51079216	DA- Loss of AVSS cameras
2 WGE	SAPN 51093604	DA-QARMA - Fall Protection Program Issue
2 WGE	SAPN 51094959	DA-Both SR NIS de-energized during SSPS
2 WGE	SAPN 51095733	DA- Adverse Trend I&C Status Cont -NSOC
2 WGE	SAPN 51098551	DA-QARMA: PU&A and HP Analysis
2 WGE	SAPN 51106818	DA-QAAF - RP quality records not RMS'd
2 WGE	SAPN 51108540	DA-QAAF: Shift Watch List
2 WGE	SAPN 51110326	DA-OM6.ID1- Finger Laceration - MC-FM1
Eff. Eval		There are no effectiveness evaluations for this month.
4/5/2021		DA Initiation
4/14/2021		CARB High and Medium CAP Items – 5 Oldest
4/19/2021		CARB High and Medium CAP Items – 5 Oldest
4/22/2021		CARB High and Medium CAP Items – 5 Oldest
4/30/2021		List of DN 5.1 and 5.2 Created 4-1-21 – 4-30-21
4/31/2021		DCPP 1 WGE and 2 WGE Notifications Completed 4/1/21 – 4/30/21
4/26/2021		DCPP CAP Station Index
4/5/2021		CAP Summary
4/26/2021		20 Oldest Non-LTCA DA Notifications as of 4/26/2021
4/26/2021		Open RCEs As of 4/26/2021

F. QV Documents (QPAR, Audit Reports, Audit Schedule, Assessments)

Date	Doc. No.	Title
4/5/2021		Quality Digest, April Edition 2021
4/8/2021	#2021-IA-05	2021 Applied Technology Services Quality Program Audit

April
List of Documents Transmitted Electronically

G. Nuclear Safety Culture Monitoring Panel Reports

Date	Doc. No.	Title
		There is no Nuclear Safety Culture Monitoring Panel Report for this month.

H. Self Assessment/Benchmarking (SA/BM Reports/Schedules)

Date	Doc. No.	Title
5/6/2021	SAPN 50994647	Informal Benchmark - Mirion Users Group
4/11/2021	SAPN 51065071	Cyber Security Shearon Harris Benchmark
4/20/2021	SAPN 51116149	Sec - Weapons Safety Benchmark
4/15/2021	SAPN 51003228	RWMP Intertidal Scope Self-Assessment
4/21/2021	SAPN 51113201	QHSA - Fall Protection Program
4/27/2021	SAPN 51116726	QHSA on SM Qualification Program

I. Performance Information (PPIR, Operating Plan, Station Initiatives)

Date	Doc. No.	Title
1/11/2021		Generation Operating Plan 2021 – 2025, No new updates this month.
4/9/2021	PPIR	Diablo Canyon Power Plant; Plant Performance Improvement Report; Data: March 2021
4/13/2021		April 2021 PI Status Summary
4/27/2021		April 2021 PI Status Summary
4/8/2021		April 2021 Security & Emergency Services Performance Improvement Dashboard
4/13/2021		April 2021 Operations Services Performance Improvement Dashboard
4/14/2021		April 2021 Engineering Services Performance Improvement Dashboard
4/14/2021		April 2021 Maintenance PI Dashboard

J. INPO

Date	Doc. No.	Title
		There are no INPO documents for this month.

April
List of Documents Transmitted Electronically

K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
ODMs		There are no ODMs for this month.
POA		There are no new POAs for this month.

L. Safety Limit Violation Report

Date	Doc. No.	Title
		There are no Safety Limit Violation Reports for this month.

M. Significance Determination Process Calculations

Date	Doc. No.	Title
		There are no Significance Determination Process Calculations for this month.

N. Miscellaneous

Date	Title
	There are no miscellaneous documents for this month.

O. Functional Area Documents

Subcommittee	Date/Doc	Title
Maintenance	202115	T+1 Performance Critique
	202116	T+1 Performance Critique
	202117	T+1 Performance Critique

May
List of Documents Transmitted Electronically

A. Licensing Basis Impact Evaluations

Date	LBIE No.	Title
		There are no LBIEs for this month.

B. NRC Outgoing Correspondence (incl. LERs, LARs, etc.)

Date	Letter No.	Title
5/20/2021	DCL-21-043	Report of Completion of Implementation of Risk-Informed Evaluation Methodology to Address Open Phase Condition

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
5/4/2021	Acceptance Review - Diablo Canyon Request to Revise Technical Specification 3.8.1, "AC Sources - Operating" to Support Diesel Fuel Oil Transfer System Component Planned Maintenance (EPID: L-2021-LLA-0056)
5/7/2021	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 – INTEGRATED INSPECTION REPORT 05000275/2021001 AND 05000323/2021001 AND INDEPENDENT SPENT FUEL STORAGE INSTALLATION INSPECTION REPORT 07200026/2021001

D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title
PSRC Minutes	2020-012	Main Generator Extent of Condition
	2020-013	Unit 2 Main Generator Extent of Condition Unit 2 AFW Piping Repairs and Extent of Condition Unit 2 Rod Control Repairs Unit 2 NI-31 Replacement Readiness for Restart – Mode 3 to Mode 2 Change Readiness for Restart – OP1.DC1
	2020-014	License Amendment Request 20-01, Exigent Request for Revision to Technical Specification 3.7.5, "Auxiliary Feedwater System"
	2020-015	Response to NRC Request for Additional Information Regarding "License Amendment Request 20-01, Exigent Request for Revision to Technical Specification 3.7.5, 'Auxiliary Feedwater System'"
	2020-019	STRIDES analysis for extending the frequency for performance of STP R-1A Emergency Plan, Section 7, Revision 5.02
	2020-021	Readiness for Restart – Mode 3 to Mode 2 Change
	2020-022	OP L-0 OP1.DC1
	2020-023	License Amendment Request 20-03
	2021-005	Readiness for Restart – Mode 5 to Mode 4 Change

May
List of Documents Transmitted Electronically

	2021-007	Readiness for Restart – Mode 3 to Mode 2 Change Readiness for Restart – OP1.DC1
	2021-008	DCL-21-040, Responses to NRC Requests for Additional Information on LAR 20-03, Proposed Technical Specifications and Revised License Conditions for the Permanently Defueled Condition

E. CAP Documents (RCAs, WGEs, CAP Effectiveness Evaluations)

Type	Doc. No.	Title
2 WGE	SAPN 51063454	DA-4KV PDS/Yaskawa SF6 breakers adv. tre
2 WGE	SAPN 51073881	DA-NWCM - NCIG-01 Weld Inspect Criteria
2 WGE	SAPN 51093452	DA-Turbo bracket cracked through
2 WGE	SAPN 51094959	DA-Both SR NIS de-energized during SSPS
2 WGE	SAPN 51096253	DA-STP P-AFW-A11 low RPM
2 WGE	SAPN 51096255	DA-AFWP1-1 Locknut loosened
2 WGE	SAPN 51096256	DA-AFW AS FOUND PUMP dP / RPM Too High
2 WGE	SAPN 51096257	DA-AFW -11 Pump Governor Knob Not Adj Sp
2 WGE	SAPN 51098391	DA-U2 Sys 23B Goal Setting
2 WGE	SAPN 51116795	DA-QAAF:Inconsistent Logging of M&TE Equ
Eff. Eval	SAPN 51036734	EFEV for Polar Crane MHOS Trip
Eff. Eval	SAPN 51050807	Effectiveness Evaluation - SGI Unsecured
Eff. Eval	SAPN 51103890	IER L2-15-23 Effectiveness Review
4/29/2021		High and Medium Cap Items – 5 Oldest
5/10/2021		High and Medium Cap Items – 5 Oldest
5/24/2021		High and Medium Cap Items – 5 Oldest
5/31/2021		List of DN 5.1 and 5.2 Created 5-1-21 – 5-31-21
5/31/2021		DCPP 1 WGE and 2 WGE Notifications Completed 5/1/21 – 5/31/21
5/24/2021		DCPP CAP Station Index
5/3/2021		CAP Summary

May
List of Documents Transmitted Electronically

5/21/2021		Open LTCA DA Notifs Station Significance 1 & 2 as of 5/19/2021
5/19/2021		Open LTCA DA Notifs Station Significance 3 as of 5/19/2021
5/19/2021		20 Oldest Non-LTCA DA Notifications as of 5/19/2021
5/24/2021		Open RCEs As of 5/24/2021
5/24/2021		May 2021 PI Status Summary
April 2021		SAPNs Initiated per Month

F. QV Documents (QPAR, Audit Reports, Audit Schedule, Assessments)

Date	Doc. No.	Title
5/3/2021		Quality Digest, May Edition 2021
4/22/2021	#2021-IA-04	2021 Fire Protection Audit
4/29/2021	#2021-IA-02	2021 Fitness for Duty, Access Authorization, and Personnel Access Data System Audit

G. Nuclear Safety Culture Monitoring Panel Reports

Date	Doc. No.	Title
		There is no Nuclear Safety Culture Monitoring Panel Report for this month.

H. Self Assessment/Benchmarking (SA/BM Reports/Schedules)

Date	Doc. No.	Title
5/20/2021	SAPN 51032790	2019 FPE Inf. Benchmark- Reg4/NEIL Wkshp
5/18/2021	SAPN 51103608	Benchmark Nuclear fleets CE thresholds
5/18/2021	SAPN 51118983	Benchmark # PRA Model Update survey
5/13/2021	SAPN 51104467	Document QHSA NRC IP 71124.04

I. Performance Information (PPIR, Operating Plan, Station Initiatives)

Date	Doc. No.	Title
1/11/2021		Generation Operating Plan 2021 – 2025, No new updates this month.
6/3/2021	PPIR	Diablo Canyon Power Plant; Plant Performance Improvement Report; Data: April 2021
5/6/2021		May 2021 PI Status Summary

May
List of Documents Transmitted Electronically

5/20/2021		May 2021 PI Status Summary
5/10/2021		May 2021 Security & Emergency Services Performance Improvement Dashboard
5/12/2021		May 2021 Operations Services Performance Improvement Dashboard
5/13/2021		May 2021 Maintenance PI Dashboard

J. INPO

Date	Doc. No.	Title
		There are no INPO documents for this month.

K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
ODMs		There are no ODMs for this month.
POA		There are no new POAs for this month.

L. Safety Limit Violation Report

Date	Doc. No.	Title
		There are no Safety Limit Violation Reports for this month.

M. Significance Determination Process Calculations

Date	Doc. No.	Title
		There are no Significance Determination Process Calculations for this month.

N. Miscellaneous

Date	Title
	There are no miscellaneous documents for this month.

O. Functional Area Documents

Subcommittee	Date/Doc	Title
Maintenance	202118	T+1 Performance Critique
	202119	T+1 Performance Critique
	202120	T+1 Performance Critique
	202121	T+1 Performance Critique
	Apr Mo Pkg	T+1 Monthly Performance Critique 2114-2117

June
List of Documents Transmitted Electronically

A. Licensing Basis Impact Evaluations

Date	LBIE No.	Title
		There are no LBIEs for this month.

B. NRC Outgoing Correspondence (incl. LERs, LARs, etc.)

Date	Letter No.	Title
7/7/2021	DCL-21-046	Emergency License Amendment Request 21-05 Revision to Technical Specification 3.7.8, "Auxiliary Saltwater System "Emergency LAR for Multiple Grounds on ASW Pump 1-1 issue
7/8/2021	DCL-21-048	Response to Request for Additional Information on Emergency License Amendment Request 21-05, "Revision to Technical Specification 3.7.8, 'Auxiliary Saltwater (ASW) System'"

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
7/1/2021	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 – SECURITY BASELINE INSPECTION REPORT 05000275/2021401 AND 05000323/2021401
7/8/2021	DIABLO CANYON NUCLEAR POWER PLANT, UNIT 1 - ISSUANCE OF AMENDMENT NO. 238 RE: REVISION TO TECHNICAL SPECIFICATION 3.7.8, "AUXILIARY SALTWATER (ASW) SYSTEM" (EMERGENCY CIRCUMSTANCES) (EPID L-2021-LLA-0123)

D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title
PSRC Minutes	2021-009	Revision to Procedure OM4.ID2, "Plant Staff Review Committee (PSRC)"

E. CAP Documents (RCAs, WGEs, CAP Effectiveness Evaluations)

Type	Doc. No.	Title
CE	SAPN 51116798	DA-TI1090R SCCW Temp Reads 10 Deg F High
CE	SAPN 51108157	DA-PCV-456 exceeded limiting stroke time
1 WGE	SAPN 51099522	DA-Unit 2 Gen/SCCW elevated H2 leakage
2 WGE	SAPN 51111286	DA-Security Loss of Pivotal Cameras
2 WGE	SAPN 51114373	DA-TQ2.ID8 not met during training
2 WGE	SAPN	DA-QAAF: Placekeeping in Coating Packag

June
List of Documents Transmitted Electronically

	51119123	
2 WGE	SAPN 51105018	DA-U1 Sys 39B NSR Rad Monitors Goal Sett
2 WGE	SAPN 51115329	DA-STP V-5A2 Step Inadvertently Performe
2 WGE	SAPN 51104433	DA-U-2 TG Bearing #10 Cardox alarm
Eff. Eval		There are no effectiveness evaluations for this month.
6/30/2021		DN Priority 5.1 and 5.2 Created 6-1-21 – 6-30-21
6/30/2021		DCPP 1 WGE and 2 WGE Notifications Completed 6/1/2021 – 6/30/2021
6/28/2021		DCPP CAP Station Index
5/27/2021		CAP Summary
6/23/2021		Open LTCA DA Notifs Station Significance 1 & 2 as of 6/23/21
6/23/2021		Open LTCA DA Notifications Station Significance 3 as of 6/23/21
6/28/2021		20 Oldest Non-LTCA DA Notifications as of 6/28/2021
6/28/2021		Open RCEs As of 6/28/2021
6/14/2021		June 2021 PI Status Summary
6/28/2021		June 2021 PI Status Summary
		Diablo Canyon Top 5 Significance Level 1 an 2 Non-LTCA DAs
5/31/2021		DN DA Initiation
5/27/2021		High and Medium CAP Items – Five Oldest
6/3/2021		High and Medium CAP Items – Five Oldest
6/10/2021		High and Medium CAP Items – Five Oldest
6/17/2021		High and Medium CAP Items – Five Oldest
6/24/2021		High and Medium CAP Items – Five Oldest

F. QV Documents (QPAR, Audit Reports, Audit Schedule, Assessments)

Date	Doc. No.	Title
6/1/2021		Quality Digest – June Edition 2021
6/2/2021	#2021-IA- 06	2021 Special Processes and ISI/IST Audit

G. Nuclear Safety Culture Monitoring Panel Reports

Date	Doc. No.	Title
7/9/2021		Nuclear Safety Culture Review Report 2 nd Period 2021; SCLT Meeting: June 24, 2021

June
List of Documents Transmitted Electronically

H. Self Assessment/Benchmarking (SA/BM Reports/Schedules)

Date	Doc. No.	Title
6/8/2021	SAPN 51222076	QHSA: OM15.ID6 Station Programs
7/13/2021	SAPN 51106757	71111.11 Objective 3 quick hit SA
3/4/2021	SAPN 51088415	Perform 2021 Part 37 Assessment
6/29/2021	SAPN 51119018	BM-Manual Material Handling Guidance
5/26/2021	SAPN 51025489	Records Program Informal Benchmarking

I. Performance Information (PIR, Operating Plan, Station Initiatives)

Date	Doc. No.	Title
1/11/2021		Generation Operating Plan 2021 – 2025, No new updates this month.
6/28/2021	PIR	Diablo Canyon Power Plant; Plant Performance Improvement Report; Data: May 2021
6/14/2021		June 2021 PI Status Summary
6/28/2021		June 2021 PI Status Summary
6/8/2021		June 2021 Security & Emergency Services Performance Improvement Dashboard
6/10/2021		June 2021 Maintenance PI Dashboard
6/15/2021		June 2021 Operations Services Performance Improvement Dashboard
6/15/2021		June 2021 Engineering Services Performance Improvement Dashboard
Station Initiative		There are no new Station Initiatives for this month.

J. INPO

Date	Doc. No.	Title
5/28/2021		Diablo Canyon IPSR
		2021Q1 PG&E Corporate IPSR

K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
ODMs		There are no ODMs for this month.

June
List of Documents Transmitted Electronically

POA		There are no new POAs for this month.
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L. Safety Limit Violation Report

Date	Doc. No.	Title
		There are no Safety Limit Violation Reports for this month.

M. Significance Determination Process Calculations

Date	Doc. No.	Title
		There are no Significance Determination Process Calculations for this month.

N. Miscellaneous

Date	Title
3/16/2020	Our Path Forward 2021; DCPD Station Excellence Plan.
6/3/2021	Station Oversight Committee Agenda

O. Functional Area Documents

Subcommittee	Date/Doc	Title
Maintenance	Week 202122	T+1 Performance Critique
	Week 202123	T+1 Performance Critique
	Week 202124	T+1 Performance Critique
	Week 202125	T+1 Performance Critique
	Week 202126	T+1 Performance Critique
		T+1 Monthly Performance Critique 2122-2125

31st Annual Report, Volume II, Exhibit C, Diablo Canyon Power Plant Operations

1.0 PG&E/DCPP Organization

The DCPD organization chart is included as an attachment.

2.0 Summary of Diablo Canyon Operations

2.0.1 Capacity Factor

During the assessment period of July 1, 2020, through June 30, 2021, Diablo Canyon's Combined "Capacity Factor" averaged 70.0% (Net Maximum Dependable Capacity). Capacity factor is the ratio of actual generation output during an operating period to its potential generation output during that period when operating continuously at Maximum Dependable Capacity.

Unit 1 Operating Event Summary

During the 12-month reporting period ending June 30, 2021, Unit 1's Capacity Factor was 91.9% (Net Maximum Dependable Capacity). The 29.9 -day Refueling Outage 1R21 occurred during this period. The table below provides descriptions of operating events that impacted Unit 1 generation.

Unit 1 Power Generation-Impacting Events July 2020 - June 2021

Date	Type	Reduced to Power Level	Event
09/21/20-10/3/20	Pre-Refueling Shutdown	Full power to Off-line	Pre-1R21 Refueling Outage power reduction to shutdown
10/3/20-11/2/20	Refueling Outage	Off-line	1R21 Refueling Outage 29.9 days
11/2/20-11/6/20	Power Ascension	Off-line to full power	Post-1R21 Refueling Outage power ascension to full power
4/26/21-4/27/21	Curtailement	50%	Main condenser pick and dredge of marine growth and debris
5/27/21-	Curtailement	50%	Main condenser salt-water

Unit 2 Operating Event Summary

During the 12-month reporting period ending June 30, 2021, Unit 2's Capacity Factor was 48.0% (Net Maximum Dependable Capacity). The 34.6-day Refueling Outage 2R22 occurred during this period. The table below provides descriptions of operating events that impacted Unit 2 generation.

Unit 2 Power Generation-Impacting Events July 2020 - June 2021

Date	Type	Reduced to Power Level	Event
7/17/20-8/2/20	Manual Maintenance Outage	Off-line	2Y22 Due to Main Generator Hydrogen Leak - 15.9 days (Including a 6-hour restart delay due to the Creston Pond Fire)
10/15/20-11/28/20	Manual Maintenance Outage	Off-line	2Z22 Due to Main Generator Hydrogen Leak - 45.2 days
12/2/20-1/12/21	Manual Maintenance Outage	Off-line	2G22 Due to Main Generator Hydrogen Leak - 40.8 days
1/26/21-2/3/21	Curtailement	80%	Vibrations in the Main Generator associated with the Main Generator Hydrogen Leak - 7.7 days
2/3/21-3/13/21	Manual Maintenance Outage	Off-line	2H22 Due to Main Hydrogen Leak - 13.8 days
3/13/21-4/17/21	Refueling Outage	Off-line	2R22 Refueling Outage - 34.6 days
4/17/21-4/19/21	Power Ascension	Off-line to full power	Post-2R22 Refueling Outage power ascension to full power
4/19/21-4/29/21	Manual Maintenance Outage	Off-line	2X23 Due to incorrect generator stator cooling water hose configuration - 9.9 days

2.0.2 Refueling Outages

The Unit 1 twenty-second refueling outage (1R22) included the following work efforts:

- Reactor Vessel Hot Leg ISI Squid Inspection
- Steam Generator Eddy Current testing
- Drain-down valve scope
- Reactor Coolant Pump Seal Replacements (1-1, 1-3, and 1-4 RCPs)
- Main Turbine LP C Removal and Inspection
- Circulating Water Pump 1-1 Motor Overhaul
- Intake Cooling Water Heat Exchanger 1-1 Tube Bundle Replacement
- Vital Bus H Maintenance
- 230 KV Tower 0/1B Repair
- 500 KV Towers 5-1 and 5-2 vertical insulators replacement

Refueling Outage 1R22 began October 3, 2020, and completed on November 1, 2020. Outage goals and results were as follows:

Performance Category	Goal	Actual
Serious Injury or Fatality (SIF) events	0	0
Nuclear Safety Events	0	0
Human Performance Event Clock Resets	0	0
Outage Duration (days)	≤ 30	29.9
Radiation Dose (Rem)	≤ 34	26.7
Significant Foreign Material Events (FME)	0	0

The Unit 2 twenty-second refueling outage (2R22) included the following work efforts:

- Reactor Vessel Hot Leg ISI Squid Inspection
- Reactor Coolant Pump seal replacements (4)
- Emergent Safety Injection Accumulator Weld Repair
- Main Generator SCCW header replacement
- Main Generator vibration investigation, analysis, and repair
- Main Turbine LP B and C inspections
- AFW Extent of Condition Corrosion Under Insulation Inspection, and repair
- Emergency Diesel Generator 2-2 Maintenance
- Auxiliary Transformer 2-1 radiator replacement
- Power Factor Testing of Main Bank Transformers
- Swap Rod drive Motor-Generator set 22

Refueling Outage 2R22 began February 23 , 2021, and completed on April 17, 2021. Outage goals and results were as follows:

Performance Category	Goal	Actual
Serious Injury or Fatality (SIF) events	0	0

Nuclear Safety Events	0	0
Human Performance Event Clock Resets	0	0
Outage Duration (days)	≤ 57	52.1
Radiation Dose (Rem)	≤ 13.3	10.8
Significant Foreign Material Events (FME)	0	0

2.0.3 Collective Radiation Exposure

The bulk of personnel radiation exposure occurs during refueling outages. For this reason, the total annual exposure is largely dependent upon the outage planning effectiveness, radiation levels, outage duration, number of outages conducted in the year and emergent maintenance activities.

Collective Radiation Exposure (CRE) for Refueling Outage 1R22 was 26.7 person-rem and 2R22 was 10.8 person-rem; both were the lowest overall historical outage dose for each respective unit. DCCP attributes this excellent station dose performance to source term reduction, dose ownership, use of technology and improved outage awareness and planning.

On-Line exposure typically amounts to about five person-Rem per year. Unit 1 and 2 CRE performances are meeting industry goal and receiving full industry points for CRE.

2.0.4 Unplanned Reactor Trips

PG&E's goal is to have zero unplanned automatic reactor trips per unit per year while critical. Unnecessary reactor trips not only reduce plant capacity factor, but they also represent unnecessary challenges to safety systems and may indicate substandard operating or maintenance practices. Manual trips are not counted because PG&E believes that this may inhibit operator-initiated trips and actions to protect equipment.

There was one reactor trip on Unit 2 which occurred during the reporting period. This manual reactor trip was initiated on 7/17/20 when the unit experienced a hydrogen leak in the Main Generator.

2.0.5 Unplanned Safety System Actuations

This indicator is the sum of the number of unplanned Emergency Core Cooling System (ECCS) actuations (whether the ECCS actuation set point has been reached or from a spurious or inadvertent ECCS signal) and the number of unplanned emergency AC power system actuations that result from the loss of power to a safeguards bus. For Diablo Canyon, ECCS actuations include actuations of the high-pressure injection system, the low-pressure injection system, or the accumulators. Such actuations should be avoided because the plant should be maintained in a safe configuration to preclude actuations, and unnecessary

challenges to plant safety systems should be minimized. PG&E's goal for this indicator continues to be no unplanned ECCS actuations at DCPD.

No unplanned safety system actuations occurred during the reporting period.

2.0.6 Chemistry Effectiveness Indicator (CEI)

DCPD has adopted the industry Chemistry Effectiveness Indicator (CEI) to measure overall station chemistry effectiveness. CEI is a metric that assesses the chemical and contaminant control practices for Primary and Secondary systems.

The CEI can range from 0 to 100 with a lower value demonstrating better chemistry control. CEI > 5 will impact the station's Industry Performance Indicator Index. CEI is an 18-month rolling indicator and is updated monthly.

The 18-month composite CEI for Unit 1 was 0.00 and Unit 2 was 0.17.

2.0.7 Fuel Reliability

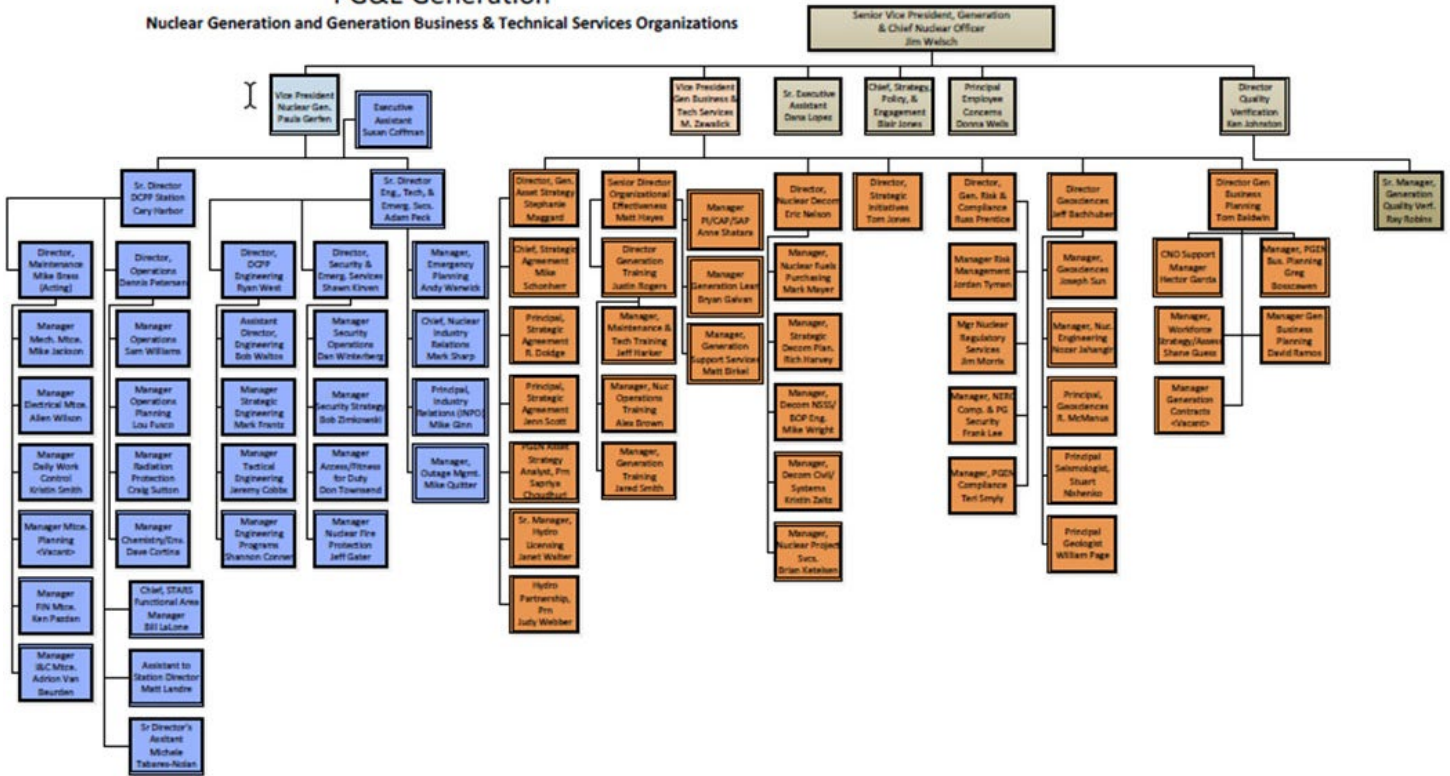
The purpose of the fuel reliability indicator is to monitor progress in achieving and maintaining high fuel integrity. Failed fuel represents a breach in the initial barrier for preventing offsite release of fission products. Such failure also has a detrimental effect on operations and increases the radiological hazards to plant workers.

Based on measurement of both steady-state reactor coolant activity and transient iodine spiking, PG&E determined that both Units 1 and 2 operated without any failed fuel rods during the 12-month reporting period. Unit 1 has operated without any failed fuel rods since the beginning of Cycle 5 (1991). The Unit 2 radiochemistry data indicates that Unit 2 has been operating without fuel defects since the beginning of Cycle 17 (2011).

PG&E continues to follow its fuel reliability programs, including the aggressive preventive maintenance inspection of new and irradiated fuel, continued implementation of procedural guidelines to prevent fuel damage during both power and refueling operations, implementation of chemistry controls, fuel assembly reconstitution for identified rod failures, tracking and disposition of damaged fuel assemblies and strict controls to exclude foreign material from the reactor coolant system.

2.0.8 Plant Organization

Nuclear Generation and Generation Business & Technical Services Organizations



[31st Annual Report, Volume II, Exhibit E, DCISC Plant Tours of Diablo Canyon Nuclear Power Plant](#)

Note: fact-finding and public meetings during this reporting period (July 1, 2020 - June 30, 2021) were held using remote meeting technology due to the COVID-19 pandemic, and the DCISC accordingly did not perform any DCISC or public plant tours. Prior to the COVID-19 Pandemic, the DCISC toured the Diablo Canyon Power Plant during most fact-finding meetings to observe or inspect items it is reviewing. Also, the DCISC conducted plant tours with members of the public three times per year during its public meetings. This exhibit normally includes a database of the areas of the plant DCISC and the public have toured; however, in this report the database is limited to the period prior to March 15, 2020.

Table 1

Ten-Year Record of DCISC Tours of DCPD (Through March 15, 2020)

Area No.	Location	System/Area	Tour No(s). (See Table 2) (Bold = Public Tour)
TB-1	TB - Buttress Area	Condensate Polishing System	*, 17-3
TB-2	TB - EI 73 NH/SH (U1&2)	Condensate Pumps Condensate Cooler	*, 17-3
TB-3	TB EI 85 NH	Oily Water Separator Room	
TB-4	TB - EI 85 NH/SH (U1&2)	Condensate Booster Pumps Letdown Storage Tanks Main Feedwater Pumps Condenser Water Box Plant Air Compressors Service Water HX Lube Oil Storage Tanks Component Cool. Water HX	17-3 *, 20-3 *, 14-2 15-6 11-1
TB-	TB EI 85 (U1&2)	Emergency Diesel Generators	10-2, 10-7, 14-2, 17-4, 19-5, 19-7

TB-6	TB EI 85 (U1&2)	4 kV & 12kV Non-vital Switchgear	17-4, 18-9
TB-7	TB Buttress EI 104 (U2)	Technical Support Center	10-3
TB-8	TB EI 104 (U1&2)	4 kV Vital Cable Spread. Rms. Isophase Bus Cooling System	18-9
TB-9	TB EI 104 (U1&2)	Main Lube Oil Resvr./Cooler Feedwater Heaters Mid-condenser & Hoods Seawater Evaporators Steam Jet Air Ejectors	11-1, 17-6 * *
TB-10	TB EI 119 (U1&2)	4 kV Vital Switchgear Switchgear Ventilation Fans	14-2, 18-9, 19-5
TB-11	TB EI 119 (U1&2)	Isophase Busses LP Cond. Exhaust Hoods Moisture Septrs./Reheaters Tech. Maintenance Shop	* *
TB-12	TB EI 140 (Turbine Deck) (U1&2)	Main Turbines, Generators & Steam Leads & Valves	*, 10-2, 10-5, 10-7, 14-5, 15-4, 15-8, 16-2, 16-5, 16-8 , 17-3, 17-7, 18-1, 18-3, 18-4, 18-7, 19-5, 20-2, 20-3, 20-5
TB-13	TB EI 140 NH	Outage Coordination Center	17-7, 18-7
TB-14	U1 TB 140 NH	Operations Support Center	14-7
AB-1	AB EI 55	Pipe Tunnel Area	
	AB EI 64 (U1&2)	Boron Injection Tanks Residual Heat Removal Pmps. Gas Decay Tanks & Cmpsr.s. Radwaste Monitor Tanks Liquid Radwaste Stor. Tks.	16-6
AB-3	AB EI 73 (U1&2)	Residual Heat Removal HXs Compnt. Cool. Water Pumps Charging Pumps Containment Spray Pumps Boron Injection Tanks	20-1 Units 1 & 2
AB-4	AB EI 85 (U1&2)	Penetration Area Post-LOCA Sampling Station Waste Gas Analyzer	
AB-5	AB EL 85 (U1&2)	Safety Injection Pumps Boric Acid Evap. Aux. Control Board Letdown & Seal Return HX	19-9 11-7

AB-2	AB EI 64 (U1&2)	Boron Injection Tanks Residual Heat Removal Pmps. Gas Decay Tanks & Cmprsrs. Radwaste Monitor Tanks Liquid Radwaste Stor. Tks.	16-6
AB-3	AB EI 73 (U1&2)	Residual Heat Removal HXs Compnt. Cool. Water Pumps Charging Pumps Containment Spray Pumps Boron Injection Tanks	20-1 Units 1 & 2
AB-4	AB EI 85 (U1&2)	Penetration Area Post-LOCA Sampling Station Waste Gas Analyzer	
AB-5	AB EL 85 (U1&2)	Safety Injection Pumps Boric Acid Evap. Aux. Control Board Letdown & Seal Return HX	19-9 11-7
AB-6	AB EL 85	Chemistry Offices & Labs RP Offices & Labs RCA Access Control Hot Showers & Laundry	18-2 17-7, 19-9
AB-7	AB EI 85	Auxiliary Boiler	
AB-8	AB EI 100 (U1&2)	Penetration Area	17-7
AB-9	AB EI 100 (U1&2)	Aux. Feedwater Pumps Volume Control Tank Demineralizers Boric Acid Transfer Pumps	12-1, 18-3
AB-10	AB EI 100 (U1&2)	480 V Vital Bus Hot Shutdown Panel	10-2, 10-7, 11-7, 14-2
AB-11	AB EI 115 (U1&2)	Penetration Area-MS & FDW Radwaste Processing Area Ion Exchangers	15-2
AB-12	AB EI 115 (U1&2)	Vital Batteries, Chargers & Inverters Rod Control Cabinets	11-6,
AB-13	AB EI 115 (U1&2)	Plant Ventilation System	
AB-14	AB EI 128 (U1&2)	Cable Spreading Room	
AB-15	AB EI 140 (U1&2)	Control Room Area	10-2, 10-5, 11-7, 13-4, 14-2, 14-5, 15-4, 15-8, 16-2, 16-5, 16-8 , 19-8, 20-2, 20-4

AB-16	AB EI 140 (U1&2)	SG Blowdown Tank Containment Equipment & Personnel Hatches	
	FH EI 85 (U1&2)	Fuel Handling Supply Fans & Radiation Monitoring	
FH-2	FH EI 100 (U1&2)	Spent Fuel Pool Pumps/HXs Spent Fuel Ventilation Sys.	10-8
FH-3	FH EI 140 (U1&2)	Spent Fuel Pool Cask Decon (EI 115) New Fuel Storage Firewater Pumps (EI 115)	10-8, 11-7, 15-5, 19-6 10-8
FH-4	FH EI 140 NH/SH	Hot Machine Shop Hot Tool Room	
C-1	Containment (U1&2)	Containment Area Reactor Coolant System Accumulators Pressurizer Relief Tank Cont. Sump/Screen Refueling Canal Containment Fan Coolers	11-7, 17-7, 18-8 17-7 17-7 17-7 17-7 17-7 17-7
A-1	Admin. Bldg. EI 128	Communications Rooms Computer Center Security Access Control	*, 10-4, 10-6, 10-9, 11-4, 11-5, 11-8, 12-3, 12-5, 12-8, 13-2, 13-6, 13-8, 14-3, 14-6, 14-8, 15-1, 15-4, 15-8, 16-2, 16-5, 16-8, 17-3-17-6, 17-7, All 18-x
T-1	Training Building	Training Building & Simulator	10-3, 10-4, 10-6, 10-9, 11-1, 11-3, 11-4, 11-5, 11-8, 12-3, 12-5, 12-8, 13-2, 13-3, 13-5, 13-6, 13-8, 14-3, 14-6, 14-8, 14-7, 15-1, 15-4, 15-8, 16-2, 16-5, 16-8, 17-5, 17-8, 19-1, 19-2, 19-4
T-2		Maintenance Training Facility	12-5, 13-7, 14-1, 14-3, 18-6, 18-11
I-1	Intake Structure Area (U1&2)	General Area & Overlook Traveling Screens Circulating Water Pumps Auxiliary Saltwater Pumps	10-4, 10, 10-9, 11-4, 11-5, 11-8, 12-3, 12-5, 12-8, 14-3, 14-6, 14-8, 16-8, 17-5, 17-7, 17-8, 18-6, 18-11, 19-4, 20-4 13-2, 13-6, 13-8, 16-2, 16-5, 16-8, 18-3 09-2, 18-3 18-3
O-1	Outside TB	Main & Auxiliary Transformers	*10-2, 10-7, 14-2, 17-7

FH-1	FH EI 85 (U1&2)	Fuel Handling Supply Fans & Radiation Monitoring	
FH-2	FH EI 100 (U1&2)	Spent Fuel Pool Pumps/HXs Spent Fuel Ventilation Sys.	10-8
FH-3	FH EI 140 (U1&2)	Spent Fuel Pool Cask Decon (EI 115) New Fuel Storage Firewater Pumps (EI 115)	10-8, 11-7, 15-5, 19-6 10-8
FH-4	FH EI 140 NH/SH	Hot Machine Shop Hot Tool Room	
C-1	Containment (U1&2)	Containment Area Reactor Coolant System Accumulators Pressurizer Relief Tank Cont. Sump/Screen Refueling Canal Containment Fan Coolers	11-7, 17-7, 18-8 17-7 17-7 17-7 17-7 17-7 17-7
A-1	Admin. Bldg. EI 128	Communications Rooms Computer Center Security Access Control	*, 10-4, 10-6, 10-9, 11-4, 11-5, 11-8, 12-3, 12-5, 12-8, 13-2, 13- 6, 13-8, 14-3, 14-6, 14-8, 15-1, 15-4, 15-8, 16-2, 16-5, 16-8, 17-3- 17-6, 17-7, All 18-x
T-1	Training Building	Training Building & Simulator	10-3, 10-4, 10-6, 10-9, 11-1, 11-3, 11-4, 11-5, 11-8, 12-3, 12-5, 12- 8, 13-2, 13-3, 13-5, 13-6, 13-8, 14-3, 14-6, 14-8, 14-7, 15-1, 15-4, 15-8, 16-2, 16-5, 16-8, 17-5, 17-8, 19-1, 19-2, 19-4
T-2		Maintenance Training Facility	12-5, 13-7, 14-1, 14-3, 18-6, 18-11
I-1	Intake Structure Area (U1&2)	General Area & Overlook Traveling Screens Circulating Water Pumps Auxiliary Saltwater Pumps	10-4, 10, 10-9, 11-4, 11-5, 11-8, 12-3, 12-5, 12-8, 14-3, 14-6, 14- 8, 16-8, 17-5, 17-7, 17-8, 18-6, 18-11, 19-4, 20-4 13-2, 13-6, 13-8, 16-2, 16-5, 16- 8, 18-3 09-2, 18-3 18-3
O-1	Outside TB EI 85 (U1&2)	Main & Auxiliary Transformers	*10-2, 10-7, 14-2, 17-7

O-2	Outside FH @ Yard (U1&2)	Condensate Storage Tank, Primary Water Storage Tank, Refueling Water Storage Tank	* * *
O-3	Outside TB (east side)	Diesel Fuel Oil Storage Tank (buried)	
O-4	Warehouse Area	Main Warehouse Warehouses A & B	
O-5	Outside (U1&2)	Cold Machine Shop	
O-6	Outside, Radwaste Area	Radwaste Storage Facility Radwaste Storage Tanks Laundry Facility	
O-7	Plant Overlook Area	Waste Water Holding & Treatment System Facilities Polymetrics Sys./Reservoir	12-3, 12-5, 12-8, 14-3, 14-6, 14-8, 16-2, 16-5, 16-8, 17-5, 17-8
	"Patton Flats" Area	Hydronautics System Biology Lab Hazardous Waste Stor. Bldg Fire Protection System Plant Sewage Treatment Fac. Paint Facility	
O-9	500 kV Switch yard	500 kV Switchyard & Control Building	13-2, 13-6, 13-8, 14-3, 14-6, 14-8, 16-8, 17-5, 17-8, 19-4
O-10	230 kV Switchyard	230 kV Switchyard & Control Building	*, 13-2, 13-6, 13-8, 14-3, 16-8, 17-5, 17-8, 19-4
O-11	Discharge Structure	Discharge Structure	*, 12-3, 12-5, 12-8, 13-2, 13-6, 13-8, 14-3, 14-6, 14-8, 15-1, 16-2, 16-8, 17-5, 17-8, 18-6, 18-11, 19-4
OS-1	Offsite	Emergency Operations Facility Joint Information Center San Luis Obispo County Office of Emergency Services	10-3, 11-1, 11-3, 12-6, 13-3, 16-3, 17-2 10-3, 11-1, 11-3, 12-6, 13-3, 14-7, 16-3, 17-2 19-3
Other	AB AB AB AB	Other Specific Areas: Asset Team Work Area Elect. Asset Team Work Area Fire Pumps, Piping & Equipment Security System Components Seismic Gap Modifications	10-4, 10-6, 10-9, 12-3, 12-5, 12-8, 13-2, 13-6, 13-8, 14-3, 14-6, 14-8, 15-1, 15-3, 15-4, 15-8, 16-2, 16-5, 16-8, 17-5, 17-8, 18-6, 18-11, 19-4 12-7, 15-3, 15-7 10-8, 12-7

O-8	"Patton Flats" Area	Hydronautics System Biology Lab Hazardous Waste Stor. Bldg Fire Protection System Plant Sewage Treatment Fac. Paint Facility	
O-9	500 kV Switch yard	500 kV Switchyard & Control Building	13-2, 13-6, 13-8, 14-3, 14-6, 14-8, 16-8, 17-5, 17-8, 19-4
O-10	230 kV Switchyard	230 kV Switchyard & Control Building	*, 13-2, 13-6, 13-8, 14-3, 16-8, 17-5, 17-8, 19-4
O-11	Discharge Structure	Discharge Structure	*, 12-3, 12-5, 12-8, 13-2, 13-6, 13-8, 14-3, 14-6, 14-8, 15-1, 16-2, 16-8, 17-5, 17-8, 18-6, 18-11, 19-4
OS-1	Offsite	Emergency Operations Facility Joint Information Center San Luis Obispo County Office of Emergency Services	10-3, 11-1, 11-3, 12-6, 13-3, 16-3, 17-2 10-3, 11-1, 11-3, 12-6, 13-3, 14-7, 16-3, 17-2 19-3
Other	AB AB AB AB	Other Specific Areas: Asset Team Work Area Elect. Asset Team Work Area Fire Pumps, Piping & Equipment Security System Components Seismic Gap Modifications Expansion Joint Failures Temporary Jumpers Human Performance Lab Simulation Lab Radiation Monitoring System Outside Control Area, Firing Range, Protected Control Area (including selected alarm stations, delay barriers, check points, vehicle barriers, gun ports, watch stations, and overall visible security features) ISFSI Site Admin Bldg Tall Bookcase Seismic Bracing Control Room Ready Room Tall Bookcase Seismic Bracing	10-4, 10-6, 10-9, 12-3, 12-5, 12-8, 13-2, 13-6, 13-8, 14-3, 14-6, 14-8, 15-1, 15-3, 15-4, 15-8, 16-2, 16-5, 16-8, 17-5, 17-8, 18-6, 18-11, 19-4 12-7, 15-3, 15-7 10-8, 12-7 12-7 10-8, 12-7, 17-1, 17-7, 18-10

Legend:

AB = Auxiliary Building
 FH = Fuel Handling Building
 TB = Turbine Building
 NH = North Half
 SH = South Half
 HX = Heat Exchanger
 El = Elevation
 HVAC = Heating, Ventilation & Air Cond.
 U1&2 = Units 1 and 2 have separate facilities/equipment

* Systems/areas marked with "*" have also been visited on many tours due to their location along routes frequently traveled. **Bold** text indicates Public Tours.

Table 2

Ten-Year Chronological Record of DCISC DCPD Tours (Through March 15, 2020)

Tour No.	Date(s)	Participants	Locations/Components Observed
10-1	7-22-09	PFP, DCL, JEB	ISFSI, Admin. Building Protective Window Film
10-2	8-10-09	PL, WFC, RFW	Turbine Building (all levels), Emergency Diesel Gen. Room, Control Room, Alternate Shutdown Panel, Yard, Main Transformers, Ocean Intake & Discharge
10-3	9-2-09	RJB, JEB	Control Room Simulator, Technical Support Ctr, Emergency Operations Ctr, Joint Information Ctr
10-4	12-9-09	Public Tour	Control Room Simulator, Security Building, Intake, Overlook, ISFSI
10-5	12-16-09	PFP, RFW	Turbine Deck Units 1 & 2, Control Room
10-6	2-10-10	Public Tour	Control Room Simulator, Security Building, Intake, Overlook, ISFSI
10-7	3-16-10	RJB, RFW	Control Room Simulator, Turbine Building, Alternate Shutdown Control Panel, Emergency Diesel Generator Room, Plant Yard, Main Transformers, Main Steam Safety Valves
10-8	5-12-10	PFP, RFW	Units 1 & 2 Spent Fuel Pools, SFP Pump, SFP Cleanup System, SFP Heat Exchanger, Training Building Tall Bookcase Seismic Bracing, Operations Ready Room Tall Bookcase Seismic Bracing
10-9	6-2-10	Public Tour	Control Room Simulator, Security Building, Intake, Overlook, ISFSI
11-1	7/6/10	PFP, DCL	Simulator, EOF, JIC
11-2	8/4/10	RJB, JEB	Main Lube Oil Room, CARDOX System
11-3	8/11/10	PFP, RFW	Simulator, EOF, JIC

11-4	11/17/10	Public Tour	Control Room Simulator, Security Building, Intake, Overlook, ISFSI
11-5	2/15/11	Public Tour	Control Room Simulator, Security Building, Intake, Overlook, ISFSI
11-6	4/19/11	PL, RFW	Unit 1 Vital Batteries and Racks, Battery Chargers, Switchgear, Vital Inverters and one train of Non-Vital Batteries and Chargers.
11-7	5/25/11	PFP, DCL	Auxiliary Building Control Panel, Control Room, Unit 2 Spent Fuel Pool, Containment, AB, TB
11-8	6/22/11	Public Tour	Control Room Simulator, Security Building, Intake, Overlook, ISFSI
12-1	8/10/11	RJB, RFW	Observe Licensed Operator Training in Training Bldg.
12-2	11/16/11	PL, RFW	Turbine-Driven Auxiliary Feedwater Pumps
12-3	11/4/11	Public Tour	Control Room Simulator, Security Building, Intake, Overlook, ISFSI
12-4	12/13/11	PFP, RFW	Compressed Air System Components
12-5	2/9/12	Public Tour	Control Room Simulator, Security Building, Intake, Overlook, ISFSI
12-6	3/14/12	PL, RFW	Control Room Simulator, Emergency Operations Center, Joint Information Center
12-7	5/22/12	PFP, RFW	Control Room, Turbine Building All Levels, Yard, Cold Machine Shop, I&C Shop. Outage Coord. Center
12-8	6/20/12	Public Tour	Control Room Simulator, Security Building, Intake, Overlook, ISFSI
13-1	8/7/12	PFP, RFW	Emergency Auxiliary Saltwater Pump
13-2	10/10/12	Public Tour	Control Room Simulator, Security Building, Intake, Overlook, ISFSI
13-3	11/7/12	RJB, DCL	Control Room Simulator, Emergency Operations Center, Joint Information Center
13-4	12/5/12	PFP, RFW	Control Room Area, I&C Lab, Admin. Bldg.
13-5	1/16/13	PL, DCL	Control Room Simulator
13-6	2/6/13	Public Tour	Control Room Simulator, Security Building, Intake, Overlook, ISFSI
13-7	4/9/13	PFP, RFW	Mechanical Maintenance Shop
13-8	6/5/13	Public Tour	Control Room Simulator, Security Building, Intake, Overlook, ISFSI
14-1	9/10/13	PFP, RFW	Mechanical Maintenance Training Facility
14-2	9/12/13	PFP, RFW	Turbine/Generator Deck, Control Room, Condenser, Emergency Diesel Generators, Electrical Switchgear Room, Seismic Instrumentation and Detectors, Storage of B.5.b (Greater than design basis) emergency items, Main and Auxiliary

			Transformers
14-3	10/9/13	Public Tour	Control Room Simulator, Security Building, Intake, Overlook, ISFSI
14-4	11/20/13	RJB, DCL	Control Room, Turbine Building
14-5	12/11/13	PFP, RFW	Main Administration Building, Engineering Offices
14-6	10/12/13	Public Tour	Control Room Simulator, Security Building, Intake, Overlook, ISFSI
14-7	5/21/14	PFP, RFW	Simulator, Alternate Operations Support Center, Emergency Operations Center, Joint Media Center
14-8	6/11/14	Public Tour	Control Room Simulator, Security Building, Intake, Overlook, ISFSI
15-1	10/15/14	Public Tour	Control Room Simulator, Security Building, Intake, Overlook, ISFSI
15-2	11/19/14	RJB, RFW	Liquid & Gaseous Radioactive Waste Systems
15-3	12/2/14	PFP, DCL	Training Building 2 nd Floor
15-3	12/3/14	PFP, DCL	Independent Spent Fuel Storage Facility (ISFSI)
15-4	2/4/15	Public Tour	Control Room Simulator, Main Turbine Deck, Control Room View, ISFSI
15-5	3/30/15	RJB, DCL	Unit 2 Spent Fuel Area
15-6	3/30/15	RJB, DCL	Outdoor Air Compressor Pads
15-7	5/29/15	PFP, DCL	Administrative Building 5 th Floor
15-8	6/17/15	Public Tour	Control Room Simulator, Main Turbine Deck, Control Room View, ISFSI
16-1	6/10/15	RJB, RFW	Simulator, Control Room
16-2	10/21/15	Public Tour	Control Room Simulator, Main Turbine Deck, Control Room View, ISFSI, Intake
16-3	9/9/15	RJB, RFW	Simulator, Emergency Operations Center, Joint Media Center
16-4	12/8/15	PFP, RFW	Glasstop Simulator
16-5	2/3/16	Public Tour	Control Room Simulator, Main Turbine Deck, Control Room View, ISFSI, Intake
16-6	3/9/16	PFP, RFW	Units 1 & 2 Residual Heat Removal Pumps
16-7	5/17/16	RJB, RFW	NFPA-805 Modifications
16-8	6/21/16	Public Tour	Control Room Simulator, Main Turbine Deck, Control Room View, ISFSI, Intake
17-1	7/20/16	PFP, RFW	DCPP Safety & Health Expo
17-2	11/2/16	RJB, RFW	Simulator, Emergency Operations Center, Joint Media Center
17-3	12/7/16	PFP, RDM	Turbine Building General Tour
17-4	1/18/17	RJB, RFW	Emergency Diesel Generator 2-3
17-5	2/8/17	Public Tour	Control Room Simulator, ISFSI, Intake, Outfall

17-6	3/22/17	RJB, RFW	Heater Drain Pumps, Main Feedwater Pumps, Main Turbine Oil Separators, Condenser, Yellowbird Tower
17-7	5/10/17	PFP, RFW	1. Unit 1 CCW pumps, heat exchangers, instrumentation, and piping and valves 2. Turbine deck and lower floors with work on the High Pressure Turbine Rotor, Low Pressure Turbine Rotor, and selected turbine stop and control valves. Intake Structure with work on Traveling Screens and Circulating Water Pumps 3. Containment during Outage 1R20
17-8	6/6/17	Public Tour	Control Room Simulator, ISFSI, Intake, Outfall
18-1	7/25/17	PFP, RFW	Unit 1 DC Power System
18-2	8/9/17	PL, RFW	Reactor Coolant System Chemical Sampling System
18-3	9/6/17	RJB, RDM	Auxiliary Saltwater System, Intake Structure
18-3	11/14/17	RJB, RFW	Auxiliary Feedwater System – Unit 1
18-4	12/13/17	PFP, RDM	Emergency Diesel Generator (EDG) Room 2-2
18-5	1/17/18	PL, RFW	Operator Rounds in EDG Rooms
18-6	2/7/18	Public Tour	Mechanical Maintenance Facility, ISFSI, Intake, Outfall
18-7	3/7/18	RJB, RDM	Non-Containment Outage Tour
18-8	3/7/18	RJB, RDM	Containment Outage Tour
18-9	4/17/18	PL, RFW	4kV Electrical System, Unit2
18-10	5/2/18	PFP, RDM	Administration Building, I&C Shop
18-11	6/3/18	Public Tour	Mechanical Maintenance Facility, ISFSI, Intake, Outfall
19-1	8/22/18	PL, RDM	Technical Training Classroom
19-2	9/5/18	RJB, RFW	Control Room Simulator
19-3	9/5/18	RJB, RFW	San Luis Obispo (SLO) County Office of Emergency Services
19-4	10/24/18	Public Tour	Control Room Simulator, ISFSI, Intake, Outfall
19-5	11/7/18	RJB, RDM	Turbine Deck and EDG Maintenance Work Areas, Seismically-designed Switchgear Room Walls
19-6	12/5/18	PFP, RFW	Unit 1 Spent Fuel Pool
19-7	1/23/19	RDM	EDG 1-2 Room
19-8	4/16/19	RDM	Control Room
19-9	5/8/19	PFP, RFW	Unit 1 Safety Injection Pumps, Radiation Control Area
20-1	8/21/19	PL, RFW	Unit 1 & 2 Containment Spray Pumps
20-2	9/11/19	RJB, RDM	Control Room, Turbine Decks
20-3	11/6/19	RJB, RFW	Turbine Deck, Unit 2 Feedwater Pump
20-4	12/11/19	PFP, RDM	Intake Structure, Control Room
20-5	1/29/20	PL, RFW	TB 85'

Legend:

AFW = Auxiliary Feedwater
CCW = Component Cooling Water
CFCU = Containment Fan Cooler unit
CR = Control Room
CW = Circulating Water (condenser)
DFO = Diesel Fuel Oil
EDG = Emergency Diesel Generator
EOF = Emergency Operations Facility
FDW = Feedwater
ISFSI = Independent Spent Fuel Storage Inst.
JIC = Joint Information Center
OCC = Outage Coordination Center
RCA = Radiation Control Area
RHR = Residual Heat Removal
SFP = Spent Fuel Pool
SG = Steam Generator
SI = Safety Injection
SPDS = Safety Parameter Display System
TB = Turbine Building
TSC = Technical Support Center
JEB = Jim Booker
HC = Hyla Cass
PRC = Phil Clark
DCL = Dave Linnen
WEK = Bill Kastenberg
RTL = Bob Lancet
WHO = Warren Owen
EGP= Gail dePlanque
RFW = Ferman Wardell
PL = Peter Lam
HHW = Herb Woodson
ADR = David Rossin
PFP = Per Peterson
WFC = Bill Conway
RJB = Robert Budnitz

* Systems/areas marked with "*" have also been visited on many tours due to their location along routes frequently traveled. **Bold** text indicates Public Tours.

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface](#) | [Executive Summary](#)

[Volume I TOC](#) | [Volume II TOC](#) | [PG&E Response](#) | [Contact the DCISC](#)

[31st Annual Report, Volume II, Exhibit F, Open Items List](#)

The DCISC Open Items List is an on-going list of items the DCISC tracks for follow-up, monitoring, or action. The list is updated at each of the three regularly scheduled DCISC Public Meetings per year.

Open Item Types:

M = Monitor F = follow-up I = Issue Items in *Italics* are new or revised

FF = Fact-finding Meeting, PM = Public Meeting, Q = Quarter

ITEM NO.	TYPE	OPEN ITEM CATEGORY/DESCRIPTION	Last Actions	Next Action
CO		Conduct of Operations (CO)		
CO-7	M	Review DCPD storm response experience and strategy every two years [or as necessary] during or after annual winter storm season.	5/17FF <i>3/21FF</i>	As necessary
CO-8	M	Monitor all reactor trips – automatic and manual – and forced outages. (review trip LERs at public meetings). [Reviewed Unit 2 forced outage 3/20FF & 4/20FF – satisfactory.]	8/20FF 11/20FF 1/21FF	Post-trip FFs & PMs
CO-9	F	Reactivity Management – review every 18 months. [Reviewed Reactivity Management 5/16FF, 4/18FF, and 11/19FF – satisfactory.]	List at end of OIL	Regularly <i>4Q22FF</i>
CO-10	M	Mispositioning Errors (Equipment Status) – monitor the status of mispositioning errors and actions to resolve. [Reviewed at 11/15FF – satisfactory.] [Reviewed QV assessment of 2R20 outage. Some mispositioning issues. Follow up on resolution.] [Reviewed 4/20FF – needs follow-up at FFs]	4/20FF 7/20FF 12/20FF	4Q21FF
CO-11	M	Operator concerns and issues – review periodically the status of operator concerns and issues. [Reviewed Ops Human Performance & Ops Excellence Plan 8/16FF – satisfactory.] [Reviewed Ops Dept. performance 12/17FF – sat.] The DCISC team concluded [2/18PM] plans are in place to address areas identified for improvement in the Operations Department and the DCISC should continue to review Operations Department performance on a regular basis. [Reviewed Operations performance <i>5/21FF</i>	12/18FF 4/20FF 5/21FF	1Q22FF ?

		– satisfactory.]		
CO-13	M	Review any implementations of the CAISO load following policy that result in DCPD transients. Review any initiatives to operate DCPD in different modes, such as load following due to renewable energy fluctuations, during its final years of operation. Include 230kV voltage stability issues. Dr. Peterson observed there is potential that an increase in the risk of transmission problems or outages might affect the availability of alternate off site power sources for DCPD due to increasing incentives to curtail power output because of production or grid-related reasons. Mr. Peck and Dr. Peterson agreed this might be a suitable topic for a future DCISC fact-finding which should include representatives from the PG&E transmission organization. [Reviewed at 5/19FF – satisfactory.] [Reviewed 12/19FF, including Public Safety Power Shutoff Program.]	5/19FF 12/19FF	<i>As necessary</i>
CO-14	F	The DCISC team found the operator retention project to be effectively managed but the Committee should follow this issue closely with reference to licensed operators and well as the station in general. [Reviewed Operator License Class plans 1/19FF – satisfactory. Reviewed overall Retention Plan 9/20FF – satisfactory.	1/19FF 9/19FF 9/20FF	3Q21FF <i>6/21PM</i>
CM		Conduct of Maintenance (CM)		
CM-7	I	Review PG&E's progress in complying with (1) the amendment to 10CFR50.55a, which provides the requirements for ISI of containment structures (degradation) and (2) ASME Code requirements for steel liner weld inspections.	7/12FF 8/17FF 11/19FF	Each Pair of RFOs 3Q21FF
CM-10	M	On-line Maintenance: review the implementation of on-line maintenance bi-annually, including the 12-week Rolling Maintenance Schedule about how well it is working & impacting risk. Review trend of amount of on-line maintenance. DCPD Assessment of Maintenance Risk and On-Line Maintenance Risk Procedures have been substantially upgraded with the addition of an Integrated Risk Review Team.	See list at end of OIL	Regularly
CM-13	M	Review Maintenance Department performance measures, staffing, etc. approximately annually. [Reviewed 1/20FF – satisfactory.]	1/20FF <i>3/21FF</i>	<i>1Q22FF</i>
EN		Engineering Programs (EN)		
EN-16	F	DCPD Systems – review a system (or structure or component), system health, long-term plan, Maintenance Rule performance & walkdown with System Engineer at	See list at end of OIL	Regularly

		FFs. [Note: Systems reviewed are listed with dates at the end of this Open Items List.]		
EN-19	F	Review every 12-18 months major Engineering Programs, including Configuration Management, Management, System Engineering (system health & long-term plans), Valve Testing, Margin Management, Staffing, etc. [Note: Programs reviewed are listed with dates at the end of this Open Items List.]	See list at end of OIL	Regularly
EN-20	F	Each Member should review or observe Plant Health Committee, Notification Review Team, Corrective Action Review Board, Performance Review Quarterly Meeting, and other regular meetings.	See list at end of OIL	Regularly
HP		Human Performance: Human Errors and Improving Safety & Efficiency of Plant Performance		
HP-1	M	Review human performance & human behavior items (including error reduction programs, HP PIs, aberrant behavior statistics, FFD, stress reduction programs, Personnel Accountability Policy, Human Performance Steering Committee & Subcomm, Centers of Excellence, Org. Development). [Review biennially operator aging, physical fitness, "no solo" issues, attention enhancement, stress management, & incentives for operator focus.	10/19PM 3/20FF 12/20FF 4/21FF	2Q22FF
HP-25	M	Further observations and improvements in the Management Observation Program should be reviewed by DCISC. [Reviewed 4/19FF – satisfactory.] [Not RJB]	7/17FF 4/19FF	1 or 2Q21FF
HS		Health, Nuclear Safety and Safety Conscious Work Environment		
HS-6	F	Follow DCPD progress in establishing/improving its safety culture (and its subset Safety Conscious Work Environment, including Safety Culture Monitoring Panel, and including Employee Concerns & Differing Professional Opinion Programs). [Reviewed ECP 8/20FF – satisfactory.]	10/18PM 8/19FF 8/20FF	3Q21FF
PI		Performance Improvement Programs		
PI-1		DCPD Performance Improvement Programs: Corrective Action, Self-Assessment, Operating Experience [and line use of OE], Benchmarking, etc. Programs reviewed are listed with dates at the end of the Open Items List.]	See list at end of OIL	At least once per year
EP		Emergency Preparedness (EP)		
EP-2	M	Attend and observe DCPD emergency drills and exercises annually [including Hostile Action Based Exercises], paying special attention to JIC communications to the media and public, including radiation release	2/17PM 8/18FF 11/18FF	Next evaluated exercise (FFPM)

		communications to the public, use of social media, coordination of information release with SLO County, and extension of drills to better exercise FMTs & JMC. [Next evaluated exercise 9/15/21?]		
RA		Risk Assessment and Management (RA)		
RA-5	M	Review overall [non-seismic] PRA program annually. Include Fire PRA Upgrade & Shutdown Analysis in next review. Much work underway (including plant specific shutdown risk analysis). Review PRA Group resources/capabilities. Turbine Bldg. (CCW & Condenser) internal flooding. Include external flooding and tsunami risk (see SC-6). [2/18PM: Review DCPD study of loss of ASW on core damage frequency.	9/17FF 9/18FF 9/19FF 9/20FF	3or4Q21 FF RJB
NS		Nuclear Safety Oversight and Review (NS)		
NS-5	M	Monitor NSOC meetings periodically to observe their processes and their review of nuclear safety issues.	11/20FF 3/21FF	Next meeting [see FFPM]
NS-9	M	Monitor DCPD's program to track INPO Areas for Improvement. Review with DCPD Coordinator. [Reviewed 7/20FF – satisfactory.]	11/19FF 7/20FF 1/21FF	2Q21FF
RP		Radiation Protection (RP)		
RP-3	M	Regularly review outage RP performance. [Reviewed 1R21 and 2R21 outage performance – satisfactory.]	12/19FF 12/20FF	Each RFO 7/21FF
RP-12	M	Review annual DCPD radioactivity release report each year. Review at Summer or Fall FFs. [Reviewed radiation release reports 7/18FF – satisfactory.]	7/19FF 7/20FF 2/21PM	2/21PM 2or3Q21 FF
QP		Quality Programs (QP)		
QP-3	M	Review the activities, organization and results of QV audits as well as PG&E's outside biennial audits, including timeliness of corrective actions. Review annually – include 4 th quarter QPAR with yearly results.	3/21FF 5/21FF	2Q2FF
QP-9	F	Software QA Program - [Reviewed at March 2018 FF – satisfactory.]	See list at end of OIL	Regularly
NF		Nuclear Fuel Performance (NF)		
NF-9	M	Nuclear Fuel Performance & Issues (review after RFOs).	12/19FF 3/21FF	Each RFO
ER		Equipment Reliability and Life Cycle Management (ER)		
ER-5	M	Monitor the Equipment Reliability Process approximately annually. The indicators for Deficient Critical Components	See list at end	Annually

		Backlog and Operational Work-arounds rated as needing improvement and the DCISC should continue its review of this item in the future.	of OIL	
OE		Organizational Effectiveness & Development (OE)		
OE-1	F	Review DCPD Operating Plan each January after development.	2/20PM <i>2/21PM</i> <i>3/21FF</i>	2/22PM
SE		System and Equipment Performance/Problems (SE)		
SE-26	M	Review reactor pressure vessel compliance status after next set of surveillance samples is analyzed and effective vessel lifetime projections are updated.	4/19FF <i>5/21FF</i>	1R23 2R23 <i>or Close?</i>
SE-39	F	Review and tour the inspections and repairs of concrete Intake Structures following selected refueling outages. [Reviewed at 7/09 FF, 6/13 FF, 11/14FF, 9/17FF, and 12/19FF – satisfactory.]	12/19FF	2R22 3Q21FF
SE-40	F	Monitor the status of transformers & leakage, failures, corrective actions. Follow status of transformer protection barrier. [Barrier project placed on hold.]	See list at end of OIL	Regularly
SE-49	F	Emergency Diesel Generators (EDGs) – [Reviewed at 5/20FF: U1 Green, U2 Green.]	See list at end of OIL	Regularly
SE-50	F	Maintenance Rule Functional Failures [Change from SSFFs to MRFFs beginning 3/21FF.]	See list at end of OIL	Regularly
OM		Outage Management (OM)		
OM-3	M	During outages, monitor Outage Coordination Center, Control Room, and containment walkdown/inspection (end of outage). Review outage turbine work. Review Steam Generator performance metrics and inspection results. [Reviewed Unit 2 forced outage – satisfactory.]	3/20FF 11/20FF	Each RFO
OM-4	M	Review Outage Safety Plan, safety margin trends, outage results, including clearances, following each outage at FFs and PMs. [Reviewed at 1/19FF & 9/19FF & 9/20FF – satisfactory.]	12/19FF 9/20FF	Each RFO <i>7/21FF</i>
OM-5	F	DCPD has determined that it needs to do a better job of foreign material exclusion (FME) and this resolution appeared satisfactory to the DCISC team. [Note: FME Program review dates at the end of the Open Items List.] [Reviewed 9/17FF – satisfactory. [Reviewed 4/19FF – need to follow up on supplemental outage worked training]	See list at end of OIL	Each RFO
SEC		Security (SEC)		

SEC-3	M	Monitor interaction of Security and Operations, Engineering, Maintenance, and Emergency Preparedness for effects on nuclear safety. Plant security per se not reviewed but reviewed only in the context of impact on plant operation.	12/19FF 12/20FF	4Q21FF
SEC-4	M	Review DCPD progress in implementing their cyber security program in compliance with NRC schedule. Implementation complete. [5/18FF: The DCISC should continue to review the Cybersecurity Program every two to three years.]	3/19FF 11/20FF	9/21FF (RJB)
SF		Independent Spent Fuel Storage Installation – ISFSI (SF)		
SF-1		Monitor ISFSI operations, including cask transfer. Review following next campaign.	10/20PM 5/21FF	2Q22FF
SF-2	M	Follow technical advances of relative risks of cask and pool storage. NRC Staff study and Commissioners' vote. Monitor needs for opening casks to inspect fuel. Monitor SONGS & Humboldt Bay spent fuel transfer plans. Include corrosion of metals	12/19FF 4/21FF	2Q22FF
SF-3	M	Review the seismic adequacy of ISFSI in its license extension. Use latest seismic analysis.	6/18PM 10/19PM	2Q22FF RJB
SC	M	Seismic, Tsunami and Other External Events		
SC-3	M	Long-Term Seismic Program: review periodically. Review significant seismic events as they occur. Reviewed at 6/09 PM. [Reviewed 3/10 FF – progress satisfactory. Continue to monitor.] DCPD Seismic study reviewed 3/15 FF & to be presented by DCPD at 6/15PM. Shoreline Fault – follow activities and events with the	6/15PM 11/15FF 8/16FF 3/19FF	9/21FF RJB
SC-12	F	Workplace seismic safety – review annually. [Reviewed at 5/18FF – some problems – follow up on resolution and Control Room procedures "crash cart" stability. [Discrepancies in workplace seismic standards (e.g., unbraced furniture) were caused by inadequate knowledge transfer during Building Services personnel turnovers, although the plant had a written standard. [Control Room procedure cart reviewed 12/20FF – satisfactory.]	5/19FF 12/19FF 12/20FF	12/21FF PFP
FP		Fire Protection (FP)		
FP-5	M	Review NFPA-805-based Fire Protection Program and Systems every two-three years, including QV audits and NRC triennial inspections. Review the health and correction of degraded systems every six months. Monitor fire doors (Plant Door Life Cycle Management Plan) for correction of impairments [Fire doors Reviewed	1/19FF 3/19FF 5/21FF	Regularly

		11/17FF & 3/19FF - satisfactory.] [Reviewed NRC Triennial FP Inspection 1/19FF – satisfactory.]		
LD		Learning & Development Programs (LD)		
LD-3	M	Review <u>non-license</u> technical, operations & accredited training programs at least annually. [Reviewed Training during COVID-19 5/20FF – satisfactory.]	7/19FF 5/20FF 1/21FF	4Q21FF
LD-6	F	Observe operator <u>license</u> , re-qualification, classes periodically in FF meetings. Include Enhanced Simulator Training.] [Observed Ops TCOA training & Eng. DC Power System] [Reviewed FLEX training 11/17FF – sat.] [Reviewed licensed operator training 9/20FF & 1/21FF – satisfactory.]	9/20FF 1/21FF	4Q21FF
NR		Nuclear Regulatory Commission Items (NR)		
NR-3	M	Monitor the Non-Cited Violation Tracking & Trending Program annually at the Jan/Feb Public Meetings.	3/year	Each PM
NR-4	F	Meet with NRC Resident Inspectors regularly.	Most FFs	Regularly
DEC	F	Decommissioning		
DEC-1	F	Review DCPD decommissioning plans periodically as a result of the Joint Proposal plant shutdown in 2025. Review the timing of spent fuel transfer from wet to dry storage and when the spent fuel pools are decommissioned the plant will lose the capability to open multipurpose canisters for inspection. DCISC should actively review the decommissioning plans for DCPD because of the potential impact on staffing and future options with respect to managing spent fuel. Dr. Peterson observed there have been multiple approaches taken to decommissioning in terms of rate and timing and the DCISC will need to review and discuss with its appointing entities whether and to what extent it will engage in a review of PG&E's decommissioning plans for DCPD. [Reviewed at 11/18FF – satisfactory. Continue to monitor.] He [Mr. Jones] reported part of the preplanning efforts to meet the charge from the CPUC is the completion of a fuel study that is now in its second draft for review to determine how DCPD can move past the ten-year window to achieve a seven-year window. Dr. Budnitz reported the DCISC will wait and watch the report which comes out of that evaluation.	2/19PM 10/19PM 10/20PM	10/21PM
DEC-3	F	DCISC is at this time principally interested in decommissioning due to the potential impacts during the period of plant operation and will seek clarification about whether the DCISC should play a role post-shutdown.	2/20PM 10/20PM	Waiting on <i>CPUC</i>
DEC-4	F	Emergency preparedness during decommissioning. [Met	8/19FF	10/21PM

		with SLO OES 9/18FF – satisfactory there was concern by SLO County that their monies from PG&E would be reduced after operation ceases. [Met with new Director SLO Emergency Services 8/19FF. Director discussed with DCISC at February 2020 PM.]	2/20PM 10/20PM	
O		Other Items (O)		
O-1	F	Perform observations of evolutions (work processes) within the plant periodically. Continue with these about annually. Work process observations: Observe in the plant work processes important to nuclear safety, such as operator rounds, Control Room shift turnover, surveillance tests, preventive and corrective maintenance, system modifications, system walk downs with system engineers; outage activities, etc.	12/19FF 1/20FF	On hold due to COVID
O-2	F	COVID-19 response/initiatives/practices. Review at each FF and PM until threat passes	1/21FF 5/21FF	3Q21FF
		Public Meeting Items (PM) (Reference: Public Meeting Minutes Pages)		
July 2020 PM 1	F	Dr. Peterson remarked there is much to be learned from the response to the pandemic including certain practices that are likely to continue after the pandemic concludes and this is one such aspect which is worthwhile for the DCISC to review during a future fact finding.	7/20PM 5/21FF	Close
14	F	He [Mr. McWhorter] reported most of the actions have now been completed and the system is in monitoring status and the FFT recommended the DCISC review the Auxiliary Building Ventilation System again during 2021 to assess the effectiveness of these corrective actions. The FFT concluded the Auxiliary Building Ventilation System was in fair health and should be reviewed to assess corrective actions in about one year.	7/20PM 4/21FF	Close
Oct 2020 PM 1	F	Dr. Peterson observed the DCISC has investigate the risk of wildfire, particularly from the perspective of the risk to the plant=s offsite power supplies and has arranged for past presentations from a CalFire representative and, while the Committee has not seen any substantive risk from wildfire, given the recent wildfire activity with respect to frequency, intensity, and fuel buildup this last summer and with respect to climate change it may be prudent for the DCISC to reassess this issue.	10/20PM 5/21FF	Close
4	F	Mr. McWhorter suggested and the Committee Members agreed that the DCISC should request a report be made by PG&E representatives on DCPD decommissioning activities during DCISC public meetings on no less than	10/20PM	Each October PM? Close

		an annual basis.		
5	F	Dr. Peterson stated this [some EP capabilities], knowledge and skill sets can be provided much quicker using a virtual platform such as are now being utilized in response to the pandemic would be an appropriate topic for a future fact-finding by the DCISC with particular emphasis placed upon the area of emergency response.	10/20PM 5/21FF	Close
8	F	The Members observed that scheduling the upcoming evaluated biennial emergency exercise on September 15, 2021, which for the 2021 exercise will have been extended by one additional year due to the COVID-19 pandemic, is very unfortunate as Yom Kippur, a holy day for persons of the Jewish faith commences that evening. Members directed that this information is brought to PG&E=s attention and that the matter returned for review at the February 2021 public meeting concerning the DCISC=s ability to send two observers to this exercise. Members directed that an item be added to the Open Items List concerning this matter. [DCPP initial response: "This will be evaluated as we get closer to the date and we will inform DCISC."]	10/20PM	Close
12	F	Consultant McWhorter reported that the DCISC fact finding team reviewed the first forced outage for a hydrogen leak on the Unit 2 main generator and as a second forced outage has now occurred there will need to be additional review at a future fact-finding. [Reviewed at 4/21FF: the RCE was currently expected to be completed in Summer 2021.]	10/20PM 4/21FF	3Q21FF 6/21PM or 10/21PM
13	F	Dr. Lam observed the Committee has reviewed cancelled projects on numerous occasions since 2017 to ensure PG&E=s actions do not jeopardize safety for budgetary reasons and it remains critically important that the DCISC retain its focus and ensure safety remains the priority. [Last reviewed 9/20FF. Review in a year.]	10/20PM	9/21FF
Feb 2021 PM 1	F	<i>The DCISC recommends that when PG&E considers decisions about the future management on-site of the spent fuel from DCP's two reactor units, the risks arising from spent fuel management should be one part of the PG&E decision process and that process should be informed by the conclusions contained in the Study entitled "Probabilistic Risk Assessment of Nuclear Power Plant Spent Fuel Handling and Storage Programs: Methodology and Application to the Diablo Canyon Power Plant." (4.19.3) DCP: "We agree with the recommendation and will incorporate it into our decision</i>	2/21PM	Monitor

		<i>process on spent fuel management at the plant."</i>		
<i>2</i>	<i>F</i>	<i>The Committee then tentatively planned to have Consultant McWhorter stay over for the date of September 15, 2021, to observe the Evaluated Emergency Exercise to be possibly accompanied by Dr. Peterson.</i>	<i>2/21PM</i>	<i>9/21FF</i>
<i>3</i>	<i>F</i>	<i>The DCISC Fact-Finding Team reviewed the monitoring plan and found it satisfactory and the DCISC representatives assessed that Unit 2 was in a good position for restart. The DCISC representatives concluded the 2Z22 forced outage was properly managed and the DCISC should review the final RCE during a future fact-finding.</i>	<i>2/21PM</i>	<i>9/21FF</i>
<i>4</i>	<i>F</i>	<i>The DCISC Fact-Finding Team found the Cybersecurity Program to be effectively managed and recommended the DCISC follow-up on the results of the NRC inspection.</i>	<i>2/21PM</i>	<i>9/21FF</i>
<i>5</i>	<i>F</i>	<i>Two items were noted for follow-up by the NSOC in January 2021, those being the results of the corporate assessment of DCPD by the Institute of Nuclear Power Operations (INPO) and an item involving the Low Temperature Over-pressurization Protection (LTOP) System. Mr. McWhorter reported the DCISC representatives found the NSOC meeting to be effective and the DCISC should follow up on these two items.</i>	<i>2/21PM</i>	<i>3Q21FF</i>
<i>6</i>	<i>F</i>	<i>The team was concerned about the findings of the RCE and recommended that the DCISC should continue to follow this issue in future fact-finding and during future public meetings.</i>	<i>2/21PM</i>	<i>9/21FF</i>
<i>7</i>	<i>F</i>	<i>DCISC fact-finding team found the overall reduction in safety system functional failure to be acceptable and recommended that the DCISC cease looking at this issue on a recurring basis and instead continue to review NRC Maintenance Rule functional failures and NRC Maintenance Rule performance in general.</i>	<i>2/21PM</i>	<i>2Q22FF</i>
<i>8</i>	<i>F</i>	<i>The DCISC representatives concluded the plant's response to this event [LTOP] was appropriate but the DCISC should review this event when the root cause evaluation is completed.</i>	<i>2/21PM</i>	<i>9/21FF</i>
<i>9</i>	<i>F</i>	<i>Station (the "South Texas Project") has experienced a unit trip due to frozen feedwater lines. Dr. Peterson inquired whether DCPD would be reviewing Texas' experience for issues which could potentially impact DCPD. Mr. Guess replied that the South Texas Project reactor trip is believed to be related to the very low</i>	<i>2/21PM</i>	<i>7/21FF</i>

		<i>temperatures experienced which exceeded the plant's design basis and he agreed that an extent of condition review may be appropriate.</i>		
<i>10</i>	<i>F</i>	<i>Mr. Wardell reported that Plant Status Control performance is now judged satisfactory and he recommended that review of this issue be closed on the DCISC's Open Items List.</i>	<i>2/21PM</i>	<i>Complete Close</i>

DCPP Systems/Components Reviewed Periodically

4 kV – Jan 2020
 230 kV & 500 kV – Dec 2019
 Aux Feedwater – Mar 2020
 Aux Saltwater – Mar 2020
 Aux Bldg Ventilation – *Apr 2021*
 Chemical & Volume Control System and High Pressure Injection – Jan 2021
 Component Cooling Water – Apr 2020
 Compressed Air – Jul 2020
 Condensate & Feedwater – Sep 2019
 Containment Structure – Nov 2019
 Containment Spray – Aug 2019
 Containment Ventilation and H2 Purge – Aug 2020
 Control Room Simulator – Nov 2020
 Control Room Ventilation – Jan 2021
 Digital Systems – Sep 2018
 DC Power – Apr 2019
 EDG – May 2020
 Fire Protection & Detection Systems – Aug 2020
 Nuclear Instrumentation & In-core Instrumentation – Sep 2020
 Plant Protection System – *Mar 2021*
 Radiation Monitoring – *Apr 2021*
 Radwaste Processing – Nov 2020
 Reactor Coolant System & Pumps – Aug 2018
 RCS Process Control System – May 2020
 Refueling Equipment – Dec 2018
 RHR – Jan 2021
 Rod Control & Indication – Sep 2020
 Safety Injection Pumps – Jan 2021
 Spent Fuel Pool Cooling & HVAC – May 2018
 Steam Generators – Aug 2020
 Special Protection System – Mar 2020
 Turbine-Generator – Dec 2020

DCPP Programs Reviewed Periodically

ALARA – Sep 2019
 Air Operated Valves – Dec 2020

Benchmarking – Nov 2018
Boric Acid Corrosion Control – *Apr 2021* (review biennially)
Buried Piping & Tanks – Jul 2020
Chemistry – Aug 2018
Cranes – Sep 2019
Configuration Management – May 2019
Corrective Action – CARB – *Apr 2021*
Emergency Preparedness Exercises – Nov 2018
Employee Concerns Program – Aug 2020
Equipment Environmental Qualification – Mar 2020
Equipment Reliability – Jul 2020
Excellence Plan – March 2018
Fire Doors & Door Life Cycle Mgm't. Plan – Mar 2019
Fire Protection Program (NFPA-805) – *May 2021*
FLEX Program – Apr 2019
Flow Accelerated Corrosion – Apr 2019
Foreign Material Exclusion – Dec 2019
In-service Inspection Program – Apr 2019
Integrated Risk Assessment Program – Apr 2020
Large Motors – Jan 2019
Long-Term Capital Planning Process – Dec 2016
MIDAS – Aug 2018
Maintenance Rule – *Apr 2021*
Margin Management Program – May 2020
Motor Operated Valves – Dec 2020
Notification Review Team – Mar 2020
Nuclear Fuel Program – *Mar 2021*
On-Line Maintenance – Apr 2020
Operating Experience – Aug 2018 (review biennially)
Operability Assessment Program – Mar 2017
Operational Decision Making – Sep 2020
PRA Programs (non-seismic) – Sep 2017
Performance Improvement – Apr 2019
Performance Review Quarterly Meeting – *Apr 2021*
Plant Health Committee – May 2020
Reactivity Management – *May 2021*
Safety-Security Interface – Dec 2020
Self-Assessment – Aug 2020
Single Point Vulnerabilities – Sep 2019
Seismic PRA – Sep 2017
Seismically Induced System Interactions – Nov 2020
Software QA – March 2018
Spent Fuel Management – *Apr & May 2021*
System Engineering – Nov 2019
Transformers, Large – Jan 2021
Troubleshooting – Jan 2020

Tsunami Hazard Analysis – Sep 2017
Vibration Monitoring – *Mar 2021*

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface](#) | **[Executive Summary](#)**

[Volume I TOC](#) | **[Volume II TOC](#)** | **[PG&E Response](#)** | **[Contact the DCISC](#)**

[31st Annual Report, Volume II, Exhibit G, DCISC Public Contacts](#)

The following exhibits describe contacts by members of the public during the reporting period.

[Exhibit G.1 DCISC Email Correspondence Log](#)

[Exhibit G.2 Documents Received by the DCISC](#)

[Exhibit G.3 Comments Received at Public Meetings](#)

EXHBIIT H

PROPOSED SECOND RESTATEMENT OF THE CHARTER FOR THE
DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

AS APPROVED AT THE FEBRUARY 12, 2020 PUBLIC MEETING
TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

**SECOND RESTATEMENT OF THE CHARTER FOR THE
DIABLO CANYON INDEPENDENT SAFETY COMMITTEE**

I. Formation and Membership of the Committee.

A. Composition and Responsibility of the Committee.

(1) An Independent Safety Committee (the "Committee") shall be established consisting of three members, one each appointed by the Governor of the State of California, the Attorney General and the Chair of the California Energy Commission ("CEC"), respectively, serving staggered three-year terms. The Committee shall review Diablo Canyon Nuclear Power Plant ("Diablo Canyon") operations for the purpose of assessing the safety of operations and suggesting any recommendations for safe operation and shall terminate its review in accordance with Section III. Safety of operations shall mean activities in connection with generation of electricity by Diablo Canyon and/or the operation of the Diablo Canyon Spent Fuel Pools and related support systems and the Diablo Canyon Independent Spent Fuel Storage Installation ("ISFSI"), including the transport of nuclear fuel to and from Diablo Canyon's Spent Fuel Pools and the storage of nuclear fuel within the Spent Fuel Pools and the transport and storage of nuclear fuel to and within the ISFSI or elsewhere at Diablo Canyon. Neither the Committee nor its members shall have any responsibility or authority for plant operations, and they shall have no authority to direct Pacific Gas & Electric Company ("PG&E") personnel. The Committee shall conform in all respects to applicable federal laws, regulations and Nuclear Regulatory Commission ("NRC") policies.

AS APPROVED AT THE FEBRUARY 12, 2020 PUBLIC MEETING
TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

B. Appointment of Committee Members.

(1) Candidates for Committee membership shall be selected from those persons responding to an open request for applications. The California Public Utilities Commission ("CPUC") shall provide for public comment on qualified applicants by posting on the CPUC's homepage (www.cpuc.ca.gov) a link to information concerning the name of each qualified applicant, along with a summary of his or her qualifications and a statement identifying any potential conflict of interest, an Applicant's Application for Nomination shall address those items enumerated in Section I.C. The President of the CPUC shall provide to the appropriate appointing authority a list of not more than three qualified candidates as alternatives to the reappointment of that authority's designated Committee member whose term is expiring. The incumbent member, if he or she consents, shall be deemed an additional candidate. Each subsequent appointment shall be for a three-year term.

(2) Should a Committee member not complete the appointed term, the authority who appointed that member shall appoint a replacement to serve for the unexpired portion of the term from the most recent list of candidates selected by the President of the CPUC in accordance with the appointment procedures set forth herein (3) The President of the CPUC shall review each application to assess the applicant's qualifications, experience and background, including any conflict of interest and comment received from the public, and shall propose as candidates only persons with knowledge, background and experience in the field of nuclear power facilities

AS APPROVED AT THE FEBRUARY 12, 2020 PUBLIC MEETING
TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

and nuclear safety issues who demonstrate they have no conflict of interest as set forth in
Section

I.C. The CPUC Energy Division shall prepare, circulate for public comment and place on the CPUC's public agenda a resolution ratifying the President's selection of not more than three qualified candidates and an incumbent member.

C. Conflict of Interest.

(1) No person shall serve as a member of the Committee if he or she has received \$500.00 or more in income (as defined in Government Code Section 82030, but excluding dividends or interest from stocks or bonds) or gifts (as defined in Government Code 82028) from PG&E or an affiliated company within twelve months prior to the start of his or her original term, or if he or she has, at the time of the commencement of service, an investment (as defined in Government Code Section 82034) worth \$2,000.00 or more in PG&E or any affiliated company. In addition, no member of the Committee shall make, participate in making, or in any way attempt to use his or her official position to influence any action of the Committee in which he or she knows or has reason to know that he or she has a financial interest. The provisions of the Political Reform Act, including implementing regulations and rulings, as applied to Government Code Section 87100 shall be used to determine whether a member has a conflict of interest.

AS APPROVED AT THE FEBRUARY 12, 2020 PUBLIC MEETING
TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

(2) Members of the Committee shall file a Statement of Economic Interest at the same time and in the same manner as designated employees of the CPUC must file under the Political Reform Act and CPUC Conflict of Interest Code. Members of the Committee shall disclose any investment in or income from the following:

- (a) An electric corporation subject to the jurisdiction of the CPUC, including any parent, subsidiary or affiliated business entity;
- (b) A business entity that regularly supplies natural gas, nuclear fuel, fuel oil or other forms of energy to an electric corporation subject to CPUC jurisdiction;
- (c) Any business entity that has done more than \$10 million of work on the design, construction, engineering or operation of the Diablo Canyon power plant.

Copies of the members' Statements shall be available for public inspection.

(3) No person shall serve as a member of the Committee if he or she has a prior history of supporting or opposing PG&E as a witness or intervenor in nuclear licensing or CPUC proceedings associated with Diablo Canyon.

D. Commencement of Term.

(1) The list of candidates shall be submitted to the appointing authorities on or before January 1 of each year. Appointments shall be made by March 1 of each year. Each Safety Committee term shall commence on July 1 of the year of appointment. If any such deadline is missed, the relevant action shall be taken or shall occur at the earliest possible date thereafter.

AS APPROVED AT THE FEBRUARY 12, 2020 PUBLIC MEETING
TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

(2) In accordance with Government Code Section 1302, a Committee member shall continue to discharge his or her duties until reappointed or replaced.

E. Exercise of Powers.

(1) The Chair of the CEC and the President of the CPUC shall exercise their powers after consultation with their respective commissions in public session.

II. Scope of Committee Operations.

A. Receipt of Reports and Records.

(1) The Committee shall have the right to receive on a regular basis such of the following operating reports and records of Diablo Canyon as the Committee may request. Such reports and records shall be provided quarterly as available:

- (a) Automatic scrams while critical;
- (b) Significant events;
- (c) Safety system actuations;
- (d) Forced outage rate;
- (e) Collective radiation exposure;
- (f) Industrial safety loss time accident rate;
- (g) NRC public reports and evaluations of Diablo Canyon; and
- (h) Such other reports pertinent to safety as may be produced in the course of operations and may be requested by the Committee.

AS APPROVED AT THE FEBRUARY 12, 2020 PUBLIC MEETING
TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

B. Annual Site Inspection.

(1) The Committee shall have the right to conduct examinations of the Diablo Canyon site. If the Committee requires additional information regarding a specific issue the Committee may request such information and, upon proper notice to PG&E, conduct a site visit to investigate that issue.

(2) PG&E shall cooperate with the Committee in arranging times for the Committee's visits to the site and shall be responsible for ensuring the cooperation of PG&E employees and contractors in providing information and access to the plant and facilities of PG&E and to pertinent records. Any such site visit must comply with all applicable federal laws, regulations and NRC policies, including laws, regulations and policies governing screening of persons who may participate in site inspections.

C. Committee Reports and Recommendations.

(1) The Committee shall prepare an annual report, and such interim reports as it deems appropriate, which reports shall include any recommendations of the Committee. The report shall be submitted first to PG&E, and PG&E shall respond in writing within 45 days. PG&E's response shall be made part of the report which shall then be submitted to the CPUC, the Governor, the Attorney General and the CEC. The CPUC, the Governor, the Attorney General and the CEC, or any one of them, may file a request pursuant to 10 CFR Sec. 2.206 for the Director of Nuclear Reactor Regulation to institute a proceeding to require PG&E to adopt

AS APPROVED AT THE FEBRUARY 12, 2020 PUBLIC MEETING
TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

any safety recommendation made by the Committee. PG&E is free to oppose any such recommendation before the NRC.

D. Confidentiality of Information

(1) In the course of review of Diablo Canyon operations, Committee members may receive confidential information. Federal law restricts disclosure of certain information; accordingly, Committee members shall seek approval of the NRC for access to such information and shall comply with all laws, regulations and policies applicable to access to, possession and use of such information. The Committee is subject to the California Public Records Act (Government Code Section 6250 et seq.). To the extent that PG&E believes that information sought by the Committee, not otherwise regulated by the Atomic Energy Act, is confidential under the California Public Records Act and/or constitutes confidential business information, the disclosure of which might injure PG&E in its business, PG&E shall so designate that information and the basis on which PG&E believes the information is exempt from disclosure. If the Committee receives a demand for disclosure of information so designated by PG&E the Committee shall notify PG&E and lawfully object and defend any rights the Committee may have to non-disclosure of the confidential information.. A dispute between the Committee and PG&E on a claim of confidentiality shall promptly be submitted to binding arbitration. Committee members and all persons who receive confidential information in the course of or as

AS APPROVED AT THE FEBRUARY 12, 2020 PUBLIC MEETING
TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

a result of the Committee's activities shall have a duty to maintain the confidentiality of that information and, in addition to complying with the requirements of federal and state law and regulations, shall execute a confidentiality agreement prior to receiving any confidential information.

(2) The Committee may contract for services, including the services of consultants and experts, to assist the Committee in its safety review. Disclosure of PG&E information or records to any such person shall be governed by the provisions of this agreement in the same manner as disclosure to members of the Committee. No disclosure of confidential information shall be made to any person who does not have a need to receive the information in order to assist the Committee in its safety review. Nor shall such disclosure be made to any person known to have a conflict of interest.

(3) This provision shall not preclude the Committee from submitting relevant information to the NRC or to the CPUC, the Governor, the Attorney General, or the CEC to the extent permitted by federal law. Prior to the disclosure of any confidential information, however, the Committee shall give PG&E notice of its intention to do so and an opportunity to designate specific documents or information which should not be publicly disclosed and to seek to prevent public disclosure by the entity to which disclosure is made.

AS APPROVED AT THE FEBRUARY 12, 2020 PUBLIC MEETING
TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

E. Compensation of the Committee

(1) Members of the Committee shall be compensated in an amount established by the CPUC commensurate with fees PG&E pays for similar services. Each member shall receive a \$10,000.00 annual retainer and, in the event a member performs more than 40 hours of work on Committee business between July 1 and the following June 30, such hours shall be compensated at \$250.00 per hour. PG&E shall file annually, on April 1, a report updating commensurate fees for comparable services and concurrent with that report, an advice letter with proposed revisions to the compensation levels.

(2) The fees and expenses of the Committee and its contractors shall be paid by PG&E and PG&E shall be entitled to recover those amounts through its cost-of-service rates. An authorized Committee budget not exceeding \$673,077.00 for calendar year 1996, with a 1.5% annual escalation for every year thereafter, has been established, which includes all costs, member compensation, travel expenses, contracting fees, staff salaries and audit expenses. Funds provided for the fees and expenses of the Committee and its contractors which remain unspent and uncommitted on December 31 of a calendar year will be returned to PG&E to be applied as a credit to its cost-of-service rates. The compensation of Committee members, which is included in the budget, is tied to the fees paid by PG&E for similar services. Therefore, the rate of change in the budget could differ from the rate of change in the compensation paid to committee members.

AS APPROVED AT THE FEBRUARY 12, 2020 PUBLIC MEETING
TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

(3) The Committee and its contractors shall keep accurate books, records and accounts, which shall be open to inspection and audit by the CPUC or its designee and by PG&E. Such audit shall include review of the reasonableness of fees and expenses and review for conflict of interest.

F. Outreach

(1) The Committee shall undertake public outreach in the affected community, including, but not limited to, assuring that the Committee meetings are conducted in accordance with the Bagley–Keene Open Meeting Act and videotaped and broadcast. To the extent that public outreach results in an increase in costs associated with the Committee, beyond any annual authorized funding level, the Committee's budget shall be increased by the same amount and PG&E shall be entitled to recover that amount through a CPUC-determined increment to PG&E's cost-of-service rates.

(2) The Committee shall undertake outreach concerning matters within its purview with other review committees established by the CPUC (e.g., the Independent Peer Review Panel for Seismic Studies at Diablo Canyon Power Plant) and by PG&E (e.g., the Diablo Canyon Decommissioning Engagement Panel) including, but not limited to, providing advanced copies of its public meeting agendas and, upon request, copies of its non-confidential documents and reports.

AS APPROVED AT THE FEBRUARY 12, 2020 PUBLIC MEETING
TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

III. Termination of Committee's Review of Diablo Canyon Operations.

(1) The Committee will terminate its review of safety of operation upon further order of the CPUC or upon the date of successful completion of the transfer of all nuclear fuel from both Diablo Canyon Spent Fuel Pools to the ISFSI. The Committee will then prepare and submit a final annual or an interim report and terminate its activities within twelve months after such order or date.

TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

**SECOND RESTATEMENT OF THE CHARTER FOR THE
DIABLO CANYON INDEPENDENT SAFETY COMMITTEE**

I. Formation and Membership of the Committee.

A. Composition and Responsibility of the Committee.

(1) An Independent Safety Committee (the "Committee") shall be established consisting of three members, one each appointed by the Governor of the State of California, the Attorney General and the Chair of the California Energy Commission ("CEC"), respectively, serving staggered three-year terms. The Committee shall review Diablo Canyon Nuclear Power Plant ("Diablo Canyon") operations for the purpose of assessing the safety of operations and suggesting any recommendations for safe operation and shall terminate its review in accordance with Section III. Safety of operations shall mean activities in connection with generation of electricity by Diablo Canyon and/or the operation of the Diablo Canyon Spent Fuel Pools and related support systems and the Diablo Canyon Independent Spent Fuel Storage Installation ("ISFSI"), including the transport of nuclear fuel to and from Diablo Canyon's Spent Fuel Pools and the storage of nuclear fuel within the Spent Fuel Pools and the transport and storage of nuclear fuel to and -within the ISFSI or elsewhere at Diablo Canyon. Neither the Committee nor its members shall have any responsibility or authority for plant operations, and they shall have no authority to direct Pacific Gas & Electric Company ("PG&E") personnel. The Committee shall

TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

conform in all respects to applicable federal laws, regulations and Nuclear Regulatory Commission ("NRC") policies.

B. Appointment of Committee Members.

(1) Candidates for Committee membership shall be selected from those persons responding to an open request for applications. The California Public Utilities Commission ("CPUC") shall provide for public comment on qualified applicants by posting on the CPUC's homepage (www.cpuc.ca.gov) a link to information concerning the name of each qualified applicant, along with a summary of his or her qualifications and a statement identifying any potential conflict of interest, an Applicant's Application for Nomination shall address those items enumerated in Section I.C. The President of the CPUC shall provide to the appropriate appointing authority a list of not more than three qualified candidates as alternatives to the reappointment of that authority's designated Committee member whose term is expiring. The incumbent member, if he or she consents, shall be deemed an additional candidate. Each subsequent appointment shall be for a three-year term.

(2) Should a Committee member not complete the appointed term, the authority who appointed that member shall appoint a replacement to serve for the unexpired portion of the term from the most recent list of candidates selected by the President of the CPUC in accordance with the appointment procedures set forth herein.

TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

(3) The President of the CPUC shall review each application to assess the applicant's qualifications, experience and background, including any conflict of interest and comment received from the public, and shall propose as candidates only persons with knowledge, background and experience in the field of nuclear power facilities and nuclear safety issues who demonstrate they have no conflict of interest as set forth in Section I.C. The CPUC Energy Division shall prepare, circulate for public comment and place on the CPUC's public agenda a resolution ratifying the President's selection of not more than three qualified candidates and an incumbent member.

C. Conflict of Interest.

(1) No person shall serve as a member of the Committee if he or she has received ~~\$500,250~~.00 or more in income (as defined in Government Code Section 82030, but excluding dividends or interest from stocks or bonds) or gifts (as defined in Government Code 82028) from PG&E or an affiliated company within twelve months prior to the start of his or her original term, or if he or she has, at the time of the commencement of service, an investment (as defined in Government Code Section 82034) worth ~~\$21~~,000.00 or more in PG&E or any affiliated company. In addition, no member of the Committee shall make, participate in making, or in any way attempt to use his or her official position to influence any action of the Committee in which he or she knows or has reason to know that he or she has a financial interest. The provisions of the Political Reform Act, including implementing regulations and rulings, as applied to

TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

Government Code Section 87100 shall be used to determine whether a member has a conflict of interest.

(2) Members of the Committee shall file a Statement of Economic Interest at the same time and in the same manner as designated employees of the CPUC must file under the Political Reform Act and CPUC Conflict of Interest Code. Members of the Committee shall disclose any investment in or income from the following:

- (a) An electric corporation subject to the jurisdiction of the CPUC, including any parent, subsidiary or affiliated business entity;
- (b) A business entity that regularly supplies natural gas, nuclear fuel, fuel oil or other forms of energy to an electric corporation subject to CPUC jurisdiction;
- (c) Any business entity that has done more than \$10 million of work on the design, construction, engineering or operation of the Diablo Canyon power plant.

Copies of the members' Statements shall be available for public inspection.

(3) No person shall serve as a member of the Committee if he or she has a prior history of supporting or opposing PG&E as a witness or intervenor in nuclear licensing or CPUC proceedings associated with Diablo Canyon.

D. Commencement of Term.

(1) The list of candidates shall be submitted to the appointing authorities on or before January 1 of each year. Appointments shall be made by March 1 of each year. Each Safety Committee term shall commence on July 1 of the year of appointment. If any such

TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

deadline is missed, the relevant action shall be taken or shall occur at the earliest possible date thereafter.

(2) In accordance with Government Code Section 1302, a Committee member shall continue to discharge his or her duties until reappointed or replaced.

E. Exercise of Powers.

(1) The Chair of the CEC and the President of the CPUC shall exercise their powers after consultation with their respective commissions in public session.

II. Scope of Committee Operations.

A. Receipt of Reports and Records.

(1) The Committee shall have the right to receive on a regular basis such of the following operating reports and records of Diablo Canyon as the Committee may request. Such reports and records shall be provided quarterly as available:

- (a) Automatic scrams while critical;
- (b) Significant events;
- (c) Safety system actuations;
- (d) Forced outage rate;
- (e) Collective radiation exposure;
- (f) Industrial safety loss time accident rate;
- (g) NRC public reports and evaluations of Diablo Canyon; and

TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

- (h) Such other reports pertinent to safety as may be produced in the course of operations and may be requested by the Committee.

B. Annual Site Inspection.

(1) The Committee shall have the right to conduct ~~an annual~~ examinations of the Diablo Canyon site. If the Committee requires additional information regarding a specific issue the Committee may request such information and, upon proper notice to PG&E, conduct a site visit to investigate that issue.

(2) PG&E shall cooperate with the Committee in arranging times for the Committee's visits to the site and shall be responsible for ~~e~~nsuring the cooperation of PG&E employees and contractors in providing information and access to the plant and facilities of PG&E and to pertinent records. Any such site visit must comply with all applicable federal laws, regulations and NRC policies, including laws, regulations and policies governing screening of persons who may participate in site inspections.

C. Committee Reports and Recommendations.

(1) The Committee shall prepare an annual report, and such interim reports as it deems appropriate, which reports shall include any recommendations of the Committee. The report shall be submitted first to PG&E, and PG&E shall respond in writing within 45 days. PG&E's response shall be made part of the report which shall then be submitted to the CPUC, the Governor, the Attorney General and the CEC. The CPUC, the Governor, the Attorney

TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

General and the CEC, or any one of them, may file a request pursuant to 10 CFR Sec. 2.206 for the Director of Nuclear Reactor Regulation to institute a proceeding to require PG&E to adopt any safety recommendation made by the Committee. PG&E is free to oppose any such recommendation before the NRC.

D. Confidentiality of Information

(1) In the course of review of Diablo Canyon operations, Committee members may receive confidential information. Federal law restricts disclosure of certain information; accordingly, Committee members shall seek approval of the NRC for access to such information and shall comply with all laws, regulations and policies applicable to access to, possession and use of such information. The Committee is subject to the California Public Records Act (Government Code Section 6250 et seq.). To the extent that PG&E believes that ~~other~~ information sought by the Committee, not otherwise regulated by the Atomic Energy Act, is confidential under the California Public Records Act and/or constitutes confidential business information, the disclosure of which might injure PG&E in its business, PG&E ~~shall~~may so designate that information and the basis on which PG&E believes the information is exempt from disclosure. If the Committee receives a demand for disclosure of - iInformation so designated by PG&E, the Committee shall notify PG&E and lawfully object and defend any rights the Committee may have to non- disclosure of the confidential information, ~~shall be treated as confidential and not disclosed outside the Committee unless a majority of the~~

TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

~~Committee challenges the propriety of the claim of confidentiality by vote taken within 30 days of designation.~~ A dispute between the Committee and PG&E on a claim of confidentiality shall promptly be submitted to binding arbitration. Committee members and all persons who receive confidential information in the course of or as a result of the Committee's activities shall have a duty to maintain the confidentiality of that information and, in addition to complying with the requirements of federal and state law and regulations, shall execute a confidentiality agreement prior to receiving any confidential information.

(2) The Committee may contract for services, including the services of consultants and experts, to assist the Committee in its safety review. Disclosure of PG&E information or records to any such person shall be governed by the provisions of this agreement in the same manner as disclosure to members of the Committee. No disclosure of confidential information shall be made to any person who does not have a need to receive the information in order to assist the Committee in its safety review. Nor shall such disclosure be made to any person known to have a conflict of interest.

(3) This provision shall not preclude the Committee from submitting relevant information to the NRC or to the CPUC, the Governor, the Attorney General, or the CEC to the extent permitted by federal law. Prior to the disclosure of any confidential information, however, the Committee shall give PG&E notice of its intention to do so and an opportunity to designate specific documents or information which should not be publicly disclosed and to seek to prevent public disclosure by the entity to which disclosure is made.

TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

E. Compensation of the Committee

(1) Members of the Committee shall be compensated in an amount established by the CPUC commensurate with fees PG&E pays for similar services. Each member shall receive ~~an~~ \$~~108~~,000.00 annual retainer and, in the event a member performs more than 40 hours of work on Committee business between July 1 and the following June 30, such hours shall be compensated at \$2~~500~~.00 per hour. PG&E shall file annually, on April 1, a report updating commensurate fees for comparable services and concurrent with that report, an advice letter with proposed revisions to the compensation levels.

(2) The fees and expenses of the Committee and its contractors shall be paid by PG&E and PG&E shall be entitled to recover those amounts through its cost-of-service rates. An authorized Committee budget not exceeding \$673,077.00 for calendar year 1996, with a 1.5% annual escalation for every year thereafter, has been established, which includes all costs, member compensation, travel expenses, contracting fees, staff salaries and audit expenses.

Funds provided for the fees and expenses of the Committee and its contractors which remain unspent and uncommitted on December 31 of a calendar year will be returned to PG&E to be applied as a credit to its cost-of-service rates. The compensation of Committee members, which is included in the budget, is tied to the fees paid by PG&E for similar services. Therefore, the rate of change in the budget could differ from the rate of change in the compensation paid to committee members.

TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

(3) The Committee and its contractors shall keep accurate books, records and accounts, which shall be open to inspection and audit by the CPUC or its designee and by PG&E. Such audit shall include review of the reasonableness of fees and expenses and review for conflict of interest.

F. Public Outreach

(1) The Committee shall undertake public outreach in the affected community, including, but not limited to, assuring that the Committee meetings are conducted in accordance with the Bagley—Keene Open Meeting Act and videotaped and broadcast. To the extent that public outreach results in an increase in costs associated with the Committee, beyond any annual authorized funding level, the Committee's budget shall be increased by the same amount and PG&E shall be entitled to recover that amount through a CPUC-determined increment to PG&E's cost-of-service rates.

(2) The Committee shall undertake outreach concerning matters within its purview with other review committees established by the CPUC (e.g., the Independent Peer Review Panel for Seismic Studies at Diablo Canyon Power Plant) and by PG&E (e.g., the Diablo Canyon Decommissioning Engagement Panel) including, but not limited to, providing advanced copies of its public meeting agendas and, upon request, copies of its non-confidential documents and reports.

TERMINATES REVIEW OF SAFETY OF OPERATIONS
UPON SUCCESSFUL TRANSFER OF ALL FUEL TO WITHIN THE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

III. Termination of Committee's Review of Diablo Canyon Operations.

(1) The Committee will terminate its review of safety of operations upon further order of the CPUC or upon the date of successful completion of the transfer of all nuclear fuel from both the Diablo Canyon Spent Fuel Pools to the ISFSI. The Committee will then prepare and submit a final annual or an interim report and terminate its activities within twelve months after such order or date.

**DIABLO CANYON INDEPENDENT SAFETY COMMITTEE
("DCISC")**

FEBRUARY 12, 2020

MOTION

SUMMARY


At a public meeting duly held on February 12-13, 2020, in Avila Beach CA, following consideration of Item XII D on the Agenda concerning approval of an application and/or other communication to the California Public Utilities Commission regarding a Second Restatement of the DCISC's Charter to provide for a continued role following Diablo Canyon Nuclear Power Plant's cessation of electricity generating operations for the DCISC to review nuclear fuel-related issues and to terminate that review upon completion of the safe transfer of all nuclear fuel to the Independent Spent Fuel Storage Installation;

Upon a motion made and seconded, the Committee voted to:

- (1) Approve the text presented at the February 12, 2020, public meeting of the Second Restatement of the Charter for the Diablo Canyon Independent Safety Committee as the DCISC's proposal for a Second Restated Charter; and
- (2) Direct Committee Counsel to provide the adopted proposed Second Restatement to CPUC Energy Division staff with a recommendation to pursue the most expeditious avenue to bring the adopted proposed Second Restatement to the attention of the Administrative Law Judge in the 2018 Nuclear Decommissioning Cost Triennial Proceeding for a procedure to be found for consideration of its approval by the Commission.

I certify that the foregoing motion was duly introduced, seconded and adopted at a public meeting of the Diablo Canyon Independent Safety Committee held on February 12, 2020, the following Members voting favorably thereon:

Dr. Peter Lam, Member and Chair
Dr. Per F. Peterson, Member and Vice-Chair
Dr. Robert J. Budnitz, Member


Robert R. Wellington
DCISC Legal Counsel

[31st Annual Report, Volume II, Exhibit I, DCISC Recommendations and DCPD Response From Last Reporting Period](#)

(7/1/2019 - 6/30/2020)

TABLE 1 DCISC Recommendations and DCPD Responses from Last Reporting Period (7/1/2019 – 6/30/2020)					
Cumul- ative Rec. No.	DCISC Conclusion or Recommendation	Conclusion or Recommendation Reference	PG&E Response/Action	PG&E Response/Action Reference	Status
223	<u>Recommendations:</u> The DCISC recommends that when PG&E considers decisions about the future management on-site of the spent fuel from DCPD's two reactor units, the risks arising from spent fuel management should be one part of the PG&E decision process and that process should be informed by the conclusions contained in the Study entitled "Probabilistic Risk Assessment of Nuclear Power Plant Spent Fuel Handling and Storage Programs:	Annual Report Executive Summary	On November 2, 2020, Pacific Gas and Electric Company (PG&E) received the Diablo Canyon Independent Safety Committee's (DCISC) Thirtieth Annual Report on the Safety of Diablo Canyon Operations for the period of July 1, 2019, to June 30, 2020, and includes one recommendation for PG&E during this report period. The recommendation is to consider the risks arising from spent fuel		

Methodology and
Application to the
Diablo Canyon
Power Plant."
(4.19.3)

management as
one part of the
PG&E decision
process and that
process should be
informed by the
conclusions
contained in the
study entitled
"Probabilistic Risk
Assessment of
Nuclear Power
Plant Spent Fuel
Handling and
Storage
Programs:
Methodology and
Application to the
Diablo Canyon
Power Plant (The
B. John Garrick
Institute for the
Risk Sciences,
GIRS-2020-3/L)."
We agree with
the
recommendation
and will
incorporate it into
our decision
process on spent
fuel management
at the plant.
As you are
aware, operating
the plant
conservatively to
protect public
health and safety
is our highest
priority, and we
will continue to
ensure that we
fulfill this
commitment.
We welcome the

Accepted

2019/2020 DCISC
Annual Report,
Section 9.0, PG&E

			DCISC independent review and oversight, which contributes to the continued safe operation of DCP.	Response to DCISC Recommendations February 17, 2021 DCISC Public Meeting (Annual Report Exhibit B.6)	
Annual Report Conclusion	The DCISC concludes that PG&E operated DCP safely during the period July 1, 2019 - June 30, 2020.		We are pleased that the DCISC has once again concluded that PG&E operated Diablo Canyon Power Plant (DCPP) safely during the report period. As you are aware, operating the plant conservatively to protect public health and safety is our highest priority, and we will continue to ensure that we fulfill this commitment. We welcome the DCISC's independent review and oversight, which contributes to the continued safe operation of DCP.		

EXHIBIT J

DCISC INFORMATIONAL BROCHURE

CURRENT COMMITTEE MEMBERS

ROBERT J. BUDNITZ

On October 10, 2007, Robert J. Budnitz, Ph.D., was appointed by California Attorney General Edmund G. Brown Jr. to a term on the Committee expiring June 30, 2010. On April 15, 2010, Attorney General Brown announced the reappointment of Dr. Budnitz to a second three-year term commencing July 1, 2010 through June 30, 2013. For the period July 1, 2013 to June 30, 2016, no appointment having been made for that period, Dr. Budnitz continued to serve on the DCISC pending reappointment or replacement. On July 7, 2016, Attorney General Harris announced her reappointment of Dr. Budnitz to a three-year term commencing July 1, 2016 and expiring June 30, 2019. On August 14, 2019, Attorney General Becerra reappointed Dr. Budnitz to a three-year term commencing July 1, 2019 and expiring June 30, 2022.

Dr. Robert J. Budnitz has been involved with nuclear-reactor safety and radioactive-waste safety for many years. In March 2007 he retired from the scientific staff at the University of California's Lawrence Berkeley National Laboratory, where he worked on nuclear power safety and security and radioactive waste management. Since his formal retirement, he has continued to work on these same subjects through a one-person private consulting practice. In February 2017 he was elected to the National Academy of Engineering. From 2002 to 2007 he was at UC's Lawrence Livermore National Laboratory, during which period he worked on a two-year special assignment (late 2002 to late 2004) in Washington to assist the Director of DOE's Office of Civilian Radioactive Waste Management to develop a new Science & Technology Program. Prior to joining LLNL in 2002, he ran a one-person consulting practice in Berkeley CA for over two decades. In 1978-1980, he was a senior officer on the staff of the U.S. Nuclear Regulatory Commission, serving as Deputy Director and then Director of the NRC Office of Nuclear Regulatory Research. In this two-year period, Dr. Budnitz was responsible for formulating and guiding the large NRC research program that constituted over \$200 million/year at that time. His responsibilities included assuring that all major areas of reactor-safety research, waste-management research, and fuel-cycle-safety research necessary to serve the mission of NRC were adequately supported. From 1967-1978, he was on the staff of the Lawrence Berkeley National Laboratory, serving in 1975-1978 as Associate Director of LLNL and Head of LLNL's Energy & Environment Division. During this period, the programs under his direction were in a large mix of diverse areas relevant to DOE, including energy efficiency, deep-geologic radioactive waste disposal, solar energy, geothermal energy, fusion energy, transportation technology, chemical engineering for alternate fuels, environmental instrumentation, air-pollution phenomena, and energy policy analysis. He earned a Ph.D. in experimental physics from Harvard in 1968.

PETER LAM

On June 3, 2009, Peter Lam, Ph.D., was appointed by California Energy Commission (CEC) Chair Douglas to a three-year term on the Committee commencing July 1, 2009 through June 30, 2012. On July 12, 2012, Dr. Lam was reappointed by CEC Chair Wiensmiller to a second three-year term on the Committee commencing July 1, 2012 through June 30, 2015. Dr. Lam was reappointed to third three-year term on the Committee commencing July 1, 2015 and ending on June 30, 2018, and subsequently to a fourth three-year term on the Committee beginning on July 1, 2018 and ending on June 30, 2021. On May 21, 2021, the CPUC issued Resolution E-5145 ratifying CPUC President Baljer's selection of Dr. Lam as one of two candidates for appointment to the Committee by CEC Chair Hochschild for a three-year term commencing July 1, 2021.

Dr. Peter Lam, Administrative Judge Emeritus of the U.S. Nuclear Regulatory Commission, is an international authority on nuclear reactor operating experience, and a leading expert on nuclear reactor safety and risk assessment. Dr. Lam is now the principal of EMM International, a consulting company with a group of experts in the nuclear industry. In his 18 years of public service as an Administrative Judge, Dr. Lam has presided over numerous public proceedings to decide technical issues of national and international significance involving the use of nuclear energy and materials. Judge Lam's jurisdiction covered all 104 nuclear power plants, some 21,000 medical and material licensees, and nuclear waste storage in the United States. The ultimate resolution of these significant technical issues has contributed to the enhancement of nuclear reactor safety.

Prior to his judicial appointment 18 years ago, Dr. Lam had extensive technical and managerial experience in the nuclear energy business over a period of 20 years. He was a nuclear engineer at General Electric Company, participating in the design and analysis of BWR advanced fuels. Dr. Lam served as a program manager at Argonne National Laboratory, managing the research and development of advanced fast reactor metal fuels. He was a manager at Science Applications, Inc., and a consultant at NUS Corporation, both major consulting firms in the nuclear industry. Dr. Lam's responsibilities there involved the management of probabilistic risk assessments of operating nuclear reactors.

CURRENT COMMITTEE MEMBERS (CON'D)

He managed a group of technical specialists in the U.S. Nuclear Regulatory Commission in the analysis and evaluation of nuclear reactor operating experience.

Dr. Lam was also a visiting faculty member at California State University at San Jose, and at George Washington University. Dr. Lam has published 71 technical papers and reports in national and international journals and in proprietary company publications, which focus on major issues in nuclear transport theory, nuclear reactor fuel design, nuclear reactor operating experience, and nuclear reactor safety. Judge Lam has also issued over 110 published judicial decisions related to some 50 cases of litigation. These judicial decisions resolve a wide range of technical and legal issues regarding nuclear reactor safety, nuclear waste disposal, and other civilian use of nuclear technology.

Dr. Lam has presented lectures at IAEA international conferences in Austria, Korea, and Spain, on significant results in comprehensive analyses of nuclear reactor operating experience. He has chaired an IAEA working group to develop a technical treatise for the analysis and evaluation of operating experience of the world's nuclear reactors. These activities contribute to the international exchange of important information to improve nuclear reactor safety.

Dr. Lam earned a Ph.D. and a M.S., both in nuclear engineering, from Stanford University in 1971, and 1968, respectively. He earned a B.S. in mechanical engineering, from Oregon State University in 1967. His 4-year undergraduate study at Oregon State University and his 4-year graduate study at Stanford University were fully funded by eight consecutive scholarships and fellowships.

PER F. PETERSON

On July 9, 2008, Per F. Peterson, Ph.D., P.E., was appointed by Governor Schwarzenegger to a three-year term on the Committee through June 30, 2011. Prof. Peterson previously served as a Committee member from September 2, 2004, through October 9, 2007. Governor Brown reappointed Professor Peterson to a term on the Committee commencing July 1, 2011 through June 30, 2014. Professor Peterson was subsequently reappointed by Governor Brown to third three-year terms on the DCISC commencing July 1, 2014 through June 30, 2017 and to a fourth three-year term commencing July 1, 2017 through June 30, 2020. In February 2021 Governor Newsom reappointed Dr. Peterson to a fifth three-year term on the Committee commencing July 1, 2020 through June 30, 2023.

Per F. Peterson is the Floyd Professor of Nuclear Engineering at the University of California, Berkeley. In February 2020 he was elected to the National Academy of Engineering. Since July 2017 he has also served as the Chief Nuclear Officer for Kairos Power, a start-up company developing advanced reactor technology. He previously chaired the Nuclear Engineering department from 2000 to 2005 and from 2009 to 2012, and chaired the Energy and Resources Group at U.C. Berkeley from 1998 to 2000. He received his BS in Mechanical Engineering at the University of Nevada, Reno, in 1982. After working at Bechtel on high-level radioactive waste processing from 1982 to 1985, he received a MS degree in Mechanical Engineering at the University of California, Berkeley in 1986 and a Ph.D. in 1988. He was a JSPS Fellow at the Tokyo Institute of Technology from 1989 to 1990 and a National Science Foundation Presidential Young Investigator from 1990 to 1995. He is past chairman of the Thermal Hydraulics Division (1996-1997) and a Fellow (2002) of the American Nuclear Society, a recipient of the Fusion Power Associates Excellence in Fusion Engineering Award (1999), and has served as editor for three technical journals.

Prof. Peterson's research in the 1990's contributed to the development of the passive safety systems used in the GE ESBWR and Westinghouse AP-1000 reactor designs. Currently his research group focuses primarily on heat transfer, fluid mechanics, and regulation and licensing for high temperature reactors, principally designs that use liquid fluoride salts as coolants. He is author of over 110 archival journal articles and over 120 conference publications on these topics.

On January 29, 2010, U.S. Department of Energy Secretary Dr. Steven Chu appointed Prof. Peterson as a member of the Blue Ribbon Commission on America's Nuclear Future, established by President Obama to provide recommendations for recommending solutions to manage the Nation's spent fuel and high-level waste. He co-chaired the BRC's Reactor and Fuel Cycle Technology Subcommittee with Senator Pete Domenici. He has served as a member or chair of numerous advisory committees for the national laboratories and National Research Council. He participated in the development of the Generation IV Roadmap in 2002 as a member of the Evaluation Methodology Group, and has co-chaired its Proliferation Resistance and Physical Protection Working Group since 2002.



DCISC

DIABLO CANYON
INDEPENDENT SAFETY COMMITTEE

GENERAL INFORMATION ABOUT THE DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

INTRODUCING THE INDEPENDENT SAFETY COMMITTEE

The Diablo Canyon Independent Safety Committee ("DCISC") was created by the State of California's Public Utilities Commission ("CPUC") and held its first meeting in May 1990. The DCISC is a three-person committee whose members are charged with reviewing and making recommendations concerning the safety of operations at Pacific Gas and Electric Company's ("PG&E") Diablo Canyon Nuclear Power Plant ("Diablo Canyon"), located on a 750-acre site along the central California coastline in San Luis Obispo County. Diablo Canyon provides electricity for more than two million northern and central Californians from operation of its two 1,100 megawatt Westinghouse 4-loop pressurized water reactors fueled by uranium dioxide. Diablo Canyon began commercial operation in 1985 and is currently licensed by the U.S. Nuclear Regulatory Commission ("NRC") to continue operating until 2025. On January 16, 2018, the CPUC issued Decision 18-01-022 approving retirement of Diablo Canyon upon expiration of its current operating licenses. Unit 1 is licensed to operate until November 2, 2024 and Unit-2 until August 26, 2025. The Committee members are assisted in their important work by technical consultants and legal counsel.

FORMATION OF THE INDEPENDENT SAFETY COMMITTEE

The DCISC was established as part of a settlement agreement entered into in June 1988 between the Office of Ratepayer Advocates ("ORA") of the CPUC, the California Attorney General and PG&E concerning the operation of Diablo Canyon. The settlement agreement was approved in CPUC Decision 88-12-083 and provided that:

"An Independent Safety Committee shall be established consisting of three members, one each appointed by the Governor of the State of California, the Attorney General and the Chairperson of the California Energy Commission, respectively, serving staggered three-year terms. The Committee shall review Diablo Canyon operations for the purpose of assessing the safety of operations and suggesting any recommendations for safe operations. Neither the Committee nor its members shall have any responsibility or authority for plant operations, and they shall have no authority to direct PG&E personnel. The Committee shall conform in all respects to applicable federal laws, regulations and Nuclear Regulatory Commission policies."

The DCISC publishes an extensive Annual Report for the fiscal year ending June 30. In addition to summarizing the Committee's activities and its review of Diablo Canyon operations, the Annual Report documents the members' conclusions, concerns and recommendations regarding Diablo Canyon's operational safety. In thirty Annual Reports through 2019-2020, the DCISC has made 223 formal recommendations to PG&E for improving the safety of Diablo Canyon operations.

PG&E's response to each becomes a part of the annual report. All the DCISC Annual Reports are available for review by any interested members of the public at the Reference Department at the R.E. Kennedy Library, located on the campus of California Polytechnic State University at San Luis Obispo and the Annual Report is provided to local public libraries and published on the DCISC website, www.dcis.org.

In May of 1997, in response to electric utility rate deregulation, the CPUC issued Decision 97-05-088 which, while setting aside the 1988 settlement agreement, found that the DCISC remained a key element of monitoring safety of operations at Diablo Canyon. In May of 2004, in Decision 04-05-055, the CPUC concluded the DCISC should retain discretion to determine how best to accomplish its mission and modified requirements for DCISC membership and nomination procedures and added a requirement that the DCISC undertake public outreach in the local San Luis Obispo community. In January 2007, in Decision 07-01-028, the CPUC granted the DCISC's application for a Restated Charter.

DCISC OPERATION: PUBLIC MEETINGS & FACT FINDINGS

The DCISC typically conducts three public meetings each year in the San Luis Obispo area. Each meeting usually occurs in four or five separate sessions during two days. Dates, times and locations for these meetings are posted on the Committee's website, advertised in local newspapers and notices are sent to state agencies, the news media and those persons who have requested advanced notice of the public meetings. Public meetings may also include a tour of the Diablo Canyon Power Plant which is open to a limited number of members of the public along with members of the media. All meetings include an opportunity for the public to address comments and provide information to the Committee members. PG&E representatives are present to make informational presentations to the Committee on topics requested by the members. The meeting agenda and supporting documents are filed and available to members of the public at the Reference Department of the Cal-Poly Library and on the Committee's website, minutes of each public meeting are prepared and approved by the DCISC and included in the annual report and the public meetings are webcast in real-time, as well as webcast and archived, on www.slospan.org and are videotaped for broadcast on the local public access television station.

The DCISC also conducts frequent fact-finding visits by individual members and consultants to the plant site and to other locations as necessary to assess issues, review plant programs and activities, interview and meet with PG&E management and employees, follow-up on current items on the DCISC's Open Items List and to identify agenda items for future public meetings. These fact finding visits generally occupy two intensive days of research and investigation concerning PG&E's current activities and programs. Committee representatives also frequently observe meetings of PG&E's internal safety review organizations and committees.

A detailed written report, summarizing their activities, is prepared for each fact finding visit by the participants. Comments concerning these reports are sought from each of the other members and consultants, oral reports are presented during public meetings and, when approved by the Committee at a public meeting, the fact-finding reports are provided to PG&E. All fact finding reports are included as a part of the Committee's Annual Report.

APPOINTMENT OF DCISC MEMBERS

A request for applications is publicly noticed by the CPUC. After receipt of the applications and an opportunity for public comment on the applicants, a short list of not more than four candidates is selected by the CPUC. This list is provided to the nominating agency which then appoints a member. As required by CPUC decisions which created and continued the Committee, the CPUC proposes as candidates only persons with knowledge, background and experience in the field of nuclear power facilities and nuclear safety issues. In July 1989, when CPUC President G. Mitchell Wilk announced the initial list of nine candidates nominated for appointment to the DCISC, he noted that "an independent safety committee clearly requires members who could demonstrate objectivity and independence. For this reason, none of the nominees has testified for PG&E or any other party before the CPUC or the Nuclear Regulatory Commission in any proceeding regarding Diablo Canyon." These restrictions have applied to all subsequent nominees, who are required to file annual conflict of interest reports in accordance with California's Fair Political Practices Act and the implementing provisions of the CPUC decision which created the Committee.

PUBLIC OUTREACH, COMMENT, INFORMATION AND COMMUNICATION

The Committee's public outreach activities include conducting three noticed public meetings in the San Luis Obispo area each year, public tours of Diablo Canyon Power Plant, meeting with concerned citizens and groups, broadcast of its public meetings on the local public access television channel and on the internet and responding to questions and requests for information received by letter, telephone and email. The DCISC welcomes comment and communication from members of the public and provides an opportunity for such dialogue during every session of its public meetings. The DCISC provides extensive, publicly available information concerning the safety of Diablo Canyon operations. The office of the DCISC Legal Counsel also maintains a toll-free within-California 800 telephone number as well as the DCISC website, including a link to the DCISC's email address, to respond to the questions or requests for information from members of the public.

Written comments or questions may also be directed to the DCISC Members by contacting the office of the DCISC Legal Counsel:

Diablo Canyon Independent Safety Committee
Office of the Legal Counsel
857 Cass Street, Suite D
Monterey, California 93940
(800) 439-4688 (In California)
(831) 647-1044 (Outside California)
Worldwide Web Page: www.dcis.org
E-mail: dcsafety@dcisc.org

[31st Annual Report, Volume II, Exhibit K, Glossary of Terms and Definitions](#)

Aging Management is a program for monitoring and dispositioning materials and components whose characteristics change with time or use. PG&E defines aging management as "Engineering, operations, and maintenance activities to control age-related degradation and to mitigate failures of systems, structures, or components (SSC) that are due to aging mechanisms."

As Low As Reasonably Achievable (ALARA) refers to maintaining offsite radioactive releases and occupational radiation exposures as low as achievable in a reasonable, cost-effective manner.

Bank as used in "main bank transformer" or "main transformer bank" references refers to a set of installed electric transformers.

Benchmarking is the act of reviewing and evaluating practices at other nuclear plants, which are known for excellence in a specific area, for incorporation or improvement at one's plant

Capacity Factor is the fraction of power actually produced compared to the maximum which could be produced by operating at full power during a period of time (expressed in percent).

Civil Penalty is a penalty in the form of a monetary fine levied by the Nuclear Regulatory Commission for a significant violation of its regulations.

Control Rods are long slender metal-clad rods which move into or out-of nuclear fuel assemblies in the reactor core to control the rate of the nuclear fission process. The rods contain a neutron absorbing material which, when inserted into the fuel, absorb neutrons, slowing down the fission rate and thus the heat generation rate and reducing the power level of the reactor.

Cross-cutting Aspect – a nuclear plant activity that affects most or all of NRC's safety cornerstones, which include the plant's corrective action program, human performance, and "safety-conscious work environment." A Substantive Cross-cutting Issue refers to a performance deficiency characteristic that compromises more areas than just the specific situation in which it occurred.

Design Bases are the current features and criteria upon which the nuclear plant is designed and are also the bases for Nuclear Regulatory Commission review and

approval.

Diesel Generator (DG) is a standby source of emergency electrical power needed to power pumps and valves to provide cooling water to the fuel in the reactor to prevent its overheating and possible melting. The diesel generator is designed to start up and provide power automatically if normal power is lost.

Emergency Operations Center (EOC) is the facility away from the immediate vicinity of the plant which is used to direct the operations for mitigation of and recovery from an accident.

Emergency Preparedness (EP) is the assurance that the plant and its personnel are practiced and prepared for postulated emergencies to be able to mitigate them and recover with a minimum of damage and health effects.

Engineered Safety Features (ESF) are the features (systems and equipment) engineered into the plant to mitigate the effects of anticipated and postulated accidents.

Erosion/Corrosion is a phenomenon which takes place in carbon steel power plant water systems. The inside metal pipe will continually corrode due to galvanic action, forming a magnetite coating as erosion (due to high water velocity and/or changes in flow direction) continually wears away the magnetite layer, permitting the corrosion layer to reform, etc. The continual combination of effects wears away and thins the pipe wall.

Escalated Enforcement Action is action taken by NRC beyond a notice of violation of its requirements for a single severe violation or recurring violations. Examples include a civil penalty, suspension of operations, and modification or revocation of a license to operate a nuclear plant.

Final Safety Analysis Report (FSAR) is the document which describes the plant design, safety analysis, and operations for Nuclear Regulatory Commission review and approval for licensing for plant operation.

Fitness for Duty (FFD) describes the state of an employee (cleared to access the nuclear plant) being in sound enough physical and mental condition to adequately and safely carry out his or her duties without adverse effects.

High Impact Team (HIT) is a term denoting a multi-disciplinary or multi-functional team of people put together to focus on solving a particular problem or perform a particular task. The disciplines included are those necessary to effectively accomplish the task.

High Level Waste (HLW) is highly radioactive waste, usually in the form of spent fuel (or fuel which has been discharged from the reactor as waste) containing a high level (as defined by NRC regulations) of radioactive fission products. HLW is handled remotely, using water or a thick container as a radiation shield.

Individual Plant Examination (IPE) is a level 2 Probabilistic Risk Assessment (PRA) analysis of plant accident sequences. The analysis includes core damage progression through the release of radioactive material to the containment and the subsequent containment failure but stops short of determining potential impact on the public or property. The NRC requested all nuclear plants be analyzed in this way to get a better understanding of severe accident behavior. An **IPEEE** is an IPE which is initiated by External Events to the plant.

INPO, the Institute of Nuclear Power Operators is a nuclear industry group formed after the Three Mile Island accident to help improve nuclear plant operations through regular assessments of each nuclear plant, evaluations, best practices, and nuclear operator training accreditation.

ISFSI, or Independent Spent Fuel Storage Installation, is the term for DCP's on-site storage facility for the dry cask storage of spent nuclear fuel.

Inservice Inspection (ISI) and Inservice Testing (IST) are the practices of inspecting and testing certain selected components periodically during their service lives to determine degradation patterns and to repair, if necessary, any degradation beyond acceptable limits.

Leg – with reference to the Hot Leg or Cold Leg refers to piping trains leading to or from the reactor vessel. The Hot Leg removes heat and the Cold Leg provides cooling water to the vessel and nuclear core.

Licensee Event Reports (LERs) are reports from the plant operator to the Nuclear Regulatory Commission describing off-normal events or conditions outside established limits at a nuclear plant.

Line Organization refers to the direct reporting supervisory chain in an organization through which orders and information flow. It is also known as the "chain of command."

Loss of Offsite Power (LOOP) is an occurrence whereby the normal supply of electrical power from offsite is interrupted. Nuclear reactors need power from offsite when shutdown for spent fuel cooling and residual heat removal. There are usually several sources of offsite power; however, loss of all sources would result in the automatic start-up of the diesel generators to supply power.

Low Level Waste (LLW) is waste containing a low level of radioactivity as defined by NRC regulations. LLW is usually in the form of scrap paper, plastic, tape, tubing, filters, scrap parts, dewatered resins, etc. LLW requires packaging to prevent the spread of contamination but little radiation shielding.

Maintenance Rule is the NRC proposed rule which requires that nuclear power plant licensees monitor the performance or condition, or provide effective preventative maintenance of certain structures, systems and components against licensee-established goals. The Rule becomes effective July 10, 1996.

Microbiologically-Influenced (or Induced) Corrosion (MIC) is corrosion, usually in the form of pitting, on steel piping systems containing stagnant or low-flow water conditions. The corrosion is caused by surface-attached microbe-produced chemicals which attack the piping surface. Depending on severity, MIC is controlled by mechanical and chemical cleaning combined with biocides.

Mid-Loop Operation is an infrequently-used refueling outage procedure in which, after shutdown and a cooling period, reactor coolant is lowered below the hot and cold legs, permitting work to be performed in a relatively dry environment. The operation is a relatively high-risk condition due to the potential for loss of cooling.

Misposition means a positionable component, such as a valve, placed or left out of the required position for existing plant conditions when the component's required position is tracked by a station status control tool, such as a procedure, drawing, or valve list.

Motor-Operated Valves are valves opened or closed by remotely-or locally-operated integral electric motors. The valves are used in power plant piping systems to divert, block or control the flow of steam or water.

Notification, formerly known as an "Action Request" or "AR" is a document, which is used to identify and track resolution of a problem and incorporate it into the Corrective Action Program.

Nuclear Excellence Team (NET) is a organization of several well-qualified senior people whose mission is "To improve plant performance through the use of performance-based self-assessments within the NPG (Nuclear Power Generation) organization." The Team is augmented by at least one other PG&E and one outside individual with expertise appropriate to the particular investigation.

Nuclear Regulatory Commission (NRC) is the Federal agency which regulates and licenses the peaceful uses of domestic nuclear and radioactive applications such as nuclear power plants, experimental nuclear reactors, medical and industrial radioisotope applications, radioactive waste, etc.

Nuclear Steam Supply System (NSSS) is the nuclear reactor and its closely associated heat removal systems which produce steam for the turbine. The NSSS usually includes the nuclear reactor, nuclear fuel, reactor coolant pumps, pressurizer, steam generators, and connected piping.

Operational Capacity Factor is the capacity factor as measured between, but not including, refueling outages.

Primary Side and Secondary Side refer, respectively, to the Reactor Coolant System, which is used to remove heat from the nuclear reactor and the Main Steam and Feedwater Systems which provide cooling to the Steam Generators and generate and provide steam to the Turbines.

Probabilistic Risk Assessment (PRA) is a formal process for quantifying the frequencies and consequences of accidents to predict public health risk.

Protected Area is the outermost area of the nuclear plant which is protected by physical means, a security system, and security force to prevent unauthorized entry (see also Vital Area).

Quality Assurance (QA) comprises all those planned and systematic actions necessary to provide confidence that a structure, system or component will perform satisfactorily in service.

Reactor Coolant System (RCS) is the collection of piping, reactor vessel, steam generators, pumps, pressurizer, and associated valves which function to circulate water through the reactor to remove heat.

Reactor Oversight Process is the process by which the NRC monitors and evaluates the performance of commercial [nuclear power plants](#). Designed to focus on those plant activities that are most important to safety, the process uses [inspection findings](#) and [performance indicators](#) to assess each plant's safety performance.

Refueling Outage is a normal shutdown of a nuclear power unit to permit refueling of the reactor, along with maintenance, inspections and modifications. Typical DCPD refueling outages occur about every 18 months and last for about two months. The outages are numbered by unit number (1 or 2), "R", and the consecutive outage number. For example, "1R5" is the fifth refueling outage for Unit 1 since start-up.

Reliability Centered Maintenance (RCM) is the practice of maintaining equipment on the basis of the logical application of reliability data and expert knowledge of the equipment, i.e., a systems approach. Normal preventive maintenance (PM) is performed on the basis of time, i.e., maintenance operations are performed on a schedule to prevent poor performance or failure.

Residual Heat Removal (RHR) is the removal of the residual heat generated in the reactor fuel after reactor shutdown to prevent the fuel overheating and possibly melting. The heat removal is performed by a set of pumps, piping, valves and heat exchange equipment circulating water by the fuel while the reactor is shut down.

Safety System Functional Audit and Review (SSFAR) is an investigation of a single plant safety system from all perspectives such as design basis, operations, maintenance, engineering, testing, materials, problems and resolutions, quality control, etc. The review is performed by a multi-functional team and can last several months.

Simulator is a simulated nuclear power reactor control room with gauges, instruments and controls connected to a computer. The computer is programmed to behave like a nuclear reactor and respond to operator actions and commands. The simulator is used in training nuclear operators in controlling the reactor and responding to simulated transients and accidents.

Single Point Vulnerability (SPV) is an individual component, which does not have a significant level of component redundancy and whose failure alone could adversely impact the system or plant performance. DCPD defines a SPV as "a High-Critical component whose failure results in a plant trip or derate >2%.

Spent Fuel Pool (SFP) is an in-plant stainless-steel-lined concrete pool of water into which highly radioactive spent nuclear fuel is stored when it has been discharged from the reactor. The spent fuel is maintained in the pool until its ultimate disposal is determined.

Steam Dump Valve is a device to discharge (dump) steam from the power plant piping to lower its pressure and reduce the energy in the line. This is done to permit faster shutdowns.

Steam Generator is a large, vertical, inverted-U-tube-and-shell heat exchanger with hot reactor coolant on its tube side transferring heat to and boiling the non-nuclear feedwater to form steam on the shell side. Besides transferring heat, the steam generator is important as a barrier between the nuclear and non-nuclear coolants.

Surveillance is the process of testing, inspecting, or calibrating components and systems to assure that the necessary quality is maintained, operation is within safety limits, and operation will be maintained within limiting conditions.

Technical Specifications (TS) are the rules and limitations by which the plant is operated. They consist of safety limits, limiting safety system and control settings, limiting conditions for operation, surveillance requirements, description of important design features, administrative controls, and required periodic and special notifications and reports.

Technical Support Center (TSC) is the in-plant facility which directs plant activities in mitigating accidents and minimizing their effects.

Trains refers to individual functional lines of system piping, components, or wiring which are usually independent of other parallel lines, which have the same redundant function.

Trip (or scram) is the shutting down of the nuclear reactor by inserting control rods which shut down the nuclear fission process. An automatic trip is initiated by plant monitoring systems when one or more parameters differ from preset limits. A manual trip is initiated by plant operators in an off-normal event to prevent preset limits from being exceeded or as a backup to the automatic system.

Vital Area is an area inside the plant within the Protected Area which contains equipment vital for safe operation.

[31st Annual Report, Volume I, Section 1.1, 1.1 Formation of the Independent Safety Committee](#)

The concept of an independent safety committee for Diablo Canyon Power Plant ("Diablo Canyon") arose in context of the opposition by the California Public Utilities Commission's (CPUC) Division of Ratepayer Advocates (now known as the Office of Ratepayer Advocates) and the then California Attorney General (John Van de Kamp) to Pacific Gas & Electric's (PG&E) request for recovery from its ratepayers for the cost of building Diablo Canyon and its two 4-loop Westinghouse pressurized water reactors fueled by uranium dioxide, each of which produces 1,100 megawatts. Those parties argued that billions of dollars of these costs were unreasonable. A settlement agreement arose out of rate proceedings that had been pending before the CPUC for four years, and which included numerous hearings and pre-trial depositions. To resolve the matter, on June 24, 1988, just prior to the commencement of trial, the Division of Ratepayer Advocates, the Attorney General and PG&E prepared and entered into the Settlement Agreement in the proceeding which provided for "performance based pricing" and submitted it to the CPUC for approval. Opponents of the Settlement Agreement, including The Utility Reform Network (TURN) argued that performance based pricing gave PG&E an incentive to maximize energy production and profits which could threaten plant safety.

The Settlement Agreement was intended to cover the operation and revenue requirements associated with Diablo Canyon's two units for the 30-year period following the commercial operation date of each unit. Unit 1 commenced commercial operation on May 7, 1985 and is licensed to operate until November 2, 2024. Unit 2 commenced commercial operation on March 3, 1986, and is licensed to operate until August 26, 2025.

The CPUC recognized the safety implications of establishing performance based pricing for power produced by Diablo Canyon. The Settlement Agreement and its supplemental implementing agreement were referred to the CPUC for review and approval. Following hearings before a CPUC Administrative Law Judge and the Commission itself, the CPUC, in December 1988 in Decision D. 88-12-083, approved the Settlement Agreement and established the Diablo Canyon Independent Safety Committee (DCISC), finding that it was reasonable and "in the public interest" and that the "Safety Committee will be a useful monitor of safe operation at Diablo Canyon." The initial Charter for the DCISC was included in D. 88-12-083 as Attachment A to Appendix C.

The agreement provided that:

"An Independent Safety Committee shall be established consisting of three members, one each appointed by the Governor of the State of California, the Attorney General and the Chairperson of the California Energy Commission ("CEC"), respectively, serving staggered three-year terms. The Committee shall review Diablo Canyon operations for the purpose of assessing the safety of operations and suggesting any recommendations for safe operations. Neither the Committee nor its members shall have any responsibility or authority for plant operations, and they shall have no authority to direct PG&E personnel. The Committee shall conform in all respects to applicable federal laws, regulations and Nuclear Regulatory Commission ("NRC") policies."

The Settlement Agreement further provided that the DCISC shall have the right to receive certain operating reports and records of Diablo Canyon, and that the Committee shall have the right to conduct an annual examination of the Diablo Canyon site and such other supplementary visits to the plant site as it may deem appropriate. The DCISC is to prepare an annual report and such interim reports as may be appropriate, which shall include any recommendations of the Committee.

As required by the provisions of certain CPUC decisions and of Assembly Bill 1890 enacted by the California Legislature in 1996, which mandated electric utility rate restructuring and deregulation, PG&E filed an application which proposed replacing the performance based pricing approved in D. 88-12-083 with a rate-making treatment for Diablo Canyon which would have priced the plant's output at market rates by the end of 2001. On May 21, 1997, the CPUC issued Decision 97-05-088 which, while making the Diablo Canyon settlement adopted in Decision 88-12-083 of no further force and effect, found that the DCISC remained a key element of monitoring the safe operation of Diablo Canyon and continued the DCISC. Decision 97-05-088 ordered that the DCISC remain in existence under the terms and conditions of the Settlement Agreement until further order of the CPUC.

On May 27, 2004, the CPUC issued Decision 04-05-055, the Test Year 2003 General Rate Case, setting the PG&E's revenue requirements for its electric generation operations. In Decision 04-05-055 the CPUC also: 1) adopted a Stipulation between the DCISC, PG&E, the Office of Ratepayer Advocates, The Utility Reform Network, the California Energy Commission (CEC) and the San Luis Obispo Mothers for Peace which provided for the DCISC's continued existence and funding through PG&E's cost-of-service rates, at the funding levels established by Decision 97-05-088 and based on the DCISC's funding for calendar year 1996 with a 1.5% annual escalation each year thereafter; 2) changed the nomination procedures for DCISC membership to eliminate from the process the participation of PG&E and the Dean of Engineering at the University of California at Berkeley; 3) modified somewhat the qualification requirements for DCISC membership; and 4) added a new requirement for public outreach in the San Luis Obispo area

communities to the Committee's mandate.

On January 25, 2007, the CPUC issued Decision 07-01-028. The CPUC had previously adopted new practices and expectations for the DCISC without concurrently restating the Committee's Charter to reflect those changes. In Decision 07-01-028, the CPUC granted the DCISC application for authority to restate its charter including the incorporation into the Restated Charter of several terms, conditions, changes, and clarifications necessitated by, and previously authorized by, the CPUC which govern the composition, responsibilities and operations of the Committee. In its Decision, the CPUC found the Restated Charter to be in the public's interest as it reflects the latest authority and obligations of the DCISC. The Committee's application was unopposed.

Although outside this annual report period, on September 9, 2021, the CPUC approved Decision 21-09-003 adopting a Settlement Agreement proposed in the 2018 Nuclear Decommissioning Cost Triennial Proceeding to provide for a role for the Committee following Diablo Canyon's cessation of electricity generating operations in accordance with a revised charter to continue in its safety oversight role until all the Diablo Canyon spent nuclear fuel has been moved from wet storage in the Spent Fuel Pools to dry storage at the Diablo Canyon Independent Spent Fuel Storage Installation (see Section 1.6. below).

The first "Interim Report on Safety of Diablo Canyon Operations," covering the period of January 1 through June 30, 1990, was adopted by the DCISC on June 6, 1991, and there have been thirty annual reports since then. This thirty-first annual report covers the period July 1, 2020 - June 30, 2021, and this report was adopted by the DCISC on October 19, 2021, at a public meeting conducted in Avila Beach, California.

[31st Annual Report, Volume I, Section 1.2, Appointment of Committee Members](#)

A request for applications is publicly noticed by the CPUC. After receipt of the applications, and an opportunity for public comment on qualified applicants, a list of candidates is selected by the CPUC and provided to the appointing agencies. In accordance with the Restated Charter:

"The President of the CPUC shall review each application to assess the applicant's qualifications, experience and background, including any conflict of interest and comment received from the public, and shall propose as candidates only persons with knowledge, background and experience in the field of nuclear power facilities and nuclear safety issues who demonstrate they have no conflict of interest . . ."

In July 1989, when CPUC President G. Mitchell Wilk announced the initial list of nine candidates nominated for appointment to the DCISC, he noted that:

". . . an independent safety committee clearly requires members who could demonstrate objectivity and independence. For this reason, none of the nominees has testified for PG&E or any other party before the CPUC or the Nuclear Regulatory Commission in any proceeding regarding Diablo Canyon."

The Restated Charter provides:

"No person shall serve as a member of the Committee if he or she has a prior history of supporting or opposing PG&E as a witness or intervenor in nuclear licensing or CPUC proceedings associated with Diablo Canyon."

1.2.1 [Robert J. Budnitz](#)

1.2.2 [Peter Lam](#)

1.2.3 [Per F. Peterson](#)

1.2.4 [Technical Consultants & Legal Counsel](#)

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface](#) | **[Executive Summary](#)**

[Volume I TOC](#) | **[Volume II TOC](#)** | **[PG&E Response](#)** | **[Contact the DCISC](#)**

[31st Annual Report, Volume I, Section 1.3, DCISC Public Meetings](#)

The DCISC held three public meetings on the following dates:

[October 22-23, 2020, remotely by Zoom](#)

[February 16-17, 2021, remotely by Zoom](#)

[June 23-24, 2021, Avila Beach, CA and remotely by Zoom](#)

These are described in [Section 2.0](#).

[31st Annual Report, Volume I, Section 1.4, Committee Member Site Inspection Tours and Fact-finding Meetings](#)

During this report period, due to the COVID-19 pandemic, the DCISC Members and Consultants utilized remote meeting technology to regularly meet with PG&E and Diablo Canyon officers, Diablo Canyon staff members, and the NRC resident inspectors to conduct fact-finding and review operational activities which the Committee has under review or has interest. A record of these fact-finding meetings is contained in [Volume II](#), Exhibits Exhibits D.1 - D.9, and plant tours and inspections are listed in [Exhibit E](#).

1.4.1 Inspections and Fact-finding Meetings by Robert J. Budnitz

[On September 9-10, 2020](#), with Consultant Wardell to review the status of NRC licensing issues, outage safety training, the Auxiliary Feedwater System License Amendment request, the safety plan for Unit 1's twenty-second refueling outage, control rod issues, postponed/cancelled projects, and nuclear instrumentation systems; to receive updates on overall Probabilistic Risk Assessment and the Operational Decision Making Programs and the participation in the Employee Retention Program; and to meet with the Diablo Canyon Site Vice-President and with the NRC Senior Resident Inspector.

[On November 10-12 & 19, 2020](#), with Consultant McWhorter to attend outage planning and Corrective Action Review Board meetings and an exit meeting of the Nuclear Safety Oversight Committee; to review a Unit 2 forced outage, the Cybersecurity Program, Radioactive Waste Processing Systems, the Seismically Induced System Interactions Program, the Engineering Reorganization and Excellence Plan, the Control Room Simulator, and drone sightings; and to meet with a Diablo Canyon officer and with the NRC's Senior Resident Inspector.

On [March 17-18, 2021](#), with Consultant Wardell to review the Station Excellence Plan, the Reactor Protection System, the Vibration Monitoring Program, winter storm response, the NFPA-805 Fire Protection Program, nuclear fuel performance; to receive updates on tornado missile licensing and the Maintenance Department; and to meet with the Quality Verification Director and with the NRC Resident Inspector.

1.4.2 Inspections and Fact-finding meetings by Peter Lam

[On August 19-20, 2020](#), with Consultant McWhorter to review the License

Amendment Request to facilitate Auxiliary Feedwater inspections, a Unit 2 forced outage, Fire Protection Detection Systems, the evaluation for extending the Unit 1 steam generators secondary side inspections, the Containment Ventilation and Hydrogen Mitigation Systems, the Employee Concerns Program, the NRC inspection Finding on emergency siren maintenance, the status of Diablo Canyon's response to the COVID-19 pandemic, and the Self-Assessment Program; to attend a meeting of the Corrective Action Review Board and a meeting of the Plan of the Weekend Review team; and to meet with a Diablo Canyon officer and with the NRC Senior Resident Inspector.

[On January 13-14, 2021](#), with Consultant McWhorter to review the Institute of Nuclear Power Operations Corporate Evaluation, the results of the inspection of the steam generators, Safety System Functional Failures, the health of large transformers, an event involving the Low Temperature Overpressurization Protection System, the Chemical and Volume Control and Emergency Core Cooling Systems, the Control Room Ventilation Systems, Diablo Canyon's response to the COVID-19 pandemic; to receive updates on the Learning Services Department and the Unit 2 Main Generator issues and the Root Cause Evaluation; and to meet with a Diablo Canyon officer and with the NRC Senior Resident Inspector.

[On April 27-28, 2021](#), with Consultant McWhorter to review the Radiation Monitoring Systems, the Auxiliary Building Ventilation System, the Maintenance Rule Program, the Boric Acid Corrosion Control Program, a post-shutdown Technical Specification License Amendment Request, and a Low Temperature Overpressurization Protection System event; to receive updates on human performance, spent fuel cask procurement, and the Unit 2 Main Generator issues and the root cause evaluation; to observe a meeting of the Corrective Action Review Board; and to meet with a Diablo Canyon officer and with the NRC Senior Resident Inspector.

1.4.3 Inspections and Fact-finding meetings by Per F. Peterson

[On July 21-22, 2020](#), with Consultant Wardell to review the Compressed Air System with the system engineer, the 2019 Radioactive Effluent Release Report and Radiological Environmental Operating Report, Containment concrete inspection by camera drone, Operations issues on misposition errors, Diablo Canyon's use of social media in context of emergency response, the Buried Piping and Tanks Program, the slight rise in Unit 1 power operations just prior to its curtailment to 89% power operation to address an issue with supplemental grid protection; receive updates on the Equipment Reliability process, and Institute of Nuclear Power Operations (INPO) evaluation actions; and to meet with a Diablo Canyon officer and with the NRC Senior Resident Inspector.

[On December 11-12, 2020](#), with Consultant Wardell to review the 22nd refueling outage for Unit 2 Foreign Material Exclusion and COVID-19 experience, motor- and air-operated valve testing programs, electronic work packages, workplace seismic safety and Control Room procedure cart stability, safety-security interface and

Intake Structure devitalization, turbine generator health; to receive an update on Operations Equipment Status Control issues; and to meet with Diablo Canyon Vice President, Generation, Business and Technical Services and with the NRC Senior Resident Inspector.

[On May 18-19, 2021](#), with Consultant Wardell to review wildfire risk, Diablo Canyon post COVID-19 pandemic preparations, the Reactor Vessel Specimen Testing Program, emergency preparedness virtual capabilities, Quality Verification audits, operator concerns and issues; to receive an update on the Independent Spent Fuel Storage Installation; and to meet with the Diablo Canyon Site Vice President and with the NRC Senior Resident Inspector.

1.4.4 Tours of Diablo Canyon by DCISC Members and Members of the Public

The DCISC has conducted tours of Diablo Canyon Power Plant in past years with members of the public in conjunction with certain of its public meetings during a calendar year. Due to the COVID-19 pandemic access to Diablo Canyon was limited only to personnel essential to its operation and social distancing protocols and the precautions related to COVID-19 remain in place to protect Diablo Canyon personnel. Accordingly, no public tours were conducted during this annual report period.

The DCISC will assess its ability to continue to conduct tours of the power plant with members of the public when conditions might permit the activity to resume.

[31st Annual Report, Volume I, Section 1.5, Visits by DCISC Members to California State Agencies](#)

The DCISC's preference is to schedule annual meetings between its Members and their respective appointing entities and with the Commissioners or representatives of the California Public Utilities Commission to provide background on and information regarding current activities of the Committee.

On October 19, 2020, DCISC Chair Dr. Peter Lam and Assistant Legal Counsel Robert Rathie met remotely via a Zoom video conference with California Energy Commission ("CEC") Chair Mr. David Hochschild, CEC Executive Director Mr. Drew Bohan, CEC Senior Nuclear Policy Advisor and Emergency Coordinator Dr. Justin Cochran and CEC Chief Policy Advisor Kenneth Rider. The discussion during the meeting included the recent Unit 2 shut down to address a hydrogen leak from the Main Generator, plant decommissioning including removal of the breakwater and employee retention efforts prior to cessation of operations, procedural matters with reference to the 2018 Nuclear Decommissioning Cost Triennial Proceeding, planning for the movement and storage of spent nuclear fuel and nuclear waste, prospects for offshore wind power generated from the site, and the NRC response to the License Amendment Request concerning the Auxiliary Feedwater System piping corrosion issue among other topics.

On November 13, 2020, DCISC Vice Chair Dr. Robert J. Budnitz and Assistant Legal Counsel Robert Rathie met remotely via BlueJeans video conferencing with members of the California Attorney General's staff including Chief Assistant Attorney General for Public Rights Mr. Matt Rodriguez, Senior Assistant Attorney General Mr. Ed Ochoa, Special Assistant Attorney General-Environmental Mr. Arsenio Mataka, and Deputy Attorney General Ms. Megan Hey. The discussion during the meeting included the adequacy of planning to ensure staffing needs remain met, Committee review of spent fuel transfer issues and risk and its review of the UCLA Risk Study, risks from earthquakes and tsunamis, drone activity in the vicinity of nuclear power facilities, the need for procurement of new spent fuel storage casks, COVID-19 protocols, review of February and July 2021 Unit-2 outages, coordination with the California Independent System Operator (CAISO) and protection from rolling blackouts, and a possible post-shutdown role for the Committee.

[31st Annual Report, Volume I, Section 1.6, Retirement of Diablo Canyon Power Plant at Expiration of its Current Operating Licenses and Post-Shutdown Role for the DCISC.](#)

1.6.1 Background of CPUC Decision 18-01-022 Approving the Retirement of Diablo Canyon by 2025 and CPUC Decision 21-09-003 in the 2018 Nuclear Decommissioning Cost Triennial Proceeding to provide for a post-shutdown role for the DCISC..

On June 21, 2016, PG&E announced a Joint Proposal with Friends of the Earth, the Natural Resources Defense Council, Environment California, the International Brotherhood of Electrical Workers Local 1245, Coalition of California Utility Employees and the Alliance for Nuclear Responsibility to retire Diablo Canyon at the expiration of the current operating licenses from the NRC and to abandon license renewal activities for both units.

The Joint Proposal provided for PG&E's continued operation of Diablo Canyon at present generation levels through the current NRC license periods with retirement of Unit-1 in 2024 and retirement of Unit-2 in 2025. The Joint Proposal provided for replacement of Diablo Canyon's power by the procurement of 2,000 gigawatt hours of energy efficient power by the end of 2024 and for recovery by PG&E of its investment in Diablo Canyon including for prior activities in furtherance of relicensing the plant.

To replace Diablo Canyon power, the Joint Proposal provided for specific greenhouse gas-free procurement requirements which would commence in 2018 and continue through 2031. The Joint Proposal also provided for PG&E to implement employee retention and severance programs to retain existing employees through a retention incentive payment program of a 25% bonus based on an employee's annual salary in accordance with two tranches followed by the severance program, and to provide resources and assistance to transitioning workers. The Joint Proposal also proposed that PG&E would continue to provide funding to the San Luis Obispo local community after 2025 to replace lost tax revenue.

On August 11, 2016, PG&E filed Application 16-08-006 ("Application") with the California Public Utilities Commission (CPUC) for approval of the retirement of Diablo Canyon, implementation of the Joint Proposal, and for recovery of associated costs through proposed ratemaking.

In summary, in its Application PG&E sought authorization from the CPUC to:

- Retire Diablo Canyon by the end of its current operating licenses from the NRC, that is, by November 2, 2024 for Unit-1 and by August 26, 2025 for Unit-2.
- Recover the full book value of both units by the time they cease operations.
- Conduct procurement activities in three separate tranches related to the replacement of power generated by Diablo Canyon with greenhouse gas (GHG)-free energy resources beginning in 2018 and continuing through 2031 (tranches two and three were subsequently withdrawn from the Application and a request made that the matter of replacement power be addressed in the CPUC's Integrated Resource Planning Proceedings).
- Recover \$352.1 million in costs for an Employee Retention Program, to implement an employee severance program, and \$11.3 million to retrain eligible Diablo Canyon employees.
- Continue to provide support to state and local authorities for emergency preparedness activities during decommissioning.
- Provide \$85 million for a Community Impacts Mitigation Program to help offset property tax loss for San Luis Obispo County local entities.
- Recover \$52.7 million in costs associated with license renewal activities; and an unspecified amount for cancelled capital projects.

On November 8, 2017, CPUC Administrative Law Judge Peter Allen issued Proposed Decision D. 18-01-022 approving the Retirement of Diablo Canyon. The Proposed Decision included denying PG&E's request to recover in its rates the Community Impact Mitigation funding proposed for the San Luis Obispo area and recommended consideration of electricity procurement to replace Diablo Canyon power should be addressed in the CPUC's Integrated Resources Planning procurement proceedings. The Proposed Decision also did not include full funding for the Employee Retention Program instead reducing the ratepayer-supported employee retention incentive payments from 25% to 15% per year.

On January 11, 2018, the CPUC voted unanimously to adopt Decision D. 18-01-022 approving PG&E's Application to retire Diablo Canyon by 2025, approving PG&E's recovery in its rates the costs associated with the retirement of the power plant; costs incurred for license renewal expenses; to retain Diablo Canyon employees until scheduled closing, and to retrain workers. The Decision, which was issued on January 16, 2018, in approving \$211.3 million and not the \$352.1 million sought by PG&E did not approve full funding by the ratepayers for the Employee Retention Program as proposed in PG&E's its Application and instead directed, consistent with the Proposed Decision, that the ratepayer-supported

employee retention incentive payments be reduced from 25% to 15% per year. The CPUC denied in its entirety PG&E's request to recover in its rates the Community Impact Mitigation funding provided to the San Luis Obispo area and determined that consideration of electricity procurement to replace Diablo Canyon power should be addressed in the CPUC's Integrated Resources Planning procurement proceedings. In October 2018, the Commission denied an Application for Rehearing of Decision 18-01-022 filed by the group Californians for Green Nuclear Power.

On February 12, 2018, State Senator William Monning introduced California Senate Bill ("SB") 1090 to require the CPUC to approve the full funding requested by PG&E in its Application for the Community Impact Mitigation and the Employee Retention Programs and require the CPUC to ensure that the Integrated Resources Planning procurement proceedings avoid any increase in emissions of greenhouse gases as the result of the retirement of Diablo Canyon.

On March 7, 2018, PG&E formally requested the NRC to withdraw its license renewal application for both Diablo Canyon units.

On May 1, 2018 PG&E announced its formation of the Diablo Canyon Decommissioning Engagement Panel (DCDEP) consisting of eleven members of the local community to provide community input to PG&E on topics including, but not necessarily limited to, the site-specific decommissioning plan, potential future uses of the site, facilities and lands, the economic impacts resulting from the closure of the power plant, emergency planning, used fuel storage, and the 2018 Nuclear Decommissioning Cost Triennial Proceeding. Since the creation of the DCDEP the DCISC has had regular informal interactions with the DCDEP and its members and continues to work with the DCDEP's assigned liaison to the DCISC, previously Dr. Lauren Brown and now Ms. Linda Seeley, to maintain an effective working relationship.

On May 22, 2018, the DCISC sent a letter in support of those aspects of SB 1090 with regard to appropriate funding for the Employee Retention Program to Senator Monning and expressed its opinion that a well-designed and appropriately funded employee retention incentive program was essential to Diablo Canyon's safe operation until retirement and, while the DCISC did not opine on what precise funding level was appropriate, the 15% proposal seemed to the Committee to be inadequate based on the Committee Members' interactions with the plant staff.

On July 16, 2018, PG&E filed with the CPUC Application A-18-07-013 for Authorization to Establish the Diablo Canyon Decommissioning Planning Memorandum Account to track the cost of decommissioning planning activities.

In September 2018, Governor Brown signed SB 1090 into law.

On December 7, 2018, issued Decision 18-11-024, modifying in part Decision 18-01-022 in compliance with California Public Utilities Code Section 712.7 (added by SB 1090) authorizing PG&E: (1) to collect an additional \$225.8 million in rates

over the amounts authorized in Decision 18-01-022, that is: (i) an additional amount of \$140.8 million for the Employee Retention Program through the existing ratemaking treatment for Diablo Canyon; and (ii) an additional amount of \$85 million for the Community Impacts Mitigation programs through the nuclear decommissioning non-bypassable charge; (2) ensuring the Integrated Resource Planning energy procurement process is designed to avoid any increase in emissions of greenhouse gases as a result of the retirement of Diablo Canyon; (3) establishing an expedited Tier 1 advice letter process for implementing the rate increases for the Employee Retention and Community Impacts Mitigation programs; and (4) closing the proceeding.

On December 13, 2018, PG&E filed with the CPUC Application A-18-12-008 in the 2018 Nuclear Decommissioning Cost Triennial Proceeding (2018 NDCTP) and submitted prepared testimony. The purpose of the 2018 NDCTP is to review PG&E's updated nuclear decommissioning cost estimates and determine the necessary customer contributions to fully fund the nuclear decommissioning trusts to the level needed to decommission PG&E's two nuclear power plants located at Diablo Canyon and at Humboldt Bay California. In the 2018 NDCTP PG&E presented its first detailed, site-specific decommissioning cost estimate and schedule for post shutdown treatment of spent fuel for Diablo Canyon for CPUC review and approval.

In its testimony filed on December 13, 2018, PG&E stated the current dry cask storage design in use at the Diablo Canyon Independent Spent Fuel Storage Installation (ISFSI) is limited by the ISFSI Technical Specifications to a minimum cooling of 10 years for the amount of burnup of the Diablo Canyon spent nuclear fuel. The Technical Specifications limits are based on the design basis accident evaluations using the physical properties of the storage system. To accelerate the transition from wet storage to dry storage of spent nuclear fuel before a 10-year cooling time a dry cask storage design system with a heat load capacity higher than the one currently licensed by the NRC for the Diablo Canyon ISFSI would need to be licensed by the NRC and implemented by Diablo Canyon.

On January 29, 2019 due to extensive litigation and significant liabilities resulting in a deteriorating financial situation as a result of wildfires in California during 2017 and 2018 impacting upon the corporation and the utility, and in accordance with a previously announced plan, PG&E Corporation and Pacific Gas and Electric Company entered Chapter 11 reorganization in bankruptcy. The DCISC continued to monitor and investigate operations at Diablo Canyon to assess any impact from the bankruptcy on the safety of operations including any impact on decommissioning planning which might or could have an impact on continuing electricity generation operations as a result.

On March 7, 2019, the Assigned Commissioner, CPUC President Michael Picker, issued an Amended Scoping Memo in the 2018 NDCTP consolidating Applications A-18-07-013 and A-18-12-008. In the Amended Scoping Memo PG&E was directed to respond to additional concerns raised through public comment to the CPUC by

San Luis Obispo Mothers for Peace expressing safety concerns as to Unit 1 and to concerns raised by Mr. Alex S. Karlin concerning the functions, cost, and useful life of the DCISC. PG&E provided Supplemental Testimony responding to both concerns.

On March 15, 2019, after consulting with CPUC Energy Division staff, the DCISC filed a Motion for Party Status in the 2018 NDCTP in order to present testimony as an intervenor to address the issues presented by Mr. Karlin as to the role of the DCISC and to address the possible need for a modification of its Commission-approved Restated Charter should a future post-generation role for the DCISC be determined to be appropriate and should the 2018 NDCTP provide the appropriate forum to pursue such modification. In its Motion, the DCISC stated that it has not to date exceeded its authority under the present Restated Charter nor has it expended significant effort or funds reviewing post-shutdown decommissioning-related matters.

On June 6, 2019, Administrative Law Judge Darcie Houck issued her ruling denying the DCISC's Motion for party status in the 2018 NDCTP. The ruling allows the DCISC to prepare and respond to questions presented to PG&E in the March 7, 2019, Amended Scoping Memo by submitting its responses to the Commission's Energy Division staff and serving those responses on the service list in the proceeding. The ruling provides that the Committee's responses may become part of the official record of the 2018 NDCTP proceedings through their attachment to a future ruling issued by the Administrative Law Judge.

On August 7-8, 2019, the CPUC conducted public informational and participation hearings for the 2018 NDCTP in San Luis Obispo, California. At the invitation of the Administrative Law Judge Houck, Assistant Legal Counsel Robert Rathie attended and made a short presentation during the informational hearing describing the Committee's history, role and the current membership.

On October 11, 2019, the 2018 NDCTP was assigned from Administrative Law Judge Darcie Houck to Administrative Law Judge Robert Haga and on October 17, 2019, the proceedings were assigned to CPUC President Marybel Batjer

At its October 2019 and February 2020 public meetings during the prior annual report period, following comments received from members of the public and representatives of certain non-governmental organizations, the DCISC continued its discussion of the issue of a continued role for the Committee to review spent nuclear fuel-related activities and issues after the power plant ceases to generate electricity. At its public meetings on October 23, 2019 and February 12, 2020, the Committee received and considered the proposed amendment of its Restated Charter to provide to a continued role for the DCISC following Diablo Canyon's cessation of electricity generating operations to review nuclear fuel-related issues and to terminate that review upon completion of the safe transfer of all spent fuel to the Diablo Canyon Independent Spent Fuel Storage Installation (ISFSI).

At the DCISC public meeting on October 23, 2019, the DCISC Members considered a proposed Second Restatement of the Committee's Charter ("Second Restatement") which would provide for a post-shutdown role for the DCISC to review nuclear fuel-related issues after expiration of Diablo Canyon's operating licenses from the NRC until all fuel was transferred to and stored within the ISFSI. The Committee provided direction to Legal Counsel to prepare a draft Application for CPUC approval of a Second Restatement of its Charter from the CPUC and to circulate a draft for Members' review prior to the February 2020 public meeting but to wait until the 2018 NDCTP has concluded before filing the Application.

On January 10, 2020, a Joint Motion was filed with the CPUC in the 2018 NDCTP for Adoption of a Settlement Agreement between PG&E, The Utility Reform Network, the CPUC Public Advocates Office, the Alliance for Nuclear Responsibility, the County of San Luis Obispo, the yak tityu tityu yak tilhini Northern Chumash Cultural Preservation Kinship, and Women's Energy Matters for approval of the Settlement Agreement which, if approved, would provide for the Committee's Charter to be amended to extend the Committee's oversight role on nuclear safety matters until all spent nuclear fuel has been transferred from the spent fuel pools to the ISFSI.

At the DCISC public meeting on February 12, 2020, following consideration of approval of an Application which was presented to the Committee Members for review at the meeting regarding a Second Restatement of the DCISC's Charter to provide for a continued role following Diablo Canyon's cessation of electricity generating operations for the DCISC to review nuclear fuel-related issues and to terminate that review upon completion of the safe transfer of all nuclear fuel to the ISFSI, the Members approved the proposed Second Restatement presented at that meeting as the DCISC's proposal for a Second Restated Charter for the Committee and directed the Committee's Legal Counsel to provide the proposed Second Restatement to the CPUC Energy Division staff with a recommendation to pursue the most expeditious avenue to bring the proposed Second Restatement to the attention of the Administrative Law Judge in the 2018 NDCTP for a procedure to be found for consideration of its approval by the CPUC.

A copy of the proposed Second Restatement provided to the CPUC Energy Division on March 10, 2020, together with a version showing the change from the present Restated Charter granted in 2007 and the form of the motion to adopt the proposed Second Restatement. A copy is included in Volume II, Exhibit H.

On July 1, 2020, PG&E Corporation and Pacific Gas & Electric Company exited Chapter 11 bankruptcy. During and following the bankruptcy period, the DCISC continued to monitor and investigate operations at Diablo Canyon to assess any impact from the bankruptcy on the safety of operations, including any impact on decommissioning planning which might or could have an impact on continuing electricity generation operations. The bankruptcy filing had no effect on the funding the DCISC receives for its operations and the Committee continued to receive full funding provided by PG&E's ratepayers as required by CPUC Decisions

D. 97-05-088 and D. 04-05-055.

1.6.2 31st Annual Report Period

During this report period the statutory deadline in the 2018 NDCTP (the now combined Applications A-18-07-013 and A-18-12-008) was extended on three separate occasions: first on August 6, 2020 extending the deadline from August 15, 2020 to December 13, 2020; second on December 3, 2020 extending the deadline from December 13, 2020 to March 13, 2021, and finally on March 4, 2020 extending the deadline to September 13, 2021.

Although outside of this annual report period, on August 6, 2021, Administrative Law Judge Robert Haga issued his Proposed Decision Adopting Settlement in the 2018 NDCTP. Until and unless the CPUC hears the item and votes to approve it, the Proposed Decision has no legal effect. This item may be heard, at the earliest, at the Commission's September 9, 2021 Business Meeting.

On September 9, 2021 the CPUC approved Decision 21-09-003 approving the adopting the Settlement Agreement proposed in the 2018 NDCTP to provide for a post-shutdown role for the DCISC. The Decision states "If the Settlement Agreement is approved [by the CPUC's adoption of the Proposed Decision], the DCISC charter would be revised to allow it to continue in its safety oversight role until all the DCPD spent nuclear fuel has been moved from wet storage to dry storage . . ." Decision Finding of Fact 66 provides "Based on the Settlement Agreement, the Settling Parties agree to amend the Charter of the DCISC to extend its oversight role on nuclear safety matters until all spent fuel has been transferred from the spent fuel pools to the ISFSI." Decision Ordering Paragraph 3 states "Pacific Gas and Electric Company shall submit any Advice Letters(s) within 30 days of the effective date of this decision to implement the specific terms of the Settlement Agreement approved in this decision" Hence, the DCISC will continue its nuclear safety oversight role until all spent fuel has been moved from wet to dry storage.

With reference to other matters addressed in the Proposed Decision, the Proposed Decision concludes as follows:

"This decision approves PG&E's request to review PG&E's updated nuclear DCEs [decommissioning cost estimates] and determine the necessary customer contributions to fully fund the nuclear decommissioning trusts to the level needed to decommission PG&E's nuclear plants. [Humboldt Bay and Diablo Canyon]. This decision determines an adjusted 2018 DCPD DCE of \$3,899,145,000 (\$2017) and a resulting annual revenue requirement of \$112.5 million recovered over eight years (2021-2028) are reasonable. This decision also approves the agreement that reductions attributable to repurposing and other issues related to the post-2022 revenue requirement will be revisited in the 2021 NDCTP and that the reductions agreed to for this cycle will not harm PG&E's ability to fully restore the Diablo Canyon site at the end of decommissioning as required by federal, state or local

regulators and found reasonable and prudent in future NDCTPs.

Additionally, in connection with the approval of the reasonableness of DCPD [Diablo Canyon Power Plant] DCE, trust contribution and related annual revenue requirement for this proceeding, the decision determines it reasonable for PG&E to withdraw \$187.8 million from the Nuclear Decommissioning Trust to support pre-shutdown decommissioning planning activities, subject to reasonableness review in the appropriate NDCTP. Further, the costs to renew the license for the Diablo Canyon Independent Spent Fuel Storage Installation and to perform studies to determine which California Native American Tribe(s) is traditionally and culturally affiliated with Diablo Canyon lands are deemed included in the \$187.8 million of decommissioning planning costs."

The DCISC recognizes its commitment now and in the future under its present Restated Charter and under a charter revised in accordance with Decision 21-09-003 to continue to monitor and report on safety of operations at Diablo Canyon, including reviewing any effect of decommissioning-related activities on those operations while the plant continues to generate electricity and after cessation of generation operations until all spent fuel has been transferred from the spent fuel pools to the ISFS at the plant site. The DCISC will continue to provide information to the public and to the Governor, the California Energy Commission, the California Attorney General and to the CPUC on developments which may have an impact on safety of operations at Diablo Canyon.

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface](#) | **[Executive Summary](#)**

[Volume I TOC](#) | **[Volume II TOC](#)** | **[PG&E Response](#)** | **[Contact the DCISC](#)**

[31st Annual Report, Volume I, Section 1.7, COVID-19 Pandemic](#)

During the period of the 31st Annual Report, the DCISC's operational safety review activities continued but were significantly affected by difficulties and compromises created by the COVID-19 pandemic and the inability of the Members and Technical Consultants to visit the plant in person. During the period of this Annual Report the Committee continued with each of its previously scheduled activities using teleconference and web-based applications as required to ensure adherence to social distancing and Diablo Canyon access restriction protocols which were strictly observed at all times. During this annual report period the Committee conducted fact-finding remotely with plant personnel using MS Teams remote conference capabilities on July 21-22, August 19-20, September 9-10, November 10, 12 & 19 and December 8-9, 2020, and on January 13-14, March 17-18, April 27-28, and May 18-19, 2021. The October 22-23, 2020 and the February 16-17, 2021, public meetings were conducted entirely remotely as Zoom webinars facilitated by AGP Video. The June 23-24, 2021, public meeting was conducted in person in Avila Beach and also as a Zoom webinar. The Committee has investigated the measures taken by Diablo Canyon to protect plant personnel from COVID-19 and to continue the safe operation of the power plant and reports of its investigations are contained in this Annual Report (Exhibits B.3, B.6, B.9, D.2, D.6 and, D.9).

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface](#) | [Executive Summary](#)

[Volume I TOC](#) | [Volume II TOC](#) | [PG&E Response](#) | [Contact the DCISC](#)

[31st Annual Report, Volume I, Section 1.8, Documents Provided to the DCISC](#)

The Restated Charter provides that the DCISC shall have the right to receive on a regular basis specified operating reports and records of Diablo Canyon, as well as such other reports pertinent to safety as may be produced in the course of operations and may be requested by the Committee. Over the past 30 years, thousands of PG&E and Nuclear Regulatory Commission documents (relating to both historical and current operations) have been provided to the DCISC. Document lists for this annual report period are shown in Volume II, [Exhibit A](#).

31st Annual Report, Volume I, Section 1.9, Documentation of DCISC Activities

DCISC activities and meetings are documented for public information in several ways as described below. The Committee's documents are available to the public through the Reference Department at the California Polytechnic University (Cal Poly) R.E. Kennedy Library in San Luis Obispo, California.

The DCISC's Annual Report, covering the period July 1 through June 30, is a comprehensive description of Committee activities throughout the period. The report is published in two volumes and in compact disk and USB drive formats and is made available on the Committee website (www.dcisc.org) and is provided to local San Luis Obispo city and county public libraries and to any interested persons.

Minutes of each public meeting are contained in the Annual Report in Exhibits [B.3](#), [B.6](#), and [B.9](#).

Reports of DCISC visits to the Diablo Canyon Power Plant are contained in the Annual Report in Exhibits D.1 through D.9.

An informational video concerning its history, role and responsibility, appointment of members and operation of the Committee is available on the DCISC website at www.dcisc.org.

All public meetings during this annual report period, whether conducted as Zoom webinars (October 2020 and February 2021) or in person (June 2021) were webcast in real time and later cablecast over the San Luis Obispo local government access television channel, Channel 21, and are available online at all times through indexed, archived streaming video at the link provided on the Committee's website to www.slo-span.org. The public meeting of the DCISC held in July was conducted as a Zoom webinar, was webcast in real time and is available through indexed, archived streaming video through www.slo-span.org.

DCISC issues press releases before and on occasion after its public meetings concerning topics it believes to be of particular interest.

[31st Annual Report, Volume II, Exhibit B.3, Minutes of the October 22-23, 2020 Public Meeting](#)

Minutes of the Diablo Canyon Independent Safety Committee's October 22-23, 2020 Public Meeting [Approval at the February 16-17, 2021 Public Meeting.]

Thursday & Friday
October 22-23, 2020
Conducted online as a Zoom webinar.

In response to Governor Newsom's Executive Order N.29-20 related to the COVID-19 (coronavirus) pandemic, public participation in this DCISC public meeting was by electronic means only and without a physical location for public participation, in compliance with California state guidelines on social distancing. This meeting was produced by AGP Video Inc. and webcast live on SLO-SPAN at <http://www.slo-span.org> and was subsequently broadcast on San Luis Obispo local government access television Channel 21. A permanent video of the meeting can be viewed at the DCISC website, at <https://www.dcisc.org>

Notice of Meeting.

A legal notice of the public meeting and several display advertisements were published in local newspapers and mailed to the media and those persons on the Committee's service list. The meeting agenda and the entire agenda packet for the meeting together with the informational presentations made during the meeting were posted on the Committee's website at www.dcisc.org prior to the meeting and the meeting, agenda contained information on how to access the webinar using a computer or a telephone.

Agenda

I CALL TO ORDER - ROLL
CALL

The October 22, 2020, public meeting of the Diablo Canyon Independent Safety Committee (DCISC), the ninety-seventh public meeting of the Committee, was called to order by Committee Chair Dr. Peter Lam at 9:00 A.M. Dr. Lam introduced himself as the appointee of the California Energy Commission and currently serving DCISC Chair and he briefly reviewed the professional backgrounds, achievements and the appointment to the DCISC and tenure for each of his fellow DCISC Members, Dr. Robert J. Budnitz, the

appointee of the California Attorney General, and Dr. Per F. Peterson, the appointee of the Governor of California.

Present:	Committee Member Robert J. Budnitz Committee Member Peter Lam Committee Member Per F. Peterson
Absent:	None

Absent: None

II INTRODUCTIONS

Dr. Lam introduced and briefly reviewed the backgrounds of each of the Committee's Technical Consultants, Mr. Richard D. McWhorter, Jr. and Mr. R. Ferman Wardell and DCISC Assistant Legal Counsel Robert W. Rathie. Dr. Lam then introduced Mr. Thomas Baldwin, the Director of Business Operations for the Diablo Canyon Power Plant (DCPP) and DCPP Chief Nuclear Officer Support Manager Mr. Hector Garcia who acts as the principal liaison with the DCISC. Dr. Lam reported Mr. Baldwin and Mr. Garcia play very key roles on behalf of PG&E in working with the DCISC in coordinating its activities, providing information, and facilitating its public meetings and frequent fact-findings conducted by a member and a technical consultant. Dr. Budnitz then briefly reviewed Dr. Lam's professional background and achievements.

Dr. Budnitz conveyed the congratulations of the Committee on the recent election and induction of Dr. Peterson into the National Academy of Engineering.

III PUBLIC COMMENTS AND COMMUNICATIONS

The Chair invited any members of the public present who wished to address remarks to the Committee on items not appearing on the agenda for the public meeting to do so at this time and he briefly reviewed the advice from the agenda concerning items or issues which are brought to the attention of the DCISC by the public during public meetings. Mr. Rathie reviewed the procedure for recognition through the use of Zoom protocols and recommended that all participants in the meeting today speak clearly into whatever communication device is being used so as to create an accurate transcript of the meeting.

Ms. Sherry Lewis was recognized. Ms. Lewis inquired, given that both Unit 1 and Unit 2 at DCPP are shut down at this time due to a planned refueling outage for Unit 1 (in Mode 6) and for the repair of a hydrogen leak while Unit 2 remains in Mode 3^[1] and she inquired whether Unit 2 was producing electricity at this time. Mr. Baldwin confirmed that Unit 2 is off-line and is not at this time generating electricity and remains subcritical in Mode 3 at normal operating temperature and pressure with the Reactor Coolant System (RCS) operating and circulating water through the reactor core and accordingly Unit 2 remains capable of creating steam.

Ms. Rochelle Becker, Executive Director of the Alliance for Nuclear Responsibility

(A4NR) was recognized. Ms. Becker requested the DCISC to focus upon issues of importance to the public including the conflict between operation and risk which provided the initial rationale for the creation of the DCISC by the California Public Utilities Commission (CPUC).

Ms. Becker observed the plant is presently both in the beginning and at the end of a bathtub curve^[2] and she remarked that as the plant is now scheduled to close^[3] there is a challenge as to how much PG&E will invest to keep the plant running and for how long. Ms. Becker also observed that the new Unit-2 main generator stator is at the beginning of its bathtub curve. She further observed PG&E is a utility that has emerged from bankruptcy but is definitely foundering and faces significant economic challenges and has an aging nuclear power plant. She cautioned the DCISC to keep all these factors in mind as information concerning a power plant that is not going to operate much longer is received during this public meeting and in the future. She observed PG&E is going to have to pick and choose the investments it makes and she commented the recent experience of wildfires in California demonstrates that PG&E has not met its requirements and may not be meeting them in context of its operation of DCCP. Dr. Budnitz remarked that the issues identified by Ms. Becker are among the most important issues the Committee is reviewing and has been diligently reviewing all along and the DCISC remains acutely aware of the period described by Ms. Becker and the challenges created as a result.

Ms. Linda Seeley inquired for clarification concerning Unit 2's status as to pressure not being removed from the reactor vessel and Mr. Baldwin confirmed that this was correct as Unit 2 was currently in Mode 3 with normal operating temperature and pressure being maintained. Ms. Seeley observed the present problem with Unit 2 which involves a hydrogen leak appears to be the same problem Unit 2 experienced in July 2020 in connection with the installation of the new main generator stator and therefore the problem was not fixed in July, or perhaps the piping involved is simply worn out. Mr. Baldwin confirmed a new stator was installed in the Unit 2 main generator and the symptoms now being experienced are similar to those seen in July 2020 with indications of hydrogen leakage. He reported the generator is now being disassembled and inspected by DCCP personnel and independent consultants, the manufacturer, and the vendor as well as other equipment professionals to determine the cause of the problem. Mr. Baldwin stated at this time it is premature to speculate as to the cause of the problem or how long Unit 2 will be out of service for repair.

Mr. David Weisman representing the A4NR was recognized. Mr. Weisman stated he would appreciate hearing a discussion by the DCISC on five issues he identified as follows: (1) the generator stator malfunction; (2) the corrosion ancillary to the Unit 2 hydrogen leak involving the Auxiliary Feedwater (AFW) System piping that was identified in July 2020, after previously having been missed during past inspections; (3) the License Amendment Request (LAR) waiver associated with the AFW System corrosion; (4) the NRC's documentation of drone activity in proximity to nuclear power plants; and (5) the rationale for the NRC's cancellation of the fall emergency planning drill due to the COVID-19 pandemic while allowing the scheduled refueling outage for Unit 1 to proceed

as scheduled.

IV INFORMATION ITEMS BEFORE THE COMMITTEE

The Chair requested Mr. Baldwin to introduce the first of the informational presentations for this public meeting. Mr. Baldwin introduced DCPD Station Director Mr. Cary Harbor. Mr. Baldwin reported Mr. Harbor has more than 30 years of experience in the nuclear field including holding leadership roles at DCPD in the Engineering, Operations and Maintenance organizations, serving as Nuclear Maintenance Director, Nuclear Quality Services Director, and Director of Generation Compliance, Risk and Business Planning. Mr. Harbor has held a Senior Reactor Operator License from the NRC, holds a Bachelor of Science Degree in Nuclear Engineering from the University of California at Santa Barbara and he received a Business Administration and Management Certificate from Stanford University.

Presentation on the State of the Plant including Key Events, Highlights, Organizational Changes, Retention Tier 2 Update, the COVID-19 Pandemic, Unit 1 Outage Activities, Recent Wildfires, Recent Human Performance in Operations and other Station Activities since the DCISC's July 2020 Public Meeting.

Mr. Harbor remarked that a presentation was not prepared for the most recent repairs to the Unit 2 main generator stator as that issue only arose approximately one week ago but he stated he would provide comments during his presentation and the topic will be reviewed with the DCISC during future fact-findings and at a public meeting.

Mr. Harbor reported Unit 1 is currently in a refueling outage with an expected duration of approximately 30 days and the outage work remains on schedule with respect to objectives for safety, human performance and outage duration. There have been no recordable or lost time injuries to personnel and at the present time the reactor core is being re-loaded. After core reloading, testing will be performed to verify all systems including safety systems are performing properly and will operate reliably through Unit 1's next operational cycle. Mr. Harbor reported additional personnel have been brought on site to assist with maintenance and to date there have been no impacts from the COVID-19 virus, with personnel adhering to protective standards which include wearing face coverings, maintaining social distancing whenever possible, frequent hand washing, and using remote protocols to conduct briefings. Mr. Harbor remarked DCPD has benefitted in this regard from its benchmarking^[4] efforts within the industry.

Mr. Harbor reported on October 15, 2020, Unit 2 was shut down after hydrogen leakage was identified in the stator cooling water system of the main electrical generator. Investigation continues to identify the source of the problem. Previously, In July 2020, Unit 2 was shut down when a leak was identified in the stator cooling water feeder ring for the main generator which involved work done as part of the stator replacement project performed in 2019. The Siemens firm which constructed the stator made repairs at that time and performed vibration modal analysis to determine if vibration was the cause but failed to identify any specifics which may have caused the problem and the plant was returned to service. Mr. Harbor reported that in connection with the most

recent shutdown another crack has been identified in the same header ring, albeit in a different location than in July. The Siemens firm is again involved in reviewing the issue to determine the cause and the repairs needed, along with three independent technical experts including Structural Integrity Associates and MPR Associates as well as EC Tech. DCPD is also seeking to receive assistance from an electrical generator expert from the Electric Power Research Institute (EPRI).

In response to Dr. Lam's query Mr. Harbor stated the header ring component was installed in late 2019 as part of the stator replacement. In response to Dr. Peterson's inquiry Mr. Harbor stated there is not enough information known at this time to determine whether stress release was done of the lobes or if residual stresses are contributing to the cracking. Dr. Budnitz commented the cause could also involve asymmetrical thermal stresses or undetected mechanical damage. In response to Dr. Lam's inquiry concerning the potential consequences including to safety-related equipment if the header ring were to rupture, Mr. Harbor replied the main generator is not associated with any nuclear safety-related systems and the header ring is located within the generator stator and does not affect DCPD's ability to safely shut down the plant or to address any postulated accident sequences. He reported the leaking hydrogen gas is vented into the stator cooling water system and the hydrogen is kept at a higher pressure than the stator cooling water and is designed to vent into a line, which is how the hydrogen leak was detected in July and October. Mr. Harbor confirmed Dr. Peterson's observation that as the vent system was designed with the potential for hydrogen leakage it vents in a way that does not raise any risk associated with fire and Mr. Harbor stated there is a relief valve in the cooling water system and the hydrogen ejects through that relief valve and therefore would not normally accumulate in excess of combustible or explosive limits. However, Mr. Harbor observed that there is always the chance, such as with a generator fire, or other catastrophic event, that combustion or an explosion could occur but the plant systems are designed to minimize that potential.

Dr. Budnitz observed the plant is safer when it is shut down than when it is operating and safer when operating than when being shut down, as shutting down is an activity that carries some risk and while those risks are small they are not zero.

Mr. Harbor reported concerning overall plant performance that all Nuclear Regulatory Commission (NRC) Performance Indicators remain in Green^[5] status. Mr. Harbor displayed a graph showing the daily load profile for each unit for calendar year 2020 to date and for the past 12 months. He reported prior to entering the current refueling outage Unit 1 completed its third successive Abreaker-to-breaker@ operational run which represented industry-leading performance. Mr. Harbor confirmed Unit 2 has experienced issues with a new component for its main generator. Mr. Harbor reported Unit 2 experienced a control rod control issue as a result of a lug which was not crimped properly during initial installation and the DCISC will receive a presentation on this issue later during this public meeting.

Mr. Harbor reported the station has completed its Tier 1 Employee Retention Agreements and has launch its Tier 2 Retention Agreement initiative. He reported, from a station organizational standpoint, things have been stable with Senior Vice President

Generation Mr. Jim Welsch serving as the Chief Nuclear Officer and Ms. Paula Gerfen serving as DCPD Site Vice President with Mr. Harbor and Mr. Adam Peck serving as Senior Station Directors with Mr. Peck serving as Director of Emergency and Technical Services.

Dr. Peterson observed the DCISC has investigated the risk of wildfire, particularly from the perspective of the risk to the plant's offsite power supplies and has arranged for past presentations from a CalFire representative and, while the Committee has not seen any substantive risk from wildfire, given the recent wildfire activity with respect to frequency, intensity, and fuel buildup this last summer and with respect to climate change it may be prudent for the DCISC to reassess this issue. Dr. Budnitz remarked a wildfire at the plant site could impact plant equipment aside from the impact on off-site power and he commented that in its past reviews the DCISC found the management protocols at DCPD for managing fuel and growth exceeded regulations and the probability of a wildfire directly impacting the plant is low.

Mr. Harbor next reported on and briefly discussed upcoming station activities as follows:

% Nuclear Safety Oversight Committee (NSOC) site review to be conducted remotely on November 16-19, 2020. Dr. Budnitz reported that he and Consultant McWhorter would include attendance at the November 19 NSOC exit meeting as a part of their scheduled November 2020 fact-finding.

% Emergency Planning Drill Rehearsal scheduled for December 2, 2020. **Dr. Budnitz inquired whether it might be possible for DCISC representatives to observe this rehearsal and Mr. Harbor requested Mr. Garcia to capture a follow-up item concerning the request.**

% Institute of Nuclear Power Operations (INPO) Corporate Evaluation Exit on December 11, 2020.

% Unit 2 curtailment to support condenser and tunnel cleaning scheduled for February 2021.

% Operator license class is scheduled to complete in February 2021.

Following Mr. Harbor's presentation Dr. Lam asked for comments from the public.

Ms. Linda Seeley was recognized. She commented that with DCPD having two new NRC resident inspectors she was concerned there could be a loss of institutional knowledge on the part of the inspectors, especially given that DCPD has unique characteristics due to its proximity to a number of seismic faults.

Mr. David Weisman was recognized. Mr. Weisman observed while it may be premature to expect a report on the hydrogen leakage from the generator stator cooling system that was identified this past week, it has been three months since a similar issue

resulted in the plant shutting down in July 2020 and he inquired whether a root cause or investigative report was available concerning that event which included the discovery of a 3.9 gallon per minute leak from the Auxiliary Feedwater (AFW) System at the time of the occurrence of the hydrogen leak. Mr. Weisman further inquired as to the responsibility for providing the funds necessary for the experts Mr. Harbor reported have been engaged to assess the problem with the main generator and he inquired whether as part of its purchase of the new stator DCPD received a warranty from the manufacturer and, if not, would PG&E be returning to the CPUC to seek funding for the work. Mr. Weisman reported the A4NR opposed PG&E's initial request of the CPUC for approval of funding for the work on the generator. Concerning the new stator and the effect of the bathtub curve, Mr. Weisman observed there is a steep curve present at both the beginning and the end of a component's service life.

Dr. Budnitz responded to Ms. Seeley's remarks and observed that during fact-finding the DCISC representatives usually spend time with the NRC resident inspectors and he expressed his confidence that the two new resident inspectors each have sufficient backgrounds to understand any safety issues that may arise. Dr. Budnitz observed the resident inspectors also have a broad and deep support system provided by the NRC's Region IV office as well as from NRC Headquarters and through subject matter experts on the NRC staff and both former resident inspectors remain available to the current NRC inspectors should the need arise. Dr. Lam observed the NRC's mandatory rotation of its resident inspectors ensures that the inspectors maintain objectivity and fresh perspectives on plant operations and he confirmed Dr. Budnitz' observation on the NRC's retention of institutional memory of individual plant operations.

In response to Mr. Weisman's comments Mr. Harbor stated a root cause evaluation was performed but not closed out for the July 2020 Unit 2 main generator issue which determined a weld flaw to be the primary cause of the hydrogen leak. A finite element analysis was in progress at the time of the October 2020 recurrence. Mr. Harbor stated the information from the root cause evaluation and the finite element analysis will be incorporated along with new information. Mr. Harbor confirmed that a warranty is associated with the component and with the work that was done on the Unit 2 generator. He reported the corrosion of the piping for the AFW System was not immediately apparent or visible due to the pipe having been wrapped with lagging and the leak was identified and found to be the result of a pinhole leak caused by corrosion build-up between the pipe and the lagging which caused water to escape from the lagging around the pipe. Although discovered at the same time as Unit 2 was shut down for the July 2020 generator issue, the two issues were not related. The lagging was removed and ultrasonic testing was performed which determined the piping to have sufficient wall thickness such that even with the leak the AFW System remained capable of performing its function. Mr. Harbor stated the NRC conducted independent oversight of the investigation into the AFW leak and concurred with DCPD findings and actions. The base metal piping for the AFW System for both units is being restored and a section of piping for Unit 1 is to be cut out and replaced. Mr. Harbor reported the origin for this issue goes back to the original installation of the AFW System piping and were that piping to be installed today it would not be covered by lagging. He reported the NRC is expected to

issue a finding on this issue due to the fact there was similar operating experience from another plant many years ago but DCP's process concerning evaluating operating experience at that time did not identify the issue as one which could potentially affect DCP. Mr. Harbor reported that the process for addressing operating experience has now evolved from what it was at that time and therefore the issue is not indicative of current performance. In response to Dr. Lam's query concerning the license amendment request (LAR) for additional time to repair the AFW System piping Mr. Harbor stated there was adequate justification to find that the piping would perform its function to support the LAR which was approved by the NRC.

Mr. Baldwin introduced DCP Director of Risk and Compliance Mr. Russ Prentice and reported Mr. Prentice holds a Master's Degree in Mechanical Engineering from California Polytechnic Institute at San Luis Obispo (Cal Poly) and held a Senior Reactor Operator License from the NRC. Mr. Prentice has served as Maintenance Manager in the Nuclear Instrument and Control organization and is presently a member of the Emergency Response organization.

Update on the Status of NRC Performance Indicators, Licensee Event Reports, NRC Inspection Reports and Notices of Violation, and Issues Raised by NRC Resident Inspectors, Open Compliance Issues, and License Amendment Requests and other Significant Regulatory Issues/Requests.

Mr. Prentice stated DCP is rigorously inspected by the NRC and is committed to the highest standard of safety. Mr. Prentice remarked during his presentation he would provide an overview of DCP performance since the last public meeting of the DCISC in July 2020 based upon performance assessed against the NRC's Performance Indicators through the period ending in October 2020. He remarked this period covers approximately four months of NRC inspections involving ~1,800 hours of inspection time. During this period DCP met all Green performance expectations for each of the NRC performance indicators and remains in the highest performance category for all NRC Performance Indicators. There have been no findings or violations of more than minor significance since the last update provided to the DCISC in July 2020. He remarked that DCP expects to soon receive a finding from the NRC on the AFW System piping issue but has yet to receive the inspection report which contains that finding.

Mr. Prentice reviewed and briefly discussed some of the 16 performance indicators reviewed and used to collect data by the NRC, and concerning which data is collected daily, as currently being within Green status as follows:

- % Unplanned Scrams per 7000 Critical Hrs.
- % Unplanned Power Changes per 7000 Critical Hrs.
- % Unplanned Scrams with Complications
- % Safety System Functional Failures
- % Mitigating Systems Performance Index, Emergency AC Power System
- % Mitigating Systems Performance Index, High Pressure Injection System
- % Mitigating Systems Performance Index, Heat Removal System
- % Mitigating Systems Performance Index, Residual Heat Removal System

- % Mitigating Systems Performance Index, Cooling Water Systems
- % Reactor Coolant System Activity
- % Reactor Coolant System Leakage
- % Drill/Exercise Performance
- % ERO Drill Participation
- % Alert & Notification System
- % Occupational Exposure Control Effectiveness
- % Radiological Effluent Technical Specification (RETS)/ Offsite Dose Calculation Manual (ODCM) Occurrence

In response to Consultant Wardell's inquiry Mr. Prentice stated each of indicators retains good margin and none are close to entering White status.

Mr. Prentice described and reviewed the Rolling Four-Quarter Cross Cutting Aspect Performance Chart which tracks and trends cross cutting aspects of current plant performance. He described the cross cutting aspects as fundamental performance characteristics that extend across all of the NRC Reactor Oversight Program's cornerstones of safety. He stated DCPD tracks and trends causal factors identified by the cross cutting aspects of a performance deficiency and there is presently no aggregation of issues in any one of the cross cutting areas. DCPD is currently Green in all areas of cross cutting performance. In response to Consultant McWhorter's question Mr. Prentice reported that cross cutting aspects identified remain on the chart over all four quarters of a 12-month period and the duration is indicated by the boxes under the various aspects on the chart. In response to Consultant McWhorter's query concerning the expected finding concerning the AFW System leak Mr. Prentice stated he did not believe the finding would include a cross cutting aspect because the issue was not indicative of current performance.

Mr. Prentice reported a single Licensee Event Report (LER) was submitted since the last public meeting of the DCISC. LER 2020-002-00 was submitted on September 15, 2020, regarding a manual reactor trip for Unit 2 and the subsequent actuation of the AFW System as designed. Unit 2 was manually tripped in accordance with plant procedures due to increased main electric generator hydrogen usage. The LER was not directly associated with the main generator hydrogen issue but with the manual reactor trip and AFW System actuation in accordance with 10 CFR 50.73(a)(2)(iv).

Mr. Prentice reviewed the NRC's inspection activities since the last meeting of the DCISC in July 2020 which established that DCPD remains in the highest performance category for all NRC Performance Indicators and the following reports were issued:

- % 2nd Quarter 2020 Integrated Inspection Report (2020-002, 7/22/2020)
- % Updated Inspection Plan (2020-005, 9/01/2020)

Mr. Prentice discussed the LAR approved following the last meeting of the DCISC concerning the AFW System which requested revision of Technical Specification [\[6\]](#) 3.7.5 to allow one-time implementation for necessary repairs to the AFW System piping to be made without shutting down Unit 2. Mr. Prentice reported a second LAR was submitted to

the NRC with reference to staff qualifications which seek to relocate the unit staffing requirement detail from the Technical Specifications to the plant updated Final Safety Analysis Report (FSAR). In response to Dr. Budnitz' query he confirmed that this change did not alter any commitments under the license from the NRC but simply places them in a different part of the plant's license regime.

In response to Dr. Budnitz' question concerning the two new NRC resident inspectors Mr. Prentice replied that the NRC has implemented a thorough turnover process with multiple open chains of communication and DCPD is focused on proactively ensuring the inspectors are provided with all the information they need and he stated feedback received from the inspectors concerning the transition has been positive. In response to Dr. Lam's observation Mr. Prentice confirmed that resident inspectors bring different perspectives and experience at other nuclear plants which is beneficial to both the NRC and the utility. In response to Dr. Budnitz' query Mr. Prentice stated the majority of his organization's focus lies in making sure the resident inspectors have all the information they require and as the Director of Risk and Compliance he communicates with NRC representatives on a weekly basis including monthly calls with the NRC's Region IV office in Arlington, Texas and during frequent routine check-in calls with NRC Headquarters in Bethesda, Maryland and these contacts vary depending upon what is happening at the plant. In response to Consultant McWhorter's inquiry Mr. Prentice confirmed that aside from the exemption request postponing the emergency drill due to the impacts of the COVID-19 pandemic DCPD has no plans at this time for any other exemption requests related to the COVID-19 pandemic.

A short break followed Mr. Prentice's presentation.

Mr. Baldwin next introduced DCPD Director of Engineering Services Mr. Pat Nugent. He reported Mr. Nugent holds a Bachelor's Degree in Mechanical Engineering from Cal Poly and was certified as a shift technical advisor for Operations and has held roles as Manager of the Regulatory Services Department and as Engineering Manager for the primary steam supply system. Mr. Nugent has held a previous assignment on loan to the Institute of Nuclear Power Operations (INPO) as a senior evaluator and has held positions as a Manager of DCPD engineering projects including serving as Manager of Technical Support Engineering and of the Response, Actions and Change organizations. Mr. Nugent previously served as the Director of Quality Verification prior to his current assignment.

Cause and Corrective Action for the February 2020 Unit 2 Forced Outage and June 12, 2020 Event to Repair the Rod Control System.

Mr. Nugent stated his report would focus upon the initial event and provide a summary of corrective actions taken. He reported Unit 2 was shut down on February 13, 2020, to correct reactor control rod events involving a deviation between the positions of different banks of control rod cluster assemblies which was discovered during routine testing. Mr. Nugent stated this was not a safety issue and at all times the control rod assemblies remained capable of inserting completely into the core to trip the reactor automatically or manually if required. Equipment was replaced but because of the nature of the problem the root cause could not be identified for the initial event. Procedural

changes were made that required routine testing be stopped while the control rods were still in their acceptance range if a deviation were to occur during testing. Diagnostic tests were developed for use during the next refueling outage to ascertain the root cause.

Mr. Nugent reported a second similar event occurred on June 12, 2020, but the reactor was not required to be shut down as the control rod assemblies remained within their test acceptance range and did not have a significant deviation between different control rod banks. He stated the actions taken to change procedures and provide additional guidance to Operations staff after the February occurrence assisted in making this determination. Diagnostics were performed and led to discovery of the root cause. Corrective actions to prevent recurrence were established and a root cause evaluation was performed. Mr. Nugent described a root cause evaluation as a formal investigation that uses industry accepted analysis methods to determine the root cause(s) of a problem.

Mr. Nugent stated the initial root cause evaluation was revised following troubleshooting performed in response to the second event which provided clear identification and correction of the root cause.

Mr. Nugent described the February 2020 event as having occurred when four control rod cluster assemblies, out of a total of 53 assemblies, failed to withdraw following control rod movement testing. This resulted in a mismatch of greater than 12 steps between control rod assemblies' indicated position and their demand positions, requiring a unit shutdown per the plant's Technical Specifications. During the shutdown, an attempt to withdraw a different control rod bank identified the same issue which validated the Rod Control System as the location of the problem. Immediate actions included troubleshooting using the vendor's troubleshooting manual which identified a malfunctioning control card in the circuit. The malfunctioning card was visually inspected for anomalies and foreign material but nothing was identified. The malfunctioning card was replaced and maintenance verification testing was performed to verify the functionality of the new card. No issues were identified during the post-maintenance testing.

Mr. Nugent stated a root cause evaluation for this first event was performed by DCPD with input from Westinghouse as the vendor for the Rod Control System. The malfunctioning control card was tested in the DCPD rod control training lab and by Westinghouse but the event could not be re-created. However, review of data collected during troubleshooting and rod control maintenance during the previous refueling outage identified an elevated voltage of approximately one volt in the logic circuit. Mr. Nugent reported this voltage is not a normally monitored parameter or part of acceptance criteria for card function and the initial root cause was indeterminate. Procedure changes were made to stop testing while rod assemblies were still in their acceptance range if deviation occurred and diagnostic tests were developed for use in the next refueling outage to ascertain the root cause.

Concerning the June 2020 event Mr. Nugent reported on June 12, 2020, while Unit 2 was being returned to full power following main turbine valve testing, four control rod

cluster assemblies failed to withdraw following a down power evolution to perform main turbine valve testing. The event occurred during the ramp from reduced power back to full power. He stated this resulted in a mismatch between control rods but based on lessons learned during the event in February the mismatch was identified and limited so that a unit shutdown was not required. Mr. Nugent stated that, as with the February 2020 event, the Rod Control System's safety function to trip and allow all control rods to insert into the reactor core to safely shut down the reactor was never affected by the event in June 2020.

Mr. Nugent reported additional troubleshooting was performed for the June 2020 event using the diagnostic testing developed from the February 2020 event and this identified the same card as the source of the event and identified elevated voltage on the ground bus that was not present after the February 2020 event, and a high resistance connection was identified between the ground bus and the control card and an electrical jumper from the control card to the ground bus was installed to eliminate the elevated voltage.

Mr. Nugent observed concerning the final cause evaluation and the corrective actions that an improper crimp on a factory-installed original equipment ring lug made more than 40 years ago, had degraded over time and this formed the root cause for the events. The improper crimp resulted in a high resistance connection in the jumper between the control card chassis connector and the ground bus and this caused intermittent logic failures on the card resulting in logic timing failures. He described the corrective actions taken to prevent recurrence as including replacement of the ground bus jumper circuit including the degraded ring lug connection.

In response to Dr. Lam's observation on the age of the Rod Control System's equipment Mr. Nugent stated the system components were intended to perform their function for the plant's full 40-year license period and the improper crimp was made to the insulation as opposed to the wire and, over time, oxidation occurred. He remarked for a normal acceptable crimp there would not have been an issue because there would be sufficient electrical connection between the wire and the ring lug, however, in this case the very limited connection because of the improper crimp resulted in intermittent contact. In response to Dr. Peterson's comment concerning single failure criteria in context of these two events Mr. Nugent stated that with a safety-related system such as the Rod Control System it is assumed that a single failure might occur but the events in February and June did not affect the ability of the Rod Control System to insert the rods into the core as electrical power is required to move and hold the control rod assemblies out of the reactor core and the loss of electric power, regardless of the circuit cards that allow the rods to be pulled out of the reactor, results in the rods automatically falling into the reactor due to gravity and therefore the single failure criteria are not applicable to the February and June 2020 events involving the Rod Control System. In response to Consultant McWhorter's question Mr. Nugent confirmed that an extent of condition analysis will be performed during the next refueling outage for all of the crimps that are part of the Rod Control System or any connections of the ground wiring to the Rod Control System bus and other systems will be considering that might be of similar design. He observed that as the Rod Control System was manufactured 40+ years ago at

Westinghouse's facilities it was likely that the individual who performed the improper crimp worked only on the DCP system and not on rod control systems for other nuclear power plants. Consultant Wardell observed that two DCISC fact-finding teams reviewed this issue during two separate fact findings and both determined the root cause analysis and corrective actions taken to be satisfactory.

Mr. Nugent summarized the events he had described and stated the cause of February 2020 event could not be conclusively determined due to intermittent nature of problem. Actions were identified to perform additional troubleshooting during next refueling outage and actions were identified to stop testing within rod allowed operating limits. The June 2020 event was controlled within operating limits and did not require a unit shutdown. Troubleshooting using diagnostic testing from the first event identified a problem with same card. He reported a method was developed to troubleshoot while the unit was online without de-energizing rod control in order to preserve evidence and troubleshooting indicated high resistance in the card connection to the ground bus and further testing in the rod control training lab verified that high resistance in the card's connection to the ground bus would result in rod control timing errors. Additional corrective actions included developing and implementing a plan to acquire additional test data from the affected circuit card which will be done during refueling outage 2R22 scheduled in spring of 2021 and visual inspection of the back side of the card connector and the wiring will be done to identify less than adequate connections and will also be performed during 2R22.

Following Mr. Nugent's presentation Ms. Linda Seeley was recognized. In response to Ms. Seeley's question as to whether the events described by Mr. Nugent could have been related to the change from analog to digital systems in the Control Room Mr. Nugent replied that the Control Room's systems and the modifications made to those systems are entirely unrelated to the Rod Control System.

V ADJOURN MORNING MEETING

The Chair adjourned the morning meeting of the DCISC at 11:20 A.M.

VI RECONVENE FOR AFTERNOON MEETING

The afternoon meeting of the DCISC was convened by the Chair at 1:30 P.M.

VII COMMITTEE MEMBER COMMENTS

There were no comments from any Members at this time.

VIII PUBLIC COMMENTS AND COMMUNICATIONS

Dr. Lam invited members of the public to address the Committee on matters not on the agenda for this meeting.

Mr. David Weisman representing A4NR was recognized. Mr. Weisman repeated his earlier question concerning the issue of the funding for the main generator repair work and whether PG&E would seek to return to the CPUC for approval of ratepayer funding

for the damage and repairs. Dr. Budnitz observed that Mr. Weisman's question concerning funding represented a topic which is outside of the remit of the DCISC as the Committee's review of operational safety does not normally extend to matters of funding for plant operations.

Mr. John Geesman was recognized. Mr. Geesman inquired whether the DCISC was aware of airborne drone activity that has taken place in proximity to U.S. nuclear power plants including DCPD has been reported by Forbes magazine. Dr. Budnitz remarked he recently learned of such drone activity and Dr. Lam remarked that aspects of this topic may fall within security considerations which, aside from the potential impact of security-related matters to operational safety, are not within the purview of the DCISC. **Dr. Peterson stated the topic of drone activity should be explored during a fact finding with DCPD in order to assess whether there may be any operational safety implications.** Dr. Peterson observed the plant is designed to be capable of withstanding quite severe strikes by external missiles but drone activity provides an opportunity for site surveillance which may impinge on security-related matters. Dr. Budnitz remarked that depending upon its size there is a possibility that a drone impacting on equipment or personnel at the site could cause damage or injury. Consultant Wardell observed that the DCPD Security organization has procedures for dealing with aircraft and activities that could pose a potential threat to the plant. Mr. Baldwin confirmed that on occasion DCPD uses drones and he remarked that while aspects of this issue are likely within the area of plant security PG&E would be supportive of a fact-finding by the DCISC on the topic of how DCPD assesses the potential safety impacts of unapproved drone activity as well as how DCPD uses drones at the site and he noted the NRC has guidance with respect to reporting such activity. Consultant McWhorter observed that aside from the issue of protecting the plant from missile strikes DCPD is also required to comply with the NRC's B.5.b requirements regarding threats posed by aircraft.

Mr. David Weisman was recognized and he remarked that the DCISC should also consider structures other than Containment with reference to potential for damage by a drone and should not restrict its inquiry to structures but also review the impacts of a drone striking transmission facilities including those furnishing offsite power for DCPD's operation. He stated the NRC file for drone security incidents is file SID 01950 which was filed with the NRC on September 20, 2018, and subsequently closed as unresolved.

IX INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

The Chair requested DCPD Director of Business Operations, Mr. Thomas Baldwin, to introduce the next informational presentation for this public meeting. Mr. Baldwin introduced Mr. Tom Jones and reported Mr. Jones serves as Director for Strategic Initiatives for the Generation organization and in that role he is responsible for both regulatory and external strategies for DCPD and for PG&E's Humboldt Bay Power Plant (HBPP), a decommissioning nuclear power located near Eureka, California. Mr. Jones responsibilities also include planning for DCPD's decommissioning phases including oversight of DCPD's lands and Mr. Jones has experience in PG&E's Governmental Relations organization as well as in licensing and approvals for the independent spent

fuel storage installations for both DCPD and Humboldt Bay sites. Mr. Jones was involved in the replacement of DCPD's steam generators and with the Joint Proposal^[7] which was approved by the CPUC and provides for the retirements of DCPD at the end of its current operating licenses.

Decommissioning Planning Update, Including Status of Spent Fuel Cast Request for Proposals.

Mr. Jones reported the CPUC's Nuclear Decommissioning Cost Triennial Proceedings (NDCTP) represents the vehicle by which the annual revenue requirements and three-year budgets for decommissioning DCPD and Humboldt Bay Power Plant (HBPP) are established and participants in the NDCTP proceedings include interveners and some of the participants in the Joint Proposal including the A4NR. He reviewed a table showing the milestones and descriptions of the scope for work to be performed during decommissioning and observed that some activities such as those related to security do not have a finite, discrete, scope but must evolve and be performed throughout the decommissioning period. Mr. Jones reported the 2018 NDCTP hearings concluded in September 2019 and the CPUC has not extended the statutory deadline for issuance of a final decision.^[8] A proposed decision will be issued and circulated for comment prior to that deadline.

Mr. Jones reported the approval of the 2018 NDCTP will result in PG&E having detailed project descriptions for state and local permitting and for submission of license amendment requests (LARs) to the NRC. He reported that because the NRC did not adopt generic rule-making for decommissioned plants DCPD is now at the stage where it is going to need to file LARs in the next six to nine months. He reported the goal of the Decommissioning Project is to proceed directly from electric power generation operations into decommissioning and this will require obtaining all necessary permits in a timely fashion. For the 2021 NDCTP the plant will need to provide updated information and will have to determine if a new dry cask storage system provider is to be selected or an updated dry cask storage system by the current system provider will be used during decommissioning. A decision on contracting strategy will also need to be made as to how the work of decommissioning the power plant will be performed with options including the sale of all assets, self-performance by PG&E, or some hybrid of the two. For the 2024 NDCTP, which will be the last update prior to the licenses from the NRC expiring, all licenses and permits should have been obtained and decommissioning mitigation costs and activities will be better informed. Mr. Jones displayed a graph showing the Decommissioning Project's permit phasing time line from 2020 through 2075 which showed the periods for shutdown, decommissioning and initial site restoration, final site restoration and license termination, and Independent Spent Fuel Storage Installation (ISFSI) decommissioning and restoration. He displayed another graph showing the decommissioning planning activities for which he stated approximately one-third have been completed. A working group has been established between DCPD and the County of San Luis Obispo, the California State Lands Commission and the California Coastal Commission as these agencies will be taking the majority of the discretionary actions including the preparation of the environmental impact report.

Mr. Jones described and discussed the highlights of the ongoing work which will occupy the next 18 months as follows:

- % Permitting.
- % NRC Submittals.
- % Expedited Spent Fuel Transfer Request for Proposal - in response to Dr. Peterson's question, Mr. Jones stated that no decision has been reached concerning the expedited spent fuel transfer as to which option is to be selected and the matter is under evaluation as Mr. Jones stated that matter clearly informs the rest of the work study and is on the critical path.
- % Contracting Strategy - Mr. Jones stated it is unlikely PG&E will perform the work of decommissioning the power plant and a decision on which of the available options will be used is to be made in the third quarter of 2021 for inclusion in the 2021 NDCTP.
- % Indicative Bids.
- % Public Engagement.
- % Planning/Scheduling Work.
- % Procedures/Processes.
- % Benchmarking.
- % NDCTP Support.

Mr. Jones reported the orderly transition from DCPD power generation activities to other possible power generation and/or energy conservation activities will be a part of the decommissioning process and this requires a public stakeholder outreach process as how the lands will be dispositioned and he displayed a diagram showing a model of how that process has proceeded through the third quarter of 2020, with the Diablo Canyon Decommissioning Engagement Panel (Decommissioning Engagement Panel) playing a key role and he thanked the DCISC for its offer to provide technical support for the Engagement Panel. He remarked the COVID-19 pandemic has affected PG&E's public outreach efforts and videos are now being widely used to provide information to the public. In response to Dr. Lam's inquiry Mr. Jones stated the repurposing of the site and of its transmission corridor for production of solar, wind or wave electricity generation has been discussed. He reported PG&E intends to maintain the transmission lines which now serve DCPD regardless of repurposing or the decommissioning project as the 500kV lines serve as an important part of the transmission system connecting the cities of Fresno and Bakersfield California.

Mr. Jones reported that there is a settlement agreement proposed in the 2018 NDCTP which if approved would extend the Charter of the DCISC until all spent fuel was moved from wet storage to dry storage and that PG&E supports this proposal.

In response to Dr. Budnitz' inquiry Mr. Jones replied that to date adequate funding has been provided for all decommissioning planning activities and for a license extension for the ISFSI and DCPD has sought and received an exemption from the NRC from the Nuclear Decommissioning Trust Fund expenditure cap of 3% and has been authorized to access up to \$187 million over the next six years from the trust fund. He confirmed Dr. Budnitz' observation that some of these funds may be recaptured from the federal government through the Department of Energy. In response to Dr. Lam's inquiry, Mr.

Jones stated the manufacturing lead time for spent fuel storage system components is between one and two years and DCPD retains the option of continuing to use its currently licensed system and its ISFSI which were designed to be licensed to accommodate the complete offload of spent fuel for the entire operational license periods for Units 1 and 2.

Mr. McWhorter suggested and the Committee Members agreed that the DCISC should request a report be made by PG&E representatives on DCPD decommissioning activities during DCISC public meetings on no less than an annual basis.

Mr. Baldwin then introduced DCPD Decommissioning Environmental and Licensing Manager Mr. Philippe Soenen and reported Mr. Soenen has a Bachelor of Science Degree in Mechanical Engineering from the University of California at San Diego and more than 17 years' of experience in the nuclear industry. Mr. Soenen has served as Licensing Supervisor at DCPD and as Project Manager for the License Renewal Project as well as Licensing Engineer for the DCPD and HBPP independent spent fuel storage installations.

Mr. Soenen began his presentation with a report on the status of the request for proposals (RFP) for new spent fuel casks and he described and discussed the following as key inputs to the RFP and stated these inputs, within the plant's Technical Specifications, were derived from the recommendations contained in the Decommissioning Engagement Panel's Strategic Vision document and include:

- % Expediting spent fuel offload.
- % Adhering to site-specific seismic requirements.
- % Addressing high burn-up fuel.
- % Providing for a site-specific license for an 80-year design life.
- % Addressing corrosion and the potential for cracking due to the marine environment.
- % Providing for future in-place inspection capability and NRC aging management requirements.
- % Minimizing radiological dose to workers and public.

Mr. Soenen reported the current RFP is informed by the operating experience from the development of the previous RFP for construction and operation of the ISFSI and by input provided by the California Energy Commission (CEC). He stated the CEC reviewed the UCLA Spent Fuel Risk Study, the draft RFP, the scope of the technical evaluation criteria and has participated with PG&E in multiple technical evaluation meetings. Mr. Soenen reported the comments received from the CEC have all been addressed to the CEC's satisfaction.

Mr. Soenen reported PG&E is evaluating multiple site-specific proposals received from qualified vendors which are all consistent with the time frame for spent fuel offload to be within four years of shutdown of each unit, although for business confidentiality reasons he could not reveal how many proposals have been received or the details of any proposal. These proposals address material to be stored, seismic spectra, and an offload time frame consistent with the proposed settlement agreement in the 2018 NDCTP.

Technical and commercial evaluations were completed separately and are now combined for a recommendation to PG&E senior leadership for their evaluation and subsequent approval to start negotiations. He reported approval to start negotiations is forecast to be forthcoming in the fourth quarter of 2020 and negotiations may be with all or with a subset of the proposers and contract negotiations are forecast to take up to one year.

Mr. Soenen displayed a graph showing the time-line for the RFP process through the present year which showed the evaluation period, the period for contract negotiations and for the issuance of a purchase order projected to occur during the first quarter of 2022. He reported that once a purchase order is issued, design, licensing and permitting will follow to ensure a spent fuel dry storage system will be in place and operational prior to the shutdown of each unit. Dr Lam observed he previously served on the Atomic Safety Licensing Board which approved the present dry cask storage system for DCPD and, in response to Dr. Lam's inquiry, Mr. Soenen stated that he believed that dependent on the vendor chosen and the nature of the changes proposed to DCPD's existing spent fuel storage system two and one-half years for approval of a license for a new system was achievable, in his opinion.

Dr. Lam stated that based upon his experience with the previous licensing process for DCPD in his view the schedule described by Mr. Soenen was rather ambitious given the design criteria described by Mr. Soenen for the new casks. In response to Consultant Wardell's inquiry, Mr. Soenen confirmed that one of the options for PG&E is to continue to use the current cask design and vendor although putting the necessary contracts in place to do so would likely take twelve to eighteen months. Mr. Soenen stated that with the current system it would take approximately ten years of cooling time before the last of the fuel could be ready to load into dry cask storage. He confirmed that with the present design, there would be sufficient fuel in a condition such that DCPD could continue to conduct spent fuel loading campaigns prior to each unit shutting down and he confirmed that DCPD at the present time has no spent fuel storage casks in its inventory and no orders for same are pending. Mr. Soenen stated this situation was intended to enable DCPD to evaluate new systems and to keep all its options open so as to have as much Acol@ spent fuel available for a possible transition to a new storage system to maximize the use of the new system. He confirmed that in the event DCPD moves to a new spent fuel storage system, the planning is for that system to be available at the time each unit shuts down and to begin to commence offloading of spent fuel at that time, consistent with the 2018 NDCTP settlement agreement requirement of not exceeding four years from shutdown to offload all fuel.

In response to Consultant McWhorter's question concerning whether DCPD intends to license a temporary or a short-term spent fuel cooling system to replace the present spent fuel cooling system Mr. Jones confirmed PG&E is considering a spent fuel islanding program similar to what was used by the San Onofre Nuclear Generating Station (SONGS) in southern California, with DCPD continuing to use the existing cooling system's once through circulating and heat exchangers for the first eighteen months following shutdown, until the end of the zirconium oxidation risk time period before implementing a spent fuel islanding program.

The Chair then thanked Mr. Jones and Mr. Soenen for their presentations.

X INFORMATIONAL DISCUSSION BY DCISC MEMBERS & TECHNICAL CONSULTANTS

The Chair introduced the next topic for Committee discussion, that being a discussion on the evaluation of the risk posed by spent fuel and the development of a possible recommendation by the Committee.

Dr. Peterson remarked that the question of the risk posed by different spent fuel offload scenarios was explored by the study entitled A Probabilistic Risk Assessment of Nuclear Power Plant Spent Fuel Handling and Storage Programs: Methodology and Application to the Diablo Canyon Power Plant@ (UCLA Spent Fuel Risk Study) by Drs. B. John Garrick and Donald J. Wakefield of The B. John Garrick Institute for the Risk Sciences (B. John Garrick Institute) at the University of California at Los Angeles and that the question now before the Committee is how to weigh the risk with respect to other important considerations. He stated in particular the schedule for decommissioning activities and the ability to achieve the first offload of fuel from the spent fuel pools as expeditiously as possible are relevant considerations, as is the cost to the ratepayers to support decommissioning activities and how quickly the site can be returned to beneficial uses. Dr. Peterson stated during the Committee's discussion of the UCLA Spent Fuel Risk Study it was learned that there are differences in the risk among the four scenarios that were studied but the total risk associated with each option is small. Dr. Peterson stated therefore it was his opinion that other factors beyond the risk level might be taken into account in PG&E's determination of which offload scenarios to adopt. He stated from the Committee's previous discussions it appeared to Dr. Peterson that PG&E's plans to pursue the most expeditious path forward that is feasible for offloading fuel from the spent fuel pools into dry cask storage could be governed by the need to enable an early start to decommissioning work that cannot be commenced until the spent fuel offload is complete.

Dr. Budnitz reported that he reviewed the UCLA Spent Fuel Risk Study in detail and while the study was not a full, detailed, numerical risk assessment it was in Dr. Budnitz' opinion sufficient for its stated purpose. The authors of the study were given four potential offload scenarios and differing schedules for those differing scenarios. The study determined that one scenario had less risk than the others although the differences were not great and all of the scenarios had risks that were found by the study to be very small compared to the NRC criteria and much smaller than the risk during the plant's operational period. Dr. Budnitz stated he agreed with the study's conclusion and he observed that in the study certain approximations or presumptions were included which Dr. Budnitz stated were almost all pessimistic, including the assumption that in a large earthquake with damage to a spent fuel pool no credit was taken for operator intervention and no credit be taken for air cooling of the fuel in the event of the loss of spent fuel pool water inventory. Dr. Budnitz observed that despite these pessimistic assumptions the study determined that the risk posed by each of the four scenarios studied was low and the two other Members of the DCISC and the Committee's Technical Consultants joined with Dr. Budnitz in this conclusion. Dr. Budnitz stated this leads to a further conclusion that PG&E's decision concerning which of the possible offload scenarios

it will implement for the spent fuel at DCPD should not be based upon risk but rather that the decision should be informed by the risk and therefore other issues and criteria such as cost and schedule should be considered and evaluated. Dr. Budnitz stated that if one accepts that no fuel will be transported from the spent fuel pools to dry storage for at least two years after the reactor ceases operation then the risk in his opinion and as supported by the UCLA Spent Fuel Risk Study is very much lower than during the first two years after reactor operation ceases. Dr. Budnitz explained that the radioactive decay creates heat and if during the first two years there should be a loss of water inventory from the spent fuel pool the fuel retains sufficient heat to melt the zirconium cladding which could catch fire and create an exothermal self-sustaining reaction. Dr. Budnitz described this as a very nasty accident scenario. However, after approximately two years in the spent fuel pool the heat generated by the fuel is lower than that required to melt the zirconium cladding and the reaction should water inventory be lost at that point, does not become self-sustaining.

Dr. Lam stated he concurred with Dr. Budnitz' analysis and he characterized the UCLA Spent Fuel Study as essentially neutral and observed the NRC staff has concluded that wet and dry storage are both equally acceptable methods of meeting the NRC's safety goals. Dr. Lam commented the position of the California Energy Commission is that dry storage of spent nuclear fuel is preferable to wet storage and he stated that this is based upon the accumulated inventory in wet storage and the two spent fuel pools' lack of containment. Dr. Lam observed one principal consideration between wet and dry storage is that each dry storage cask provides concrete encapsulation of a smaller spent fuel inventory which leads to the conclusion that dry storage is preferable to storage of spent nuclear fuel in spent fuel pools. Dr. Lam stated he has a concern regarding the schedule proposed by PG&E for receipt of approval for a new cask design and he characterized the schedule presented by Mr. Soenen and Mr. Jones as very ambitious but he acknowledged that the licensing landscape has evolved over the period of the past 20 years.

Dr. Peterson observed there may be reasons for optimism concerning PG&E's ability to obtain a license for a new spent fuel dry cask system for use at DCPD as the changes which may be proposed from the currently licensed cask design may be relatively modest compared to the initial set of evaluations which were required for the initial dry cask storage system and he stated this may be an important consideration in the overall decision to be made by PG&E. Dr. Peterson stated the overall risks of each scenario as documented in the UCLA Spent Fuel Risk Study are all sufficiently low such that they should be acceptable to the CPUC and the California Energy Commission and to others so as to allow the consideration of other important criteria such as how rapidly the fuel could be moved out of wet storage to allow commencement of certain decommissioning activities that cannot be undertaken until all spent fuel is removed from the spent fuel pools. He stated he concurs with Dr. Budnitz' conclusions that since the risk are small PG&E's decision regarding removal of the fuel from the spent fuel pools to dry storage can therefore be made on a risk-informed as opposed to a risk-based approach.

The Members then discussed whether the Committee should make a recommendation based upon its independent technical evaluation of the UCLA Spent Fuel

Risk Study with reference to how to balance the conclusions of the study with other considerations. The Members observed that PG&E's role will be to recommend the path to be followed concerning the transfer of spent fuel at DCPD to other decision makers. Therefore a recommendation by the DCISC would be appropriate in that the Committee has reviewed and found the conclusions in the UCLA Spent Fuel Risk Study that the relative risk between the scenarios analyzed in the study is very small and therefore the study provides a sound basis upon which decision makers including, but not necessarily limited to, PG&E, the CPUC and the California Energy Commission may rely concerning making decisions and also to point out that in the Committee's view risk evaluation is only one part of an overall set of considerations in selecting between the different options analyzed in the study. Consultant Wardell commented he agreed with the Committee's discussion and the conclusion that the risks as analyzed in the UCLA Spent Fuel Risk Study are very small so as to make viable any of the scenarios analyzed for the transfer of spent fuel. Consultant McWhorter stated that as there appears to be a consensus of the Committee concerning the conclusions and the utility of the UCLA Spent Fuel Study's evaluation of the risk, therefore a formal recommendation by the DCISC would also be useful to the public at large and to the Decommissioning Engagement Panel in particular. Assistant Legal Counsel Rathie remarked that should a recommendation be forthcoming, it would need to be approved by the Membership and form a part of the Committee's Annual Report.

Dr. Lauren Brown, a member of the Decommissioning Engagement Panel, was recognized. Dr. Brown encouraged the DCISC members to provide a formal recommendation concerning the Committee's evaluation of the UCLA Spent Fuel Study and he remarked he found merit in Dr. Budnitz' comments concerning an emphasis in such a recommendation that any decision to be taken by PG&E should be informed by the risk identified in the study but that other factors can also be taken into account due to the very small differences in the levels of risk amongst the various scenarios analyzed in the study. Dr. Brown observed the Decommissioning Engagement Panel's role is to serve as an intermediary between PG&E and the public and a recommendation by the DCISC would assist the Decommissioning Engagement Panel in communicating with the public.

Mr. John Geesman representing the A4NR was recognized. Mr. Geesman stated there is another aspect beyond the technical conclusions set forth in the UCLA Spent Fuel Risk Study that should be considered and that is public confidence. He remarked the A4NR has been through the decommissioning process previously concerning the decommissioning of SONGS and now with DCPD and in both instances he stated the utilities involved have chosen to step outside of what he described as the industry dogma that there is no real difference between wet and dry storage and in both cases the utilities have chosen to accelerate the transfer of spent fuel to dry cask storage and have perceived significant benefits to public confidence as a result of that choice. He remarked that other utilities are also making the same choice and he stated in his opinion public confidence should be elevated as criterion to be considered in the decision to move from wet to dry storage of spent nuclear fuel. He reported the California Energy Commission has since 2008 urged accelerating the transfer of spent fuel to dry storage and the DCISC has previously commended PG&E for commencing an accelerated spent fuel

transfer program at DCPD. He observed that Dr. Budnitz' analysis of the UCLA Spent Fuel Study was well-grounded and although the study was limited for budgetary reasons the discussion of this topic would be well served by the Committee making its opinion known.

Dr. Peterson commented when one looks at the entire period of time from cessation of electric power generation operations to the completion of the offloading of spent fuel from wet to dry storage, the rate of transfer changes due to acceleration of operations and it is the question of early acceleration followed by a deceleration that one needs to understand. The analysis involves consideration of having spent fuel in the spent fuel pools for a longer period of time before completing offloading to dry storage and requires a lower initial rate of offload which would result in DCPD reaching the end point of having all fuel removed from the spent fuel pools sooner than if a higher, accelerated offloading rate were initially employed. Therefore, if the goal is to remove all; of the fuel from the spent fuel pools at the earliest possible time this may require offloading less fuel earlier in the process in order to maintain a faster offloading rate later. Dr. Peterson stated that making a recommendation concerning acceleration of spent fuel transfer is complicated by offload campaigns with various acceleration/deceleration rates.

Dr. Budnitz remarked that although the UCLA Spent Fuel Risk Study was not as complete as it might otherwise have been due to budgetary and timing considerations, if the study were to have pursued additional analysis the time required to complete the study would have been extended by approximately 12-18 months and he expressed his view that the study was sufficient to support the decisions that will need to be made soon. Dr. Budnitz observed that had the authors of the study performed additional analysis this would not in Dr. Budnitz' view have affected the conclusions upon which a risk-informed decision might be based.

Ms. Sherry Lewis, a member of San Luis Obispo Mothers for Peace, was recognized. Ms. Lewis stated she favored the scenario described in the UCLA Spent Fuel Risk Study that creates the least risk and she distinguished between the risk implications discussed by Dr. Peterson concerning the initial acceleration of removal of fuel from the spent fuel pools with the fact that one of the four scenarios analyzed in the study resulted in the lowest risk. She remarked that she perceived that the DCISC was formulating a recommendation in accord with PG&E's desire to keep as much fuel in the spent fuel pools for a longer period of time before removal and she observed that it was cheaper for PG&E to do this but she observed that in so doing the risk is greater than it would otherwise be if the scenario with the lowest risk were adopted. Dr. Budnitz thanked Mr. Lewis for her thoughtful comment and he observed that, as PG&E is reimbursed from the federal government for the cost to transfer spent fuel from wet to dry storage at DCPD, the option selected would have very little effect on PG&E's financial resources.

Ms. Linda Seeley, a member of San Luis Obispo Mothers for Peace and the Decommissioning Engagement Panel, was recognized. Ms. Seeley observed that as PG&E has no casks available to use for dry cask spent fuel storage at the present time it would be impossible for DCPD to commence a loading campaign now even if it chose to do so. She remarked the conclusion of the UCLA Spent Fuel Risk Study was that despite

differences in risk, all of the analyzed alternative scenarios were safe and to her this represented the *modus operandi* which is employed by the NRC concerning safety. She remarked that waiting to begin discharging the fuel from the spent fuel pools to dry cask storage will result in a huge buildup of fuel including high burn-up fuel accumulating in the spent fuel pools in a dense configuration. But she observed that if fuel were continuously discharged the pools would become less densely packed and remain in what Ms. Seeley characterized as the safer condition. She questioned whether adding one year to the time of final discharge of the fuel while maintaining the fuel in a less densely packed spent fuel pool would not represent a safer option. She remarked it was her understanding that PG&E has received responses from four or five vendors for a new spent fuel dry storage system for DCPD and the Decommissioning Engagement Panel made specific recommendations for a new storage system including the ability to inspect and repair the canisters, 24-hour per day radiation monitoring, and for the system to use casks that could be transported offsite. Ms. Seeley requested the DCISC to use its influence with PG&E to persuade PG&E to obtain the safest possible spent fuel dry storage system available. She stated that in comparison to the estimate of \$4.8 billion to be expended for decommissioning, the cost of such a storage system was not particularly significant. She stated in 2014 a canister used with the present storage system had shown indications that conditions for cracking were present yet the canisters have not been inspected for cracking since that time. Ms. Seeley observed that at the present time no one knows if the spent fuel will be transported off the site, when that might take place, or to where the fuel might be transferred so securing the fuel as safely as possible now is of vital importance.

The Members discussed how a recommendation might be drafted concerning the Committee's evaluation of the UCLA Spent Fuel Risk Study and become a part of the Committee's 30th Annual Report on the Safety of Diablo Canyon Power Plant Operations. The Members determined to delegate the task of drafting a recommendation to Dr. Budnitz who will share his draft with the Committee's Technical Consultants and Assistant Legal Counsel for their review and comment. The Committee Members then determined to continue this item until the following day to consider the recommendation prepared by Dr. Budnitz.

XI INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

Mr. Baldwin introduced DCPD Emergency Preparedness Manager Mr. Michael Ginn to make the final informational presentation for the first day of this public meeting. Mr. Baldwin reported Mr. Ginn has more than 35 years' of experience in the industry and has held leadership roles in the Public Safety and Emergency Response organizations at DCPD.

Update on Emergency Preparedness Programs Including Changes Made in Response to the COVID-19 Pandemic.

Mr. Ginn reported that to date in 2020 DCPD has continued with a number of the activities planned and ongoing with the Emergency Preparedness Program including training, drills and other key events and he provided a list of recent and upcoming

Emergency Preparedness Program activities. He reported an emergency siren system test was performed in August 2020 with a 100% success rate. This test utilized 150 community volunteers and DCPD equipped all those persons with face coverings and hand sanitizers. These volunteers were given a "to go" barbecue after they returned their siren test cards. Mr. Ginn reported an automatic feedback system exists concerning the emergency sirens which provides test data immediately but the volunteers provided their personal observations of the performance of each siren in the system.

Mr. Ginn reported an Emergency Response Organization (ERO) full scope drill is scheduled to take place on December 2, 2020. In response to Consultant Wardell's inquiry Mr. Ginn reported this drill will be conducted using the ERO's facilities, with physical distancing and face covering protocols strictly observed. He reported ERO table top drills have been successfully conducted under COVID-19 protocols and the numbers of extra participants during the December 2020 will be limited to allow more space within facilities. Dr. Budnitz remarked that due to these coronavirus precautions it will likely be infeasible for the DCPD to observe the December 2, 2020, full scope drill.

Mr. Ginn reported the semiannual health physics drill will be conducted on December 9, 2020. He commented that the personnel in the health physics organization are very accustomed of the use of personal protective equipment and he displayed photos of past drills. Mr. Ginn reported that many of the plant's existing procedures were relevant to its response to the COVID-19 pandemic. ERO workers are categorized for purposes of the pandemic as essential workers and ERO personnel have always had procedures to require notification to their supervisors in the event of any change in their ability to respond within 60 or 90 minutes as assigned or if they experience a family illness or other event which could impact their ability to respond and, in that event, it is the responsibility of the ERO team member to notify their team leader and to obtain a replacement. The ERO regularly tests its personnel to ensure they are carrying pagers and cell phones which can be used to contact them in the event a response is required.

Mr. Ginn reported the ERO has implemented the use of face coverings and sanitizing stations and supplies and all ERO facilities are cleaned regularly. He reported even with the large number of DCPD employees who are now working remotely from home the ERO staff continues to oversee the readiness, monitoring and surveillance capabilities at ERO facilities. ERO procedures are now in place to validate that personnel are feeling well and ready to work. He reported the LiveSafe application walks essential plant personnel through the questions and the process used by the federal Centers for Disease Control and Prevention. Walk through portable temperature monitors have been installed and touch-less thermometers are available both at the plant site and at the ERO's facilities. Mr. Ginn remarked that PG&E's corporate security team can also notify ERO personnel of other types of events using the LiveSafe application. He stated ERO muster meetings are conducted virtually with the ERO team on duty. ERO teams are rotated and remain on duty for a two-week period and regular updates are provided on the status of local, county and state conditions including PG&E and station-specific updates.

Mr. Ginn reported DCPD used industry operating experience concerning NRC event

reports on actual emergencies that have occurred and DCPD shares its operating experience as well in order to learn and provide information on ERO performance. ERO teams are quizzed on their proficiency in classifying, notifying, and assessing station impacts in emergency situations. In response to Dr. Peterson's inquiry as to the utility of certain tools including virtual tools, developed and implemented to respond to the COVID-19 pandemic in a post-pandemic scenario, Mr. Ginn replied that PG&E is assessing how to work smart remotely and he remarked in the future this may include fewer large in-person gatherings of personnel and more use of virtual tools which may possibly include changes in the responses by the State of California and possibly PG&E's meteorological teams. He agreed with Dr. Peterson that some capabilities, knowledge and skill sets can be provided much quicker using a virtual platform such as are now being utilized in response to the pandemic. **Dr. Peterson stated this would be an appropriate topic for a future fact-finding by the DCISC with particular emphasis placed upon the area of emergency response.** In response to Dr. Budnitz' inquiry, Mr. Ginn stated the station participates with other nuclear power stations across the country concerning addressing the response to COVID-19 and the ERO is in daily communication with San Luis Obispo County's Emergency Response and Public Health organizations and all information received is routinely shared with station leadership.

In response to Dr. Lam's query concerning DCPD capability to conduct testing for COVID-19 Mr. Ginn responded that DCPD has strategically implemented testing for more than 700 temporary supplemental workers brought on-site during the last refueling outage but at the present time it is not planned to conduct tests of all DCPD employees unless employees have symptoms. He reported to date eight contractor personnel and fifteen employees have tested positive for COVID-19 since the beginning of the pandemic. Of the contractor personnel testing positive, two persons were identified during their in-processing period and did not receive badges for access to the site. Mr. Ginn reported DCPD also shares information with the Nuclear Energy Institute's website with regard to industry documentation standards and expectations and weekly calls are conducted with the NRC concerning emergency preparedness and to receive additional guidance from the NRC on COVID-19-related regulation. He reported that regular contacts are also maintained with the Federal Emergency Management Agency (FEMA) Region IX which provides assurance to the FEMA that each of the participants remains capable of responding to an emergency should one arise.

Mr. Ginn reported DCPD recently completed an NRC Emergency Preparedness inspection which included a review of the alert and notification systems and the ERO staffing and emergency action levels as well as the overall maintenance of ERO programs. No violations or findings were identified during this inspection. He stated this programmatic inspection was required based upon DCPD not having conducted an NRC-evaluated exercise during 2020 due to the pandemic. Mr. Ginn reported approval to conduct the next NRC-evaluated exercise has now been received from the FEMA, the State and from the County of San Luis Obispo and the exercise has been rescheduled to September 15, 2021. Mr. Ginn observed this date may provide the station with some time in which to implement a procedure for administering a coronavirus vaccine if one is

approved prior to that date and in that way minimize the potential impact of a large exercise on participants and observers. In response to Dr. Peterson's question Mr. Ginn reported DCPD is assessing the development of, and pre-planning for, a vaccine protocol in conjunction with the County of San Luis Obispo Public Health organization. DCPD has been approved as a site for distribution of a vaccine and DCPD's workforce has been designated as essential workers. He commented that to date no decision has been made as to a requirement that personnel receive a vaccine in order to report for work and any such decision will be in alignment with PG&E's corporate direction which has included the use of face coverings, physical distancing, the use of remote technology and restrictions on travel.

In response to Dr. Budnitz inquiry Mr. Ginn replied the only significant difference with regard to the December 2, 2020, full scope drill is expected to be the level of on-site participation by the State of California which will be more virtual than has been the case for past drills. He also reported the Joint Information Facility has been upgraded and that facility has been in use by San Luis Obispo County as the site for its weekly COVID-19 updates. **In response to Drs. Peterson and Budnitz' request, Mr. Ginn agreed to take an action to determine whether it might be possible for the DCISC to conduct remote observation of some of the activities taking place at one or more of the facilities to be used for the December 2, 2020, full scope drill.** Mr. Ginn reported all media briefings are recorded for purposes of training and to critique performance and the DCISC may be able to review the briefings offered during the December 2, 2020 drill.

Ms. Jane Swanson was recognized. Ms. Swanson reported that in mid-September she was out walking on a Saturday morning when the emergency siren on Prado Road at Sera Meadows was activated twice. Ms. Swanson stated she was unable to locate any information as to the reason for the activation. Ms. Swanson also questioned how DCPD manages procedures to control COVID-19 for the many workers brought to the site from many other areas for a refueling outage. Mr. Ginn replied and stated that occasionally maintenance is performed on individual sirens and DCPD has worked with San Luis Obispo County to provide public awareness announcements using the County's website and social media platforms when this maintenance is scheduled to take place. He stated the activation reported by Ms. Swanson was unlikely to be inadvertent but rather was likely a part of the planned siren test and maintenance program performed by PG&E. In response to Ms. Swanson inquiry as to testing of supplemental workers Mr. Ginn responded DCPD recently tested each of the 740 supplemental personnel as part of its in-processing procedures before those persons were granted access to the power plant and from this two persons were found to be positive for COVID-19 although both were asymptomatic and those individuals left the site, were quarantined, and contact tracing protocols were followed in accordance with guidance from the federal Centers for Disease Control and Prevention. Additional sanitizing and cleaning were performed for all areas visited by those two individuals. Mr. Ginn reported the use of face coverings and social distancing including within classroom settings was effective in preventing the spread of the virus.

The Chair thanked Mr. Ginn for an excellent presentation.

XII ADJOURN AFTERNOON MEETING

The Chair adjourned the afternoon meeting of the Committee at 4:55 P.M.

XIII RECONVENE FOR MORNING MEETING

Dr. Lam reconvened the morning meeting of the DCISC at 8:30 A.M.

XIV COMMITTEE MEMBER COMMENTS

Dr. Budnitz reported he completed the assignment given to him during the meeting held yesterday to prepare a recommendation for the Committee's consideration later this afternoon concerning the efficacy of relying on the UCLA Spent Fuel Risk Study. Assistant Legal Counsel Rathie stated although this recommendation was drafted outside of the 2019-2020 fiscal year period for which the DCISC prepared its Annual Report, procedurally, and at the Committee's pleasure, the matter might be taken up in context of approval of the Committee's 30th Annual Report and in that context it would be advisable to defer final approval of the 30th Annual Report until after the Committee has the opportunity to discuss and the public is given an opportunity to comment on the draft recommendation this afternoon.

XV PUBLIC COMMENTS AND COMMUNICATIONS

Dr. Lam invited members of the public to address the Committee on matters not appearing on the agenda for this meeting.

Mr. David Weisman of the A4NR was recognized. Mr. Weisman stated there was one part of an inquiry he made to PG&E during the meeting yesterday which remained unanswered and that inquiry concerned whether PG&E intends at any point to return to the CPUC with a request for ratepayer funding in connection with the Unit 2 main generator stator repair and the resulting outages. Mr. Weisman called the Committee's attention to the closure of SONGS which resulted from SONGS installation of faulty steam generators for which, as the steam generators were just out of their warranty period, the ratepayers were required to fund hundreds of millions of dollars in extra expense. Dr. Peterson remarked as the mechanism by which DCPD costs are paid is not linked to its operational safety Mr. Weisman's inquiry was outside the scope of topics concerning which the DCISC has authority to ask PG&E to provide information. Mr. Weisman observed the initial rationale for the creation of the DCISC by the CPUC was based upon an independent safety committee's ability to assess whether the utility was spending funds in a way that could lead to safety problems and he observed there can be a nexus between funds spent and safety assured. Dr. Peterson agreed but commented that unlike the steam generator experience at SONGS the function of DCPD's steam turbines is not safety-related. Dr. Budnitz remarked and Dr. Lam agreed that in its assessment of operational safety the DCISC remains cognizant of financial issues although those issues are not directly within the scope of the Committee's review and providing a response to Mr. Weisman's inquiry, now conveyed to PG&E through this discussion, would be entirely up to PG&E.

Consultant McWhorter remarked that a presentation on the problems with the Unit 2 main generator stator was scheduled to be presented at this public meeting but was postponed due to the recent recurrence of the problems and that this matter is now tentatively on the Committee's agenda for its February 16-17, 2021, public meeting. In the interim the Committee will conduct fact-finding concerning the issues with the Unit 2 main generator cooling system hydrogen leak.

Assistant Legal Counsel Rathie reported that following the conclusion of the Committee's discussions yesterday afternoon, four questions and a comment were received by an email communication from Mr. Tom Marre which it would be appropriate for the Committee to now consider and if appropriate provide responses. The questions and the Committee's responses were as follows: (1) Question: what is the elevation of the current spent fuel storage facility? Response: the ISFSI is located 310' above mean sea level and 225' feet above the elevation of the two reactors, and the spent fuel pools are located at the same elevation as the power plant at 85' above mean sea level. (2) Question: will a new larger spent fuel storage installation be built? Response: not according to the Committee's present knowledge as the present ISFSI's capacity is sufficient for all fuel that will be generated through plant shutdown in 2025. (3) Question: what would be the elevation for a new spent fuel storage facility? Response: See response to Question #2. (4) Comment: Mr. Marre observed that sometime in the past 10,000 years the Chumash Native American tribe left the area of DCPD for approximately 1,000 years and seashells and sand may be found at the top of the Irish Hills located behind the plant. Response: the DCISC and PG&E have conducted extensive investigation into the history of tsunami activity in the area of DCPD and have found no evidence of past tsunami activity in the vicinity of DCPD over a period of several thousand years and the uplift of the Irish Hills was the result of geologic uplift during a period that took place far earlier than 10,000 years ago. (5) Question: How does the information in Question #4 related to an expanded risk analysis? Response: It would not affect the risk analysis associated with the ISFSI and this has also been reviewed by the DCISC and its Special Consultant, Dr. Robert Sewell, in detail with the conclusion that there is no credible mechanism by which a tsunami would be expected to inundate to a level of 310' above mean sea level.

XVI ACTION ITEMS

A. DCISC's 30th Annual Report on Safety of Diablo Canyon Operations; July 1, 2019 - June 30, 2020.

The Chair requested Consultant Wardell to lead the discussion concerning preparation of the 30th Annual Report. Dr. Lam observed the Annual Report is one of the most important documents produced by the Committee and the report is provided to the CPUC, the Governor, the California Attorney General, and the California Energy Commission as well as distributed to local libraries including the R.E. Kennedy Library at Cal Poly. Mr. Wardell reported several drafts were prepared with the assistance of Consultant McWhorter and Assistant Legal Counsel Rathie and were circulated for review and a draft of the Executive Summary was provided for final review and as the basis for discussion regarding approval of the report. Mr. Wardell reported that Dr. Budnitz was

tasked with preparing a recommendation based on information received by the Committee and discussions which occurred during the public meetings held during this annual report period regarding PG&E's use of the UCLA Spent Fuel Risk Study and that a draft recommendation is scheduled to be considered by the Members later today. If approved, the recommendation could become a part of the 30th Annual Report. The draft recommendation has now been provided to the other Members and the public. The Members discussed and considered options to transmit their recommendation including its inclusion in the 30th Annual Report by a reference in Section 4.19 and its inclusion within the Executive Summary and concluded that it would be both timely and important to include an approved recommendation in the 30th Annual Report, as doing so would allow PG&E the opportunity to receive and respond at the earliest possible time concerning this matter of importance to PG&E, the Committee, the CPUC, the entities who appoint the members of the DCISC and to the public. On a motion made by Dr. Budnitz, seconded by Dr. Peterson, the Committee unanimously approved deferral until later in this public meeting of the approval of Section 4.19 of the 30th Annual Report and the Executive Summary, as well as the Minutes of the July 2020 public meeting which are scheduled to be reviewed later during this meeting and which also will become part of the 30th Annual Report.

The draft recommendation concerning the UCLA Spent Fuel Risk Study was made available to the public through the Zoom webinar's share screen function during the public meeting and was also posted on the Committee's website. Dr. Budnitz then read the draft recommendation as follows:

"The DCISC recommends that when PG&E considers decisions about the future management on-site of the spent fuel from DCP's two reactor units, the risks arising from spent fuel management should be a part of the PG&E decision process and that process should strongly consider the conclusions contained the Study entitled *"Probabilistic Risk Assessment of Nuclear Power Plant Spent Fuel Handling and Storage Programs: Methodology and Application to the Diablo Canyon Power Plant."*

The DCISC Annual Reports are made available in two bound volumes, as a compact disk and on the Committee's website at www.dcisc.org. The report is made available to the public and sent to the CPUC and the entities appointing members of the DCISC and to other interested parties and provided for inclusion in the collections of the Cal Poly R.E. Kennedy Library and local libraries in San Luis Obispo County. **In response to Assistant Legal Counsel Rathie's request the Committee Members provided their direction that as the Committee will at some point in the future cease its safety oversight role, so that an archival and permanent record of the Committee's activities be preserved the report should continue to be distributed in compact disk format.**

B. Update on Financial Matters and Committee Activities 2020-2021.

In response to the Chair's request Assistant Legal Counsel Rathie stated that a report was provided showing the expenditures by the Committee to date and the grant funds received for the Committee's operations which are provided by PG&E's ratepayers

in accordance with the CPUC Decisions which created and continued the operation of the Committee. He reported the DCISC completed all of its activities during calendar year 2019 without exceeding the funds allocated for its operation and all funds remaining unspent have been remitted to PG&E for credit to its ratepayers. He further reported that given the significant savings realized so far during calendar year 2020 due to the COVID-19 pandemic having made it impossible for the Committee to hold its public meetings in the local area, instead conducting those meetings remotely as Zoom webinars, and to conduct its fact-finding activities in person with DCPD personnel at the plant site, instead conducting those activities as WebEx meetings, the Committee will again be in the position of remitting unspent funds to the ratepayers. Dr. Budnitz remarked that if it should become necessary in the future due to an emergent issue or otherwise for the Committee, in order to continue to fulfill its operational safety review mandate, to expend funds in excess of the annual grant he would not hesitate to so recommend. He also observed that the present situation has made it impossible for the Committee during 2020 to conduct tours of the power plant with members of the public. Mr. Rathie then directed the Members attention to the agenda packet with the list prepared by Consultant Wardell of planned activities for the remainder of 2020 and for 2021. He reported that future public meetings of the Committee are now scheduled for February 16-17, June 23-24, and October 18-19, 2021.

C. Discussion of Issues on Open Items List.

Dr. Lam requested Consultant Wardell to lead a review of items on the Open Items List, which he described as very important tool used by the Committee to track and also to follow issues, concerns, and information requests identified for subsequent action or receipt during fact-finding and public meetings. The Members observed maintaining and reviewing the Open Items List is one of the most important activities for the Committee during its public meetings, as the Open Items List governs and provides a record of the Committee's past, current and future actions and priorities. Dr. Lam observed that the Open Items List demonstrates that the Committee entertains no idle curiosity and strives for focus and clarity in its operational safety review role. The Members remarked that many items on the Open Items List represent questions or issues raised by members of the public during the Committee's public meetings or which emerged from discussions with members of the public at those meetings.

Mr. Wardell reported that changes to the Open Items List from the last public meeting were shown in red italics on the Open Items List provided as part of the agenda packet for this public meeting. Items discussed and concerning which action was taken included the following^[9]:

Item	Re:	Action Taken
CO-8	Monitoring Reactor Trips	Next Action 11/20 FF
CO-0	Mispositioning Errors	Next Action 11/20 FF
CO-14	Operator Retention Project	Next Action 12/20 FF

EN-31	Engineering Excellence Plan	Next Action 11/20 FF
HP-1	Review of Human Performance	Next Action 1/2Q21 FF
HP-25	Management Observation Program	Next Action 1/2Q21 FF (not RJB)
EP-2	Attend/Observe Emergency Drills	Next Actions 12/02/20 (Drill with DCISC observation pending and 9/15/21 evaluated exercise
RA-6	Seismic Fragility Analysis	Next Action 3/21 FF (RJB)
SE-42	Safety System Functional Failures	Next Action 1/2Q21
SG-1	Steam Generator Inspections & Tests	Next Action 1/21or 3/21 FF
OM-3	Refueling Outage-Remote Monitor Coordination Ctr. (if possible)	Next Action 11 or 12/20 FF
SEC-4	Cyber Security	Next Action 11/20 or 3/21 FF(RJB)
SF-2	Dry Cask & Spent Fuel Pool Fuel Storage	Next Action 11/20 FF (Defer review of RFP to 2Q21)
FP-5	Fire Protection NFPA 805 Program	Next Action 3/21 FF (RJB)
LD-6	Remote Observation of Operator License Re-Qualification Class	Next Action12/20 FF (PFP)
DEC-1	Reference to Aforced@ plant shutdown	Delete Aforced@
DEC-4	Emergency Preparedness during Decommissioning	Next Action 2Q22
10/19PM-3	System Engineering Department	Next Action 11/20 FF (RJB)
2/20PM-8	County OES Future Planning	Move to DEC-4 & Close
7/20PM-1	Response to COVID-19 Pandemic	Add State Agency & DCISC Remote Participation
7/20PM-3	Mis-wiring issue	Next Action 11/20 FF (RJB)
7/20PM-4	Steam Generator Inspection Frequency	Last Action 8/20 FF & Close
7/20PM-6	Annual Report CD	Close
7/20PM-	UCLA Study Spent Fuel	Pending Recommendation & then Close

10	Study: Assessment of Relative Risk	
7/20PM-11	Review RFP for Dry Cask Storage System	Move to SF-2 and Next Action 2Q21
7/20PM-tbd	Intake Structure Change re Protected Status	Review re Implementation when on-site
10/20PM-tbd	September 15, 2021 Emergency Exercise	Review Scheduling on Yom Kippur and possible DCISC remote observation

During their review of the Open Items List the Members also continued their discussion on the difficulties and compromises created with reference to their review of operational safety due to the inability to visit the plant in person. Members discussed the value they each place upon attendance at the meetings held by DCP's Nuclear Safety Oversight Committee (NSOC) which are conducted to close out the periodic four-day reviews by the NSOC which is comprised of highly regarded outside experts and industry professionals. They also reviewed the requirement that, as with information concerning the period reviews by the Institute of Nuclear Power Operations (INPO), the information shared by the NSOC with the DCISC must remain confidential in order to foster the frankest possible dialogues concerning issues identified by those bodies and shared with the DCISC. Dr. Peterson remarked that INPO's evaluations are also used to set the insurance rates for DCP. Members briefly discussed the inspection frequency of the steam generator inspections and Consultant McWhorter reported DCP has requested an exemption from the NRC for certain steam generator inspections which would otherwise be required prior to plant closure.

Items identified on the list and not included in the above were identified by Mr. Wardell for closure and were so approved. Mr. Wardell called the Committee's attention to Pages 9 and 10 of the Open Items List which tracks the dates on which system and program reviews were completed or scheduled. Action was taken on items as follows:

DCP Systems/Components Periodic Review

System, Program or Component	Date/Action
Control Room Simulator	Next Action 11/20 FF
Fire Protection & Detection Systems	Next Action 3/21 FF
Operating Experience	Next Action 1/2Q21
System Engineering	Next Action 11/20 FF
Trending Analysis	Delete (Superseded)

Dr. Peterson complimented Consultants Wardell and McWhorter for their excellent work and the efforts expended to maintain and update the Open Items List.

Following review of the Open Items List Ms. Sherry Lewis of Mothers for Peace was

recognized. Ms. Lewis requested an explanation concerning the request by DCPD for deferral of certain otherwise required inspections of the steam generators. Consultant McWhorter replied that for the primary side of the steam generators, that is the portion of the steam generators wherein reactor cooling water circulates, eddy current testing is performed and is typically required to be done after three operational cycles and Unit 2 completed that inspection activity late last year and Unit 1 is in the process of completing the primary side inspection now. Given that Unit 1 is scheduled to close in 2024 there will be no further primary side inspections required. For Unit 2, which has four more operational cycles before it is scheduled to close in 2025, given the inspection interval of three operational cycles, Unit 2 would be required to conduct one more primary side inspection before it is scheduled to be retired in 2025. Mr. McWhorter reported that DCPD consistent with an industry initiative and the current excellent performance of the DCPD replacement steam generators is planning to request an exemption from the NRC to move the periodicity of the primary side inspection of the steam generators from three to four operational cycles and if approval is received Unit 2 would not be required to conduct another steam generator primary side inspection. Dr. Lam stated a team of senior management was formed to evaluate the cost and benefit of certain programs and components during the pre-closure period and the DCISC continues to review and assess the safety implications of those programs and components for which work or procurement has been cancelled.

A short break followed the review of the Open Items List.

XVII COMMITTEE MEMBER REPORTS AND DISCUSSION

A. Public Outreach, Site Visits and Other Committee Activities:

Dr. Lam reported that with Assistant Legal Counsel Rathie on October 19, 2020, he met via a Zoom meeting with the Chair of the California Energy Commission Mr. David Hochschild and with the Energy Commission's Executive Director Mr. Drew Bohan and its Senior Nuclear Policy Advisor and Emergency Coordinator Dr. Justin Cochran. Dr. Lam summarized the topics discussed at that meeting as including plant decommissioning, procedural matters with reference to the 2018 NDCTP, the movement and storage of spent nuclear fuel and nuclear waste, and the NRC's response to the License Amendment Request concerning the Auxiliary Feedwater System piping corrosion issue among other topics.

Dr. Budnitz reported with Assistant Legal Counsel Rathie he is scheduled to meet on November 13, 2020, with five of the California Attorney General's senior staff members during which Dr. Budnitz will have an opportunity to report on the Committee's activities during 2020. Dr. Budnitz stated he would provide a report on the meeting with the Attorney General's staff at the February 16-17, 2021, DCISC public meeting.

The Members confirmed public meetings of the DCISC are now scheduled for February 16-17, June 23-24 and October 19-20, 2021 and they then scheduled a public meeting for February 15-16, 2022.

Fact-finding visits were confirmed and scheduled as follows:

[2020] November 10 & 12 RJB/RDM; December 8-9, 2020 PFP/RFW;

[2021] January 27-28 PL/RDM; March 17-18 RJB/RFW; April 20-21 PL/RDM; May 11-12 PFP/RFW; July 14-15 PFP/RDM; August 18-19 PL/RFW; September 22-23 RJB/RDM; November 9-10 RJB/RFW; December 7-8, 2021 PFP/RDM; and

[2022] January 18-19, 2022 PL/RFW

The Members observed that scheduling the upcoming evaluated biennial emergency exercise on September 15, 2021, which for the 2021 exercise will have been extended by one additional year due to the COVID-19 pandemic, is very unfortunate as Yom Kippur, a holy day for persons of the Jewish faith commences that evening. Members directed that this information is brought to PG&E's attention and that the matter returned for review at the February 2021 public meeting concerning the DCISC's ability to send two observers to this exercise. Members directed that an item be added to the Open Items List concerning this matter.

Documents Provided to the Committee:

The Chair observed that a list of documents received by the DCISC since its last public meeting in October 2020 was included in the public agenda packet for this meeting and the Committee strives to always conduct its business in a transparent fashion.

XVIII INFORMATIONAL DISCUSSION BY REPRESENTATIVE OF THE DIABLO CANYON DECOMMISSIONING ENGAGEMENT PANEL

The Chair introduced Dr. Lauren Brown, Ph.D., a Member of the Diablo Canyon Decommissioning Engagement Panel, and invited Dr. Brown to address remarks to the DCISC. Dr. Brown thanked the Members for their invitation and he remarked that over the past two years the Decommissioning Engagement Panel has enjoyed a good working relationship with the DCISC and during his presentation he would provide an overview of the Panel's recent activities and future plans.

Dr. Brown stated the mission and purpose of the Decommissioning Engagement Panel, which was created by PG&E in 2018, centers on the need for PG&E and the local community to talk to each other and on the need to establish a conduit for information on PG&E's decommissioning planning and the implications involved, and for the community to convey its concerns and to make recommendations to PG&E concerning decommissioning. Dr. Brown reported due to restrictions necessitated by the COVID-19 pandemic the Decommissioning Engagement Panel is currently meeting remotely but its meetings continue to be well attended by members of the public.

Dr. Brown stated three new members have recently been selected to replace members who have either retired or whose terms on the Decommissioning Engagement Panel ended. He remarked this selection occurred after what he described as an

extensive application process with applications received from a number of persons in the community. The new members include Dr. Timothy Auren, M.D., an interventional radiologist with a Bachelor of Science Degree in Mechanical Engineering whose experience includes an internship with Westinghouse on the design of naval nuclear reactors; Dr. Patrick Lemieux, PhD. a mechanical engineer who teaches at Cal Poly and who is a member of the Distributed Wind Energy Association, a trade association which represents the interests of the wind energy producers; and Ms. Charlene Rosales who previously served as Director of Governmental Affairs for the San Luis Obispo Chamber of Commerce and who now serves as Deputy Director and COVID Manager for Mission Community Services. Dr. Brown reported Mr. Trevor Keith who previously served as a member of the Panel has now been promoted to Director of the County of San Luis Obispo Planning and Building Department and, as in that role it would not be appropriate for him to continue to serve as a voting member of the Decommissioning Engagement Panel, Mr. Keith has accepted one of three positions reserved for service as an *ex officio* member. At the present time Mr. Keith is the only *ex officio* member. Dr. Brown displayed a PowerPoint showing the current membership of the Decommissioning Engagement Panel and he observed that the need to achieve geographical balance was met as current members reside in areas in Central California extending from Atascadero to Arroyo Grande. He reported Ms. Maureen Zawalick serves as PG&E's representative on the Decommissioning Engagement Panel.

Dr. Brown reviewed the topics considered during the meeting of the Decommissioning Engagement Panel held on March 11, 2020, including:

% The process involved with San Luis Obispo County's review under the California Environmental Quality Act (CEQA) and the requirement that an environmental impact report (EIR) be prepared for the decommissioning of DCP, including the public process before the County Planning Commission, the County Board of Supervisors and the State of California Coastal Commission. Dr. Brown observed that San Luis Obispo County will likely act as the lead agency in this process and prepare the EIR and in this process mitigation measures and alternatives relative to environmental impacts will be considered. He remarked the County is presently assessing the adequacy of its staffing to handle this process expeditiously. The process includes significant opportunities for public involvement in all phases.

% The CPUC's Tribal Land Transfer Policy whereby whenever excess lands are to be disposed of by an investor-owned utility the utility is required to offer a right of first refusal to obtain the land to recognized Native American tribes with ancestral claims to such lands. Dr. Brown observed the Decommissioning Engagement Panel's Vision Document reflects the strong input received from the local community that DCP lands due to their ecological, scenic and cultural resources should be conserved in perpetuity subject to sustainable public access while acknowledging the claims from the local Native American community be acknowledged and considered as valid. He remarked that how DCP lands are ultimately dispositioned is likely to be an important aspect of the Decommissioning Engagement Panel's activities in the years ahead. Dr. Brown commented this issue has probably engendered the most extensive public input received to date by the Decommissioning Engagement Panel.

% The Request for Proposal (RFP) process for dry cask storage of spent nuclear fuel. Dr. Brown reported approximately 110 new casks will be required and the RFP issued by PG&E to potential vendors for those casks was sent to manufacturers in March of 2020. PG&E's cost for the new casks is estimated to be in excess of \$200 million. Dr. Brown reported the Decommissioning Engagement Panel has made several recommendations to PG&E concerning this topic and all were incorporated into the RFP. He reported the California Energy Commission also reviewed the RFP and provided input to PG&E. He commented the criteria for new casks include the ability to transfer all spent fuel from the spent fuel pools to dry cask storage within four years following shutdown of the reactor and a requirement that they be capable of accommodating high burn-up fuel. An 80-year design life was required as were measures to address the marine environment, to provide for in-place inspections, to minimize dose to workers and the public, and to require NRC and other regulatory approvals. Dr. Brown reported PG&E expects to complete contract negotiations by April 2021 and to issue a purchase order for the casks in January 2022. Dr. Brown stated that this is an area where the Decommissioning Engagement Panel could benefit significantly from input provided by the DCISC.

Dr. Brown reviewed the topics considered during the meeting of the Decommissioning Engagement Panel held on June 24, 2020. These included:

% Transportation from DCPD of non-radiological and low-level radiological materials. Dr. Brown reported that the Decommissioning Engagement Panel also received a presentation from The B. John Garrick Institute on the UCLA Spent Fuel Risk Study. Three potential routes for transporting this material were identified and include: (1) a southern route through Avila Beach, (2) a northern route through Montana de Oro, and (3) an ocean route involving barges which would utilize a retained marina facility with further overland transport to an ultimate destination. Dr. Brown reported that with the use of trucks to transport the materials the southern route was found to have a lower risk than the northern route; however, the route with the lowest overall risk would be created by leaving the marina/Intake Cove facilities intact and using barges for the first leg of the route. Dr. Peterson remarked that Sweden routinely ships spent fuel by ship from its nuclear power plants, all of which are located along its coastline. In response to Dr. Peterson's inquiry as to whether a similar option was considered for DCPD Dr. Brown stated that it had not been. However, he stated the Decommissioning Engagement Panel's review during the June 2020 meeting was focused only on non-radiological and low-level radiological materials and not on the transport of spent fuel. Dr. Budnitz remarked the DCISC has not reviewed the issues described by Dr. Brown involving transport and at present it is not clear whether the present or a future Charter from the CPUC for the DCISC's operational review would extend to those matters. Dr. Brown commented that if these matters are ultimately within the DCISC's purview the Decommissioning Engagement Panel would welcome receiving the DCISC's input.

Dr. Brown invited the attendance of the DCISC via remote access at the Decommissioning Engagement Panel's public meeting on October 28, 2020, when the topics will include marine resources, the future of the breakwater and the options leaving

the breakwater in place may offer, and the operation of the DCPD seawater desalination plant. He reported topics identified for future meetings of the Panel include the CPUC ruling on the 2018 NDCTP and the management, storage and transportation of spent nuclear fuel, concerning which the Panel's responsibility may in some ways align with the responsibilities of the DCISC.

In concluding his presentation Dr. Brown observed the work and mission of the Decommissioning Engagement Panel is captured in its Strategic Vision document which he described as a document that has been and will be periodically updated as the Decommissioning Engagement Panel continues its work. Dr. Brown commented the Decommissioning Engagement Panel has three distinct audiences for its work, one being PG&E, another the CPUC and a third being the local community and the Panel has a responsibility to keep all three updated and one of the ways this is accomplished is through the Panel's website at www.diablocanyonpanel.org.

In response to Dr. Lam's request Dr. Brown explained the transmission lines serving DCPD will remain and be maintained after DCPD ceases to generate electricity and any location along those transmission lines could afford an opportunity for a connection to the power grid for solar or wind power generation, whether the generation facility was located within or outside of San Luis Obispo County. Dr. Brown stated that due to the marine layer which frequently affects the weather along the California's central coast solar applications may not prove a good choice in those areas. Dr. Peterson stated his purpose in mentioning the Swedish experience in transporting spent nuclear fuel by ship relates the decision on whether the breakwater will remain in place and as technology is likely to evolve, this may represent an important consideration as to whether to keep the breakwater in place as there are other materials that could be transported from DCPD by barge. Dr. Brown agreed and commented many persons in the local area would likely favor transporting materials by barge including the transport of spent nuclear fuel but the Decommissioning Engagement Panel's task is to evaluate the overall impacts not just on the local community but on the safety of other communities and on the state, as materials will need to be transported at some point overland to their final destinations.

Ms. Jane Swanson was recognized. Ms. Swanson stated her opinion that the Decommissioning Engagement Panel has been very effective in its role as a voice for the community in interacting with PG&E and the CPUC but she questioned how the voice of the Panel can be effective with reference to complex issues because of the many other entities involved in making decisions. Dr. Brown replied that the Decommissioning Engagement Panel's membership in making its recommendations seeks input from outside experts such as the B. John Garrick Institute and the DCISC in an effort to understand and evaluate best practices concerning nuclear-related issues. Ms. Swanson commented and Dr. Brown agreed with reference to many decisions it will be PG&E that has the final say.

Mr. David Weisman, representing A4NR, was recognized. Mr. Weisman inquired as to when the Decommissioning Engagement Panel might have a response to the questions he posed to the Decommissioning Engagement Panel and posted to the Panel's comment

board in June 2020, per the advice of PG&E's facilitator Mr. Anders, at the time of the B. John Garrick Institutes presentation to the Decommissioning Engagement Panel concerning Mr. Weisman's inquiries regarding the viability of rail transit routes. Dr. Brown replied Mr. Weisman's inquiry was not on the agenda for the Decommissioning Engagement Panel's October 28, 2020 meeting but he would take an action to review the matter of a response from the Decommissioning Engagement Panel to Mr. Weisman's inquiries at a future meeting.

XIX TECHNICAL CONSULTANT & LEGAL COUNSEL REPORT; RECEIVE, APPROVE AND AUTHORIZE TRANSMITTAL OF FACT-FINDING REPORT TO PG&E

A. The Chair requested Consultant Wardell to report on the July 21-22, 2020, fact-finding conducted as a WebEx webinar with Dr. Peterson and PG&E representatives. Mr. Wardell reviewed the topics discussed with PG&E during the July 21-22, 2020, visit as follows:

% Meet with NRC Senior Resident Inspector - Mr. Wardell reported the DCISC fact-finding team met remotely with the newly assigned Senior Resident Inspector Mr. Don Krause who recently assumed that role in relief of the former Senior Resident Mr. Chris Newport. Mr. Wardell reported former Resident Inspector Mr. John Reynoso has now been relieved by Resident Inspector Ms. Ayesha Athar. Topics discussed in the meeting with Senior Resident Krause included: the Unit 2 shutdown due to the hydrogen leak in the main generator which at the time of the visit had just occurred, debris found in a safety-related battery cell, scaffolding which was erected in the Emergency Diesel Generator Room without a seismic evaluation having been performed, and DCP's response to the COVID-19 pandemic which Mr. Wardell reported the NRC assessed to date as being appropriate. Mr. Wardell stated that at the time of the fact-finding team's visit one of the two inspectors was on site every day while the other inspector worked from home.

% Compressed Air System Review with System Engineer - Mr. Wardell reported the Compressed Air System includes two subsystems: the Instrument Air System, a Safety Class 2 system which is not required to be seismic qualified with no access to emergency power which supplies air-operated valves and instruments using three primary full-capacity air compressors and four backup compressors; and the Service Air System, which Mr. Wardell stated is not safety-related and uses two non-safety-related outdoor compressors. Mr. Wardell reported components served by the Instrument Air System can function independently and have proximal access to seismically qualified air tanks and can receive direct current (DC) power. Mr. Wardell reported the system health was at the time to the fact-finding Yellow^[10] due to aging and obsolescence of compressor parts which have now been replaced and the system is now either in White or Green health status.

% Observe Plant Health Committee Meeting - Mr. Wardell reported the DCISC representatives were unable to observe this meeting as it was cancelled.

% 2019 Radioactive Effluent Release Report & Radiological Environmental Operating

Report - Consultant Wardell reported the Radioactive Effluent Release Report describes, lists, calculates and measures radioactive gaseous and liquid effluent and any direct radiation source released to the environment. DCPD is required by the NRC to, and does, limit such releases to As low as reasonably achievable (ALARA) limits. Mr. Wardell reported there have been no measured off-site direct radiation receptors and gaseous and liquid effluent releases were extremely small, representing fractions of the plant's Technical Specifications. The Radiological Environment Monitoring Report annually reports on measured samples from the environment including from the air, soil and food sources around the plant and Mr. Wardell reported there have been no abnormal levels of radioactivity detected compared to the baseline established from before the plant was placed in service. Dr. Budnitz observed that such emissions from all U.S. nuclear power facilities are extremely small.

% Containment Concrete Inspection with Camera Drone - Consultant Wardell reported that a drone-mounted camera with a telephoto lens is now used to take three-dimensional, stereoscopic photos of the exterior concrete surfaces of both DCPD Containment domes and cracks in the concrete were examined by qualified inspectors with no significant cracking identified.

% Equipment Reliability Process Update - Mr. Wardell reported Unit 1 is showing strong performance in equipment reliability while some corrective action was required for Unit 2 which caused the system health for Unit 2 to be in Yellow status while Unit 1 remains in Green status. An improvement program for Unit 2 has been implemented and Unit 2 equipment reliability is expected to return to Green status by the end of 2020.

% Operations Issue on Misposition Errors (Equipment Control Status) - Mr. Wardell reported these errors are referred to as equipment status control errors and occur when a valve, instrument or a switch is for some reason found in the wrong position. No unit trips have resulted but there is the possibility that such an error could cause equipment to be out of service when needed. Mr. Wardell reported DCPD has now implemented an Operations Department Plant Status Control Action Plan and Effectiveness Review process. **He remarked the Action Plan appeared to be appropriate but the Effectiveness Review process has not yet commenced and the DCISC should plan to review the Effectiveness Review in November or December 2020.**

% DCPD Use of Social Media in Context of Emergency Response - Consultant Wardell reported that except for an emergency application specific to DCPD, social media outreach is guided and controlled by PG&E's corporate office. In the event of an emergency involving DCPD the corporate website would be replaced by a preplanned prepared DCPD Emergency website with information specific to the emergency situation. Mr. Wardell reported DCPD would coordinate its emergency social media outreach with the San Luis Obispo County Office of Emergency Services.

% Buried Piping and Tanks Program - Mr. Wardell reported this program periodically inspects buried tanks and piping with reference to their structural integrity. He reported DCPD has a relatively small number of such buried facilities as compared to other nuclear power plants and only a few, such as the Auxiliary Saltwater (ASW) System and the

diesel fuel oil tanks, are safety-related. Results of those inspections have been satisfactory with no problems with leaks or structural integrity identified. He reported that cathodic protection is utilized to prevent corrosion.

% Slight Rise in Unit 1 Power Operations Just Prior to Curtailment to 89% Power- Consultant Wardell reported that the slight rise in Unit 1 power operations prior to a planned curtailment was due to an instrumentation error and this has been entered into the Corrective Action Program and therefore did not indicate a problem with the unit.

% Update on Institute of Nuclear Power Operations (INPO) Evaluation Areas - Mr. Wardell reported that due to confidentiality restrictions, information provided to the DCISC representatives by DCPD concerning areas evaluated or identified by INPO cannot be provided or discussed in a public forum.

% Meet with DCPD Officer - The fact-finding team met with the Senior Vice President Generation and Chief Nuclear Officer Mr. Jim Welsch for a discussion of the items reviewed during the July 2020 fact-finding.

Upon a motion made by Dr. Budnitz, seconded by Dr. Lam, the July 21-22, 2020 Fact Finding Report was accepted by the DCISC and its transmittal to PG&E was authorized. The report will become a part of the Committee's 31st Annual Report.

B. The Chair requested Assistant Legal Counsel Rathie to report on administrative, regulatory and legal matters.

Mr. Rathie reported with reference to legal matters that the appointment by the Governor of a member of the DCISC for the 2020-2023 term is still pending and Dr. Peterson and Mr. Michael Quinn have both been selected by the CPUC as candidates for consideration by the Governor for that appointment. As Dr. Lam pointed out and Mr. Rathie confirmed, California law provides for the continuance in office of an appointee to the DCISC pending his or her reappointment, replacement or resignation. He confirmed the information from the report made earlier during this meeting by Mr. Jones that a proposed decision in the 2018 Nuclear Decommissioning Cost Triennial Proceeding (NDCTP) has yet to be issued but is expected to be issued soon. Mr. Rathie reported that a Settlement Agreement proposed in the 2018 NDCTP could provide for a venue for establishment of a post-shutdown role for the DCISC to continue its safety review of plant operations after cessation of electricity generation.

Mr. Rathie reviewed the efforts now underway to update the Committee's website and reported he is ably assisted in this endeavor by Mr. Jeffry McGee of Sun Star Media in Monterey, California. Mr. McGee addressed the Committee and reported that he has prepared a new visual interface for the website based on discussions with Mr. Rathie. A link to a beta version of the new website was previously sent to all Members and to the Committee's Technical Consultants. Mr. Rathie observed the Committee's website has been an effective tool for public outreach but with the coronavirus pandemic impeding the DCISC's ability to hold its public meetings in the San Luis Obispo area or to continue to conduct tours of DCPD with members of the public, updating and refreshing the website's contents would continue to provide a venue for public outreach and information

on the Committee's activities to the local community and the community at large. Mr. McGee remarked that the new site is being developed to be easy to navigate and friendly to users of mobile phones and computer tablets and to be compliant with the Americans with Disabilities Act. Mr. Rathie stated the Members and Consultants are invited to provide feedback and suggestions for the website's development and that effort is seen as a continuing effort. Dr. Lam stated he found the beta version to be in reasonable form. Dr. Peterson remarked that additional comment on the website and its development, as it is an administrative matter, can be provided by members outside the format of a public meeting to the Legal Counsel's Office and he requested occasional briefings as to the website's development and the activity on the website and he stated he would like to see the work proceed expeditiously. Mr. Rathie then reported on the activity on the current website to date for 2020 which saw an average of 615 unique visitors, that is, individual visitors to the site without reference to how many pages they downloaded or areas visited, with visits from persons in the United States, Saudi Arabia, The Russian Federation, Great Britain and Canada making up the top five countries for visitors.

Ms. Jane Swanson was recognized. In response to Ms. Swanson's inquiry Mr. Rathie confirmed that the Committee is now posting to the website not only the agendas and legal notice for its public meetings but also the complete agenda packets and the PowerPoint presentations to be used during a public meeting. Archived video of previous DCISC public meetings, indexed to the individual agenda topics, is available at www.slospan.org and can also be accessed through a link on the DCISC's website.

Ms. Sherry Lewis was recognized. In response to Ms. Lewis' question Mr. Rathie reported that the PowerPoint presentations from past DCISC public meetings are not permanently retained for access on the Committee's website and the Minutes of past DCISC meetings, after their approval at a public meeting, constitute the official record of a public meeting of the Committee.

Mr. Rathie reported a comment was received by email from Mr. Tom Marre to Anot be children@ [with respect to data available on the website]. Dr. Budnitz responded that nothing is posted to the Committee's website that is not within the public domain. Mr. Rathie reported Mr. Marre sent in an additional comment to the Legal Counsel's Office by email concerning the financial relationship between PG&E and the matter of a warranty on the main generator stator.

XX ADJOURN MORNING MEETING

The Chair adjourned the morning meeting of the Committee at 12:15 P.M.

XXI RECONVENE FOR AFTERNOON MEETING

The afternoon public meeting of the Diablo Canyon Independent Safety Committee was called to order by its Chair Dr. Peter Lam at 1:15 P.M. Dr. Lam welcomed those persons attending the webinar and watching the proceedings on live streaming video. Dr. Lam requested any of the members who wished to make remarks to do so at this time.

XXII COMMITTEE MEMBER COMMENTS

There were no comments by Members of the Committee at this time.

XXIII PUBLIC COMMENTS AND COMMUNICATION

The Chair recognized and welcomed Dr. Justin Cochran, Senior Nuclear Policy Advisor and Emergency Coordinator for the California Energy Commission. Dr. Cochran stated he has watched the Committee's deliberations and the presentations made to and comments received by and responded to by the DCISC over the period of the past two days and he found the meeting to be very informative. Dr. Cochran expressed his personal thanks and the thanks of the California Energy Commission to the Committee Members and the Committee's technical staff for their work and diligence in dealing with complex issues and for the insight provided to the Energy Commission and to the public. Dr. Cochran remarked the Committee provides an additional level of technical acumen and experience concerning these complex issues. He also expressed thanks to those who support the Committee's public meetings as well as to those who make informational presentations to the DCISC and to the members of the public in attendance.

XVI ACTION ITEM (Continued)

A. DCISC's 30th Annual Report on Safety of Diablo Canyon Operations; July 1, 2019 - June 30, 2020.

Members returned to the consideration of a draft of a recommendation concerning the UCLA Spent Fuel Risk Study which was prepared during the previous evening by Dr. Budnitz and reviewed by the Committee's Technical Consultants and Assistant Legal Counsel earlier this day. Drs. Peterson and Lam, now being in possession of a copy of the draft recommendation for the first time, a copy for public review was posted online via the Zoom share screen function, and was also made available on the Committee's website. Dr. Budnitz then introduced a motion that the draft recommendation be adopted by the Committee and that the conclusion to Section 4.19.3 of the 30th Annual Report and the Executive Summary be modified accordingly and, with the inclusion of the Minutes of the July 2020 public meeting to be considered later in this public meeting, that the 30th Annual Report be adopted. Once adopted, the Annual Reports of the Committee are provided to PG&E and PG&E has 45 days in which to provide a response which becomes a part of the Annual Report.

Dr. Budnitz' motion, having received a second from Dr. Peterson for discussion, the Committee Members proceeded to discuss, debate and approve certain edits and revisions to the draft recommendation. The matter was then opened for public comment.

Ms. Sherry Lewis of Mothers for Peace was recognized. Ms. Lewis stated that she understood the Committee was about to recommend that PG&E take the UCLA Spent Fuel Risk Study into account because the Committee Members thought highly of that Study but the Committee is not prepared to recommend which of the four scenarios analyzed by the Study it prefers. Ms. Lewis stated her opinion that if the decision is left to PG&E alone PG&E will not choose the scenario which provides for the movement of

spent fuel from the spent fuel pools at the earliest possible opportunity which would result in a smaller inventory of spent fuel remaining in the pool than under the other three scenarios. Ms. Lewis stated her opinion that the risks identified in the Study are not as close to one another as the Committee's discussion would indicate.

Dr. Budnitz observed that Ms. Lewis in her comment was arguing for a risk-based decision while the Committee in its discussion had settled on a recommendation based on a risk-informed decision which allows for other considerations to be part of the decision making process. Dr. Peterson stated there may be substantive differences in terms of the cost of the options identified in the four scenarios identified in the UCLA Spent Fuel Risk Study including significant economic implications of being able to start decommissioning activities earlier. Dr. Peterson remarked he would be uncomfortable with a recommendation by the Committee to PG&E that advised as to a single scenario but did not recognize that there are other conclusions that can be drawn from the Study and the other scenarios analyzed in the Study could result in enhancements that might be more impactful in terms of public health and safety. Dr. Budnitz commented there remain significant numerical uncertainties in the Study, as acknowledged and recognized by its authors during their presentation to the DCISC in July 2020, and Dr. Budnitz observed there is the possibility that the Study's conclusions could be different by a factor of two, that is, twice as big or half as big and this could affect the ranking of the four scenarios and therefore the ranking although important is not absolute. Ms. Lewis remarked that some time ago there was universal support for removing spent fuel from the spent fuel pools at the earliest possible time as being the better strategy. Dr. Lam observed the Study was performed without knowledge of the technical details of the new casks and this represents yet another substantial uncertainty. Ms. Lewis observed that therefore the new casks would need to be designed, and a loading campaign scheduled, to handle the fuel once the timing for its discharge is established. Drs. Budnitz and Lam agreed with Ms. Lewis' observation and stated that more will be learned about the new casks when PG&E selects its preferred vendor in response to the request for proposals issued for a new dry cask spent fuel storage system.

Mr. John Geesman representing the A4NR was recognized. Mr. Geesman remarked the wording of the recommendation as proposed by the Committee Members was acceptable from his client's standpoint. He stated the A4NR remains confident that, per the Settlement Agreement proposed in the 2018 NDCTP and the role contemplated for the California Energy Commission, PG&E will make a good decision. Mr. Geesman stated with respect to the economic implications cited by Dr. Peterson that all funds for spent nuclear fuel storage are drawn from funds set aside for nuclear decommissioning and those funds are not available for purposes other than decommissioning the power plant. Mr. Geesman remarked that at the present time it is not anticipated that any of these funds will be surplus funds available after decommissioning for return to the ratepayers.

Dr. Budnitz recalled Mr. Geesman's remark during a previous public meeting wherein Mr. Geesman inquired whether there were other probabilistic spent fuel accident studies which are publicly available. Dr. Budnitz commented that he has reviewed five such studies which, despite having similar uncertainties as to the engineering behavior of certain systems to the UCLA Spent Fuel Risk Study, validated the UCLA Study's

methodology. However, none of these five studies is available publicly. He reported PG&E confidence in placing the contract with The B. John Garrick Institute for preparation of the UCLA Spent Fuel Risk Study and that such a study was feasible has proven to be correct. Dr. Budnitz stated the uncertainties in the Study are simply part of the present state of knowledge and practice of the engineering community of which Dr. Budnitz is a part. Mr. Geesman remarked there would be a global benefit if some of those studies mentioned by Dr. Budnitz were placed in the public domain and were peer reviewed and Mr. Geesman encouraged Dr. Budnitz to request some of the authors of the studies mentioned to participate in the creation of an NRC regulation/technical report designation (NUREG) which would be of benefit to many nuclear power plants. Dr. Budnitz reported that he co-chairs an international committee of the American Society of Mechanical Engineers (ASME)/American Nuclear Society (ANS) which develops standards for probabilistic risk assessment methods and analyses for nuclear power plant accidents and that this standards committee recently determined that such a standard could not be written for spent fuel pool accidents due to the lack of data in the public domain. Dr. Budnitz recognized there is a need for an accepted standard methodology that can be used internationally and he agreed with Mr. Geesman that a lack of information in the public domain had contributed to serious misinformation concerning discussions regarding events at the San Onofre Nuclear Generating Station in southern California and concerning events at several other U.S. nuclear facilities.

Following public comment and Committee discussion, the Members unanimously approved their 30th Annual Report on the Safety of Diablo Canyon Nuclear Power Plant for the Period July 1, 2019 -June 30, 2020 and its transmittal to PG&E authorized, including the Conclusion set forth in Section 4.19.3 and a Recommendation set forth in Section 4.19.3 and in the Executive Summary as follows:

Conclusions: Independent Spent Fuel Storage Installation relicensing was underway for submittal in 2022 (when the current license expires), and DCPD will address cask Stress Corrosion Cracking in the relicensing submittal. The DCPD-sanctioned spent fuel risk assessment performed by The B. John Garrick Institute for the Risk Sciences at UCLA appeared well-developed and focused. The assessment found small differences in risk among the four options analyzed, and all were within the NRC's spent fuel storage risk limits. The smallest risk was for the option of early movement of spent fuel from the DCPD Spent Fuel Pool to the Independent Spent Fuel Storage Installation beginning following the Unit 1 shutdown and prior to the Unit 2 shutdown. Following completion of the Spent Fuel risk management study, a Request for Proposals for the procurement of new casks for dry storage of Spent Fuel was issued.

Recommendation: The DCISC recommends that when PG&E considers decisions about the future management on-site of the spent fuel from DCPD's two reactor units, the risks arising from spent fuel management should be one part of the PG&E decision process and that process should be informed by the conclusions contained in the Study entitled **AProbabilistic Risk Assessment of Nuclear Power Plant Spent Fuel Handling and Storage Programs: Methodology and Application to the Diablo Canyon Power Plant.**

Dr. Budnitz commended Mr. Wardell for his efforts in organizing and preparing the 30th Annual Report. Mr. Rathie stated the Annual Report will now be provided to PG&E for its response and that response will be included in the 30th Annual Report and officially received by the Committee at its February 16-17, 2021 public meeting.

XXIV STAFF-CONSULTANT REPORTS & RECEIVE, APPROVE AND AUTHORIZE TRANSMITTAL OF FACT FINDING REPORTS TO PG&E

C. The Chair requested Consultant McWhorter to report on the August 19-20, 2020, fact-finding conducted as a WebEx webinar with Dr. Lam and PG&E representatives. Mr. McWhorter reviewed the topics discussed with PG&E during the August 19-20, 2020 visit as follows:

% Meet with NRC Senior Resident Inspector - Consultant McWhorter stated the fact-finding team met with NRC Senior Resident Inspector Mr. Don Krause who replaced the previous Senior Resident, Mr. Chris Newport, in October 2020, and with Resident Inspector Ms. Ayesha Athar who replaced the previous Resident Inspector, Mr. John Reynoso, during the summer of 2020. Topics reviewed included the resident inspector assignment changes, the July Unit 2 forced outage, the Unit 2 Auxiliary Feedwater (AFW) System leak and Unit 1 inspection plans and DCP's response to the COVID-19 pandemic.

% License Amendment Request to Facilitate Auxiliary Feedwater Inspections - Mr. McWhorter reported the AFW System provides the water source for the steam generators during shutdown or accident conditions. The AFW System employs three pumps, one of which is turbine-driven and supplies four steam generators and two of which are motor-driven pumps that each supply two steam generators. Four or five days after Unit 2 shut down for main generator repairs a leak was identified on AFW pump discharge piping outside of Unit 2 containment. Insulation was removed and a 3/8" hole was found in the middle of heavy corrosion which had been hidden from view by the insulation on the piping. This was in an area that is routinely wetted due to water falling from the steam generator power-operated relief valve drains. An extent of condition examination found no other leaks in the piping but six areas on this piping section were found with a pipe thickness less than allowed by code. Mr. McWhorter used a schematic diagram to show the location of the leak which was located on the section of piping supplying Unit 2 Steam Generator #2 and it affected the flow from Motor-driven Pump 1-2 and from Turbine-driven Pump 1-1. Mr. McWhorter reported DCP management undertook to inspect Unit 1; however, under the plant's Technical Specifications if a defect were found on the same portion of pipe, Unit 1 would need to be shut down within six hours which DCP management believed was unnecessarily conservative. Mr. McWhorter stated the Technical Specifications, which allow one train to be out of service for 72 hours, did not address this particular situation where two flow paths to one steam generator would be taken out of service and he commented this is a much smaller scope of inoperability than addressed in the Technical Specification. Accordingly, an exigent nonemergency Technical Specification change was requested of the NRC through a License Amendment Request (LAR), to be in effect until the next Unit 1 scheduled refueling outage in October

2020, that would allow for one steam generator's flow path to be inoperable for up to seven days. The DCISC representatives reviewed the entire exchange with the NRC and the safety evaluation which included risk insights which determined that the increase in probabilities of core damage or of a large early release were very small. The LAR was approved and issued on August 31, 2020, and PG&E inspected the Unit 1 piping later that same day and found no defects. The DCISC fact finding team determined the safety significance of this matter to be very low and identified no significant concerns with the approach used by DCP. **Mr. McWhorter stated a report was provided to the Committee immediately following the August 2020 fact-finding and he recommended that the Committee review the final root cause evaluation (RCE) when it is completed. Dr. Budnitz confirmed that with Consultant Wardell he reviewed the RCE during their fact-finding in September 2020 as Mr. Wardell will report later in this public meeting.**

% Unit 2 Forced Outage - **Consultant McWhorter reported that the DCISC fact finding team reviewed the first forced outage for a hydrogen leak on the Unit 2 main generator and as a second forced outage has now occurred there will need to be additional review at a future fact-finding.** Mr. McWhorter reported the Operations group performed well and properly managed the plant when maneuvering into this outage.

% Fire Protection and Detection Systems - the fact finding team reviewed the Fire Protection and Detection System and assessed its water systems, gas fire suppression systems and the detection systems. Mr. McWhorter reported that overall the water systems were healthy but were categorized in White health status in accordance with their "a1" designation under the NRC's Maintenance Rule due to the replacement of the deluge valves on the transformers in the Turbine Building which will require one cycle of operation to return to Green health status by October 2020. He reported currently there are no impairments in the Fire Protection System which includes the fire doors which is a significant improvement from the past. Mr. McWhorter stated the Fire Detection System is an original plant system with the exception of some newer installations in the cable spreading rooms and the system is generally healthy and DCP has been accumulating a spare parts inventory for this older system. Mr. McWhorter reported that training including off-site training has resumed for fire response personnel. The fact finding team concluded the Fire Protection System has significantly improved its performance and is now in excellent condition.

% Attend Corrective Action Review Board (CARB) Meeting - the CARB is a senior management committee that reviews cost evaluations, notification^[11] review team results and classifications, and Corrective Action Program due-date extensions. The meeting attended by the DCISC representatives also reviewed interim RCEs for issues regarding debris in battery cells and for the leak on the AFW System piping. The Fact Finding Team found CARB meetings continue to be well run with effective actions that meet the objectives of the program.

% Evaluation for Extending the Unit 1 Steam Generator Secondary Side Inspections - Mr. McWhorter reported that primary side steam generator inspections will continue to be

performed on a three-cycle frequency with the possible exception for Unit 2 for which DCPD is requesting to go from a three to a four operational cycle frequency. For Unit 1's current outage the secondary side inspection would normally include sludge lancing to clean the steam generators and a foreign object search to retrieve and remove small objects to prevent them from causing damage or a leak in a tube. DCPD has proposed to go from a three-operational cycle frequency for secondary side steam generator inspection to a six-operational cycle frequency. Mr. McWhorter reported the DCPD Engineering organization recommended against extending the cycle and this was primarily due to the small risk that a foreign object could cause a tube leak and result in a forced outage. Mr. McWhorter observed that while the probability of this was very low the consequences could be quite significant although it was not considered a significant risk for tube rupture. The steam generator vendor did not endorse the extension but the Outage Management Team/Plant Health Committee which is empowered to make the final decision decided to approve the extension. The fact finding team found the basis for the Outage Management Team making that decision was not well documented. **Dr. Lam observed DCPD's process of documenting and articulating the basis for such decisions needs to be improved.** Consultant Wardell observed DCPD does have a procedure to address and document differing professional opinions. Dr. Lam remarked that the process Mr. Wardell referred to was not used in this case. Mr. McWhorter reported the engineer who wrote the evaluation recommending against extending the inspection cycle met with the fact finding team and did not express serious safety concerns with management's decision.

% Containment Ventilation and Hydrogen Mitigation Systems - Mr. McWhorter reported this was the DCISC's first review of some of these systems although some system components have been reviewed by the Committee in the past. He reported these systems function to limit Containment temperature during normal operation and limit temperature and pressure in accident conditions. The Containment Ventilation System consists of five containment fan cooler units (CFCUs) cooled by component cooling water, two CFCUs are required in an accident. Mr. McWhorter reported the CFCUs are generally in good health with two of the five CFCUs on each unit having been replaced due to corrosion in the duct work and on their structural components. The other CFCUs which were not replaced are inspected regularly and repaired as needed. The Hydrogen Mitigation System consists of recombiners located in each Containment as well as hydrogen purge piping and the system is routinely tested and was found to be in good working order. The DCISC representatives found these systems to be in good health and capable of performing their functions.

% DCISC Member Meet with DCPD Officer - Dr. Lam reported he met with Senior Vice President Generation and Chief Nuclear Officer Mr. Jim Welsch to review DCPD's management of the coronavirus pandemic and to receive an update on the latest strategy for spent fuel removal and the decision concerning new spent fuel storage casks. Dr. Lam reported DCPD performed a polymerase chain reaction (PCR) COVID-19 test on each of the 700+ persons contracted for refueling outage work at DCPD but there are presently no plans to test all DCPD employees. He reported new casks for spent fuel storage are estimated to cost more than twice the cost of the casks used previously at DCPD but the cost for the new casks is expected to remain within the budget.

% Employee Concerns Program (ECP) - Consultant McWhorter reported this Program provides a pathway for employees to raised concerns outside the normal management chain and provides for personnel to raise concerns anonymously if they so choose. The ECP conducts formal and informal investigations into concerns raised and Mr. McWhorter reported the ECP also reviews all notifications entered anonymously in the Corrective Action Program. If the NRC receives an allegation concerning which it requests information from PG&E, those questions or allegations are sent to the ECP for response. Mr. McWhorter reported the fact finding team met with the new ECP manager who reported the number of concerns raised in 2020 was generally consistent with past investigations, with 25 formal investigations initiated during 2020 as compared to 40 in 2019, and 112 anonymous notifications initiated in 2020 as compared to 192 during 2019. Mr. McWhorter remarked this level of consistency is notable in the midst of the coronavirus pandemic. He reported the ECP is conducting pulsing initiatives to solicit input from 24 employees every month as to concerns they may have. Mr. McWhorter reported the DCISC representatives found the ECP to be functioning well with no significant nuclear safety issues having been raised within the ECP.

% NRC Inspection Finding on Emergency Siren Maintenance - Mr. McWhorter reported this was a follow-up inquiry to an issue raised at the DCISC's February 2020 public meeting concerning an unresolved item from a 2020 NRC inspection report which concerned the periodicity of battery replacement for the early warning sirens which was changed from three years to five years. He reported the change was not incorporated into a document submitted to the Federal Emergency Management Agency (FEMA) although the batteries for the sirens were replaced after five years. Mr. McWhorter reported that FEMA accepted the change and the conclusion was this did not represent a safety concern and represented a minor error by DCPD in documenting the change with the FEMA and the NRC will likely follow up on the matter.

% Status of Responding to the COVID-19 Pandemic - Mr. McWhorter observed the Committee had received a full report on this topic earlier in this public meeting. Mr. McWhorter observed the Unit 2 forced outage was DCPD's first opportunity to have a large number of contractors come into the plant protected area since the advent of the COVID-19 pandemic and the station managed the approximately 40 persons in the contractors' workforce without significant issues.

% Self-Assessment Program - Consultant McWhorter reported that for the period of the last twelve months DCPD organizations performed eight formal self-assessments, 41 quick hit self-assessments and 30 benchmarking activities and all results were entered into the Corrective Action Program and the DCISC has received copies. He reported the Quality Verification organization recently identified some failures to perform procedurally required self-assessments and this represented five instances out of 67 procedurally required self-assessments and corrective actions have been put in place. In response to Dr. Peterson's inquiry Mr. McWhorter stated the fact finding team did not receive information on whether these five missed procedural self-assessments involved formal self-assessments or quick hit self-assessments. Consultant Wardell stated he believed it to be unlikely that formal self-assessments had been missed as the station has a focus

on its Continuous Improvement Program and the self-assessments are an important and useful tool for that Program. Consultant McWhorter reported the DCISC representatives found the Self-Assessment Program to be, in general, effective.

% Attend Plan of the Weekend Review Meeting - Mr. McWhorter reported this was the first time the DCISC has observed this activity and the Plan of the Weekend Review Meetings are convened remotely every Thursday afternoon to review all work completed and the work planned for the upcoming Friday, Saturday and Sunday period including emergent work, night shift work, and clearance work. He stated the meeting was very effectively and formally facilitated by a shift manager and the DCISC representatives were favorably impressed with how the call was managed.

Upon a motion made by Dr. Budnitz, seconded by Dr. Peterson, the August 19-20, 2020 Fact Finding Report was accepted by the DCISC and its transmittal to PG&E was authorized. The report will become a part of the Committee's 31st Annual Report.

D. The Chair requested Consultant Wardell to report on the September 9-10, 2020, fact-finding conducted as a WebEx webinar with Dr. Budnitz and PG&E representatives. Mr. Wardell reviewed the topics discussed with PG&E during the September 9-10, 2020, visit as follows:

% NRC Licensing Issues Status - Consultant Wardell identified the licensing issues which were closed and those that remain open and he reviewed open licensing issues as follows:

- \$ Open Phase Power - installation of system to both alarm and trip the units if offsite power reaches certain levels; awaiting NRC approval and 2021 inspection which has been delayed due to the Covid-19 pandemic.

- \$ Cyber Security - complete; awaiting NRC inspection in March 2021.

- \$ Refueling Water Storage Tank Water Level - this tank is used with the Emergency Core Cooling System and was found to be very slightly low in volume; awaiting NRC action.

- \$ Scaffolding Issues - in the Emergency Diesel Generator Room; resolved, awaiting NRC action.

- \$ Debris in Battery Cell - battery replaced and issue resolved; awaiting NRC action.

% Outage 1R22 Safety Training for Operators - Mr. Wardell reported this training for the upcoming 1R22 refueling outage was conducted remotely for licensed and nonlicensed operators and included Operating Experience, procedures to be used during 1R22, the Outage Safety Schedule, shutdown procedures, drain to vessel flange procedures, the use of human performance tools and the Reactor Vessel Refueling Level Instrumentation System. Mr. Wardell stated the training for licensed operators, which was optional for nonlicensed operators, was conducted by the Reactor Engineering group

and included fuel and reactivity aspects of the new core, core design based on the new fuel to be received, core behavior, rod operation, and fuel pellet design features. Mr. Wardell stated these training activities were conducted very efficiently.

% Meet with DCPD Site Vice-President Ms. Paula Gerfen - the DCISC representatives discussed DCPD's actions with reference to the COVID-19 pandemic, items reviewed during the fact-finding, and briefly discussed the PG&E bankruptcy situation and the bankruptcy's lack of impact on DCPD operations.

% Auxiliary Feedwater (AFW) System License Amendment Request (LAR) - Consultant Wardell reported that upon the LAR being granted, the inspection of the AFW Unit 2 piping revealed heavy corrosion under the piping's insulation. The interim root cause evaluation found the direct cause was moisture under the insulation on the carbon steel piping. The insulation was originally installed due to high temperature but as the temperature was subsequently lowered by design modifications the insulation might have been but was not removed. The insulation has now been removed as a corrective action and an extent of condition review performed to identify and assess other systems which might be in a similar situation. Dr. Budnitz observed the buildup of corrosion occurred over a 30-year period and with the decrease in temperature during that period there was an increase in the potential for condensation.

% Refueling Outage 1R22 Safety Plan - Mr. Wardell reported the Outage Safety Plan provides information on the risk of taking certain equipment and systems out of service, identifies the backup equipment and systems required and establishes limits for these activities. A Green indication identifies a defense-in-depth (DID) greater than N+1, with more than one backup means of support; a Yellow indication identifies a DID equal to N+1 with one backup means of support; an Orange indication identifies DID equal to N, but minimum DID is not met and compensatory measures and special permission is required; and a Red indication identifies a DID less than N with key safety functions not supported and are accordingly prohibited. Mr. Wardell reported the Outage Safety Plan for 1R22 identified various shutdown risk conditions and he identified these as:

- \$ Shutdown Cooling - remains Green;

- \$ Water Inventory in Vessel - Yellow when the Reactor Cooling System level is reduced;

- \$ Reactivity Control - Yellow due to no dilution flow paths isolated;

- \$ Support Systems (Heat Sink) - four Yellow time windows;

- \$ Containment Closure/CFCU - remains Green;

- \$ Vital AC Power - two Yellow time windows;

- \$ Spent Fuel Pool Cooling/Support - remains Green.

Mr. Wardell reported the DCISC representatives concluded the Outage Safety Plan for 1R22 was effective in assuring safety.

% Meet with NRC Senior Resident Inspector - the fact-finding team met with NRC Resident Inspector Ms. Ayesha Athar to explain and discuss the role of the DCISC and to discuss the NRC's on-site schedule during the coronavirus pandemic, an issue identified with certain sprinkler heads having been painted, and valve protection for the Auxiliary Saltwater (ASW) System. Mr. Wardell observed meetings with the NRC inspectors have proven very beneficial for the DCISC and he believes for the NRC inspectors as well.

% Control Rod Issues - Mr. Wardell observed the topic has been reviewed during this public meeting and the analysis and investigation were found to be satisfactory during the September 2020 fact finding.

% Postponed/Cancelled Projects - Consultant Wardell reported that following the CPUC's approval of the retirement of DCP, a number of capital projects were cancelled due to operations not continuing after 2025 and the DCISC has and continues to review the cancelled projects from the standpoint of plant operational safety. He reported 45 projects had been cancelled to date and the DCISC representatives found the review process and identification of the projects to be acceptable from the perspective of maintaining operational safety. Mr. Wardell reported two additional projects have now been identified for cancellation; these are a planned upgrade of the main annunciator in the Control Room and plans to replace the governors on two emergency generators for which governors were not previously replaced. Mr. Wardell stated DCP has determined sufficient parts now exist in its inventory such that in the event it became necessary to address the governors on these two emergency generators the plant could do so. The DCISC fact-finding team found the cancellations approved and proposed to be appropriate. **Dr. Lam observed the Committee has reviewed cancelled projects on numerous occasions since 2017 to ensure PG&E's actions do not jeopardize safety for budgetary reasons and it remains critically important that the DCISC retain its focus and ensure safety remains the priority.**

% Nuclear Instrumentation Systems - Mr. Wardell reported this system is comprised of two subsystems; the first is the Nuclear Instrumentation System which is comprised of the detectors installed and located outside the reactor core which provide indications of reactor power based on neutron flux and includes source range detectors, intermediate range detectors, power range detectors and post-accident detectors. Mr. Wardell reported these detectors are specially protected and have special ranges. The second subsystem is the Incore Instrumentation System which consists of moveable detectors located inside the reactor core used to monitor nuclear power distribution within the core and to monitor fluid exiting the core. Consultant Wardell reported the Nuclear Instrumentation System is in good health for both units.

% Overall Probabilistic Risk Assessment (PRA) Program Update - Dr. Budnitz reported the PRA analysis for DCP was prepared some years ago and is kept up to date by the plant's PRA group and in accordance with configuration changes in the plant. The main task of the PRA group is to maintain and update the PRA to accurately reflect the operated plant. Dr. Budnitz reported the PRA identifies every accident sequence that is of importance to the plant and analyzes the initiating events and the sequence of resulting

failures to ensure these are all understood. The plant PRA Program has been peer reviewed by outside experts and is assessed in accordance with international PRA standards which were developed by a committee co-chaired by Dr. Budnitz. PRA is routinely used to support decision making and for planning refueling outages.

Dr. Budnitz reported PRA was used in connection with the LAR for the AFW System piping repair and showed that the risk of taking that piping out of service for seven days was very small, although Dr. Budnitz stated the PRA analysis, although robust, was not relied upon in DCP's application to the NRC. The fact finding team reviewed the UCLA Spent Fuel Risk Study with the PRA group and Dr. Budnitz reported the PRA group concurred that even with more time and resources devoted to that Study, the resulting insights would not have been very much different and the basic insights from the study would remain unchanged. Dr. Budnitz reported the PRA group has been reorganized into two divisions, one of which will use PRA techniques to support other parts of PG&E's corporate organization including its transmission system as well as other areas of PG&E's generation system. In response to Dr. Lam's inquiry Dr. Budnitz stated he did not believe the reorganization represented a compromise in the effectiveness of the remaining DCP PRA group as Dr. Budnitz described the plant's PRA group as being very strong and he observed that if it should be necessary the DCP PRA group could call upon the corporate support PRA group for assistance. Dr. Budnitz reported the fact finding team concluded the PRA group is doing excellent work and the plant's PRA has been often emulated by other facilities and there is no doubt that the DCP seismic PRA model is the best in the world.

% Operational Decision-Making (ODM) Program - Mr. Wardell stated the ODM process is used primarily by the Operations and Engineering Departments. The DCISC representatives reviewed five ODM instances including vibration limits for Main Feedwater Pump 1-1, a drop in elevated condenser pressure, the Special Protection System status for service, ocean swell condition response, and Unit 2 rod control troubleshooting at power. The fact finding team found the procedures and all five instances where ODM was used to be satisfactory.

% Employee Retention Participation Update - Consultant Wardell reported the Employee Retention Program consists of three tiers. He reported Tiers One and Two had a well-received sign-up and Tier One has now concluded, while Tier Two is ongoing. During Tier Three DCP will be reducing plant staffing. Mr. Wardell reported on the numbers of employees who have or are planning on leaving DCP's employ and he reported the Employee Retention Program is generally proceeding as planned. He stated that operators and Instrument & Control electrical technicians appear to be committed to remaining at DCP in sufficient numbers.

Upon a motion made by Dr. Budnitz, seconded by Dr. Peterson, the September 9-10, 2020 Fact Finding Report was accepted by the DCISC and its transmittal to PG&E was authorized. The report will become a part of the Committee's 31st Annual Report.

XXV APPROVAL OF MINUTES

A draft of the Minutes of the July 1-2, 2020, public meeting held as a Zoom webinar having been included in the public agenda packet, the Members and Consultants reviewed the Minutes and provided corrections and substantive changes to certain references which will be included in the final version of the July 2020 Minutes. Follow-up actions to be taken were discussed and clarification was provided concerning typographical errors and the accuracy of certain references in the Minutes and editorial comments and changes were made to the draft of the July 1-2, 2020 Minutes. The Minutes of the Committee's public meetings, in their final accepted form, become part of its Annual Reports on the safety of Diablo Canyon Nuclear Power Plant operations. On a motion by Dr. Peterson, seconded by Dr. Budnitz, the Minutes of the Committee's July 2020 public meeting were accepted subject to inclusion of the changes provided to the Committee's Assistant Legal Counsel. The July 2020 Minutes will become a part of the Committee's 30th Annual Report.

XXVI CONCLUDING REMARKS & DISCUSSION BY COMMITTEE MEMBERS OF FUTURE DCISC ACTIVITIES

The Members expressed the Committee's appreciation to Mr. Bob Lloyd and Mr. Travis Harms of AGP Video for their excellent work in conducting this public meeting as a Zoom webinar. Dr. Lam thanked the members of the public who attended the webinar and participated in this public meeting online. He expressed the Committee's appreciation to the senior management of PG&E including Director Mr. Tom Baldwin and Manager Mr. Hector Garcia and their associates. Mr. Rathie expressed his appreciation to Mr. Baldwin and to Mr. Garcia and to Mr. Wardell and Mr. McWhorter for their assistance and gracious cooperation with the Legal Counsel's Office in preparing for and conducting this meeting. Dr. Budnitz remarked that while he fully understands and supports the need for the DCISC to conduct its public meetings remotely using technology instead of in person, doing so diminishes the usefulness of the Committee's public meetings in significant ways.

XXVII ADJOURNMENT OF NINETY-SEVENTH PUBLIC MEETING

There being no further business the ninety-seventh public meeting of the Diablo Canyon Independent Safety Committee was then adjourned by its Chair, Dr. Peter Lam, at 3:55 P.M.

[1] For Westinghouse pressurized water reactors such as Diablo Canyon Units 1 and 2 Mode 1 is power operation; Mode 2 is startup; Mode 3 is hot standby; Mode 4 is hot shutdown; Mode 5 is cold shutdown; Mode 6 is refueling.

[2] The bathtub curve is widely used in reliability engineering. It describes a particular form of the hazard function which comprises three parts: a decreasing failure rate, known as early failures, a constant failure rate, known as random failures, and an increasing failure rate, known as wear-out failures. The name is derived from the cross-sectional shape of a bathtub: steep sides and a flat bottom.

[3] Diablo Canyon Unit 1 is licensed by the NRC to operate until November 2, 2024 and Unit 2 until August 26, 2025.

[4] Benchmarking is the practice of comparing business processes and performance metrics to industry bests and best practices from other companies.

[5] The safety significance characterizations used for the performance indicators is either Green (very low), White (low to moderate) Yellow (substantial) or Red (high).

[6] Standard Technical Specifications are published by the NRC for each of the five operating reactor types and for Westinghouse Advanced Passive 1000 (AP1000) Plants as NUREG-series publications. The Technical Specifications are continuously modified by the NRC to incorporate approved generic changes.

[7] The Joint Proposal was entered into by PG&E, together with Friends of the Earth, the Natural Resources Defense Council, Environment California, the International Brotherhood of Electrical Workers Local 1245, Coalition of California Utility Employees and the Alliance for Nuclear Responsibility in June 2016 to retire DCPD at the expiration of the current operating licenses for each unit, November 2024 for Unit-1 and August 2025 for Unit-2 and was subsequently approved by the CPUC in its Decision (D) 18-01-022.

[8] Subsequent to the October 2020 public meeting the deadline was extended.

[9] Key to some of the abbreviations used: National Fire Protection Association (NFPA) [San Luis Obispo County] Office of Emergency Services (OES);, Public Meeting (PM), Quarter (Q), Fact-finding (FF), To Be Determined (TBD), Dr. Robert J. Budnitz (RJB), Dr. Per F. Peterson (PFP), and Mr. R. Ferman Wardell (RFW), Mr. Richard D. McWhorter (RDM).

[10] On a scale of Green indicating a healthy performance and White indicating that achievable action plans are in place to return performance to healthy status. A Yellow rating would indicate the indicator shows deficient performance and needs improvement and Red would indicate unsatisfactory performance.

[11] A notification is the document used at DCPD to enter an issue into the plant's Corrective Action Program.

[31st Annual Report, Volume II, Exhibit B.6, Minutes of the February 16-17, 2021 Public Meeting](#)

Minutes of the Diablo Canyon Independent Safety Committee's February 16-17, 2021 Public Meeting [Approval at the June 23-24, 2021 Public Meeting.]

Tuesday & Wednesday
February 16-17, 2021
Conducted as a Zoom Webinar

In response to Governor Newsom's Executive Order N.29-20 related to the COVID-19 (coronavirus) pandemic public participation in this DCISC public meeting was by electronic means only and without a physical location for public participation in compliance with California state guidelines on social distancing. This meeting was produced as a webinar by AGP Video Inc. and webcast live on SLO-SPAN at <http://www.slo-span.org> and through <https://www.dcisc.org> and was subsequently broadcast on San Luis Obispo local government access television Channel 21. The recording of the meeting is available on the DCISC website www.dcisc.org.

Notice of Meeting.

A legal notice of the public meeting and several display advertisements were published in local newspapers and mailed to the media and those persons on the Committee's service list. The meeting agenda and the entire agenda packet for the meeting together with the informational presentations made during the meeting were posted on the Committee's website at www.dcisc.org prior to the meeting and the meeting agenda contained information on how to access the webinar using a computer or a telephone.

I CALL TO ORDER - ROLL CALL

The February 16, 2021, public meeting of the Diablo Canyon Independent Safety Committee (DCISC), the ninety-eighth public meeting of the Committee, was called to order by Committee Chair Dr. Peter Lam at 9:00 A.M. Dr. Lam briefly reviewed the professional backgrounds and appointment to the DCISC for each of his fellow DCISC Members, Dr. Robert J. Budnitz, the appointee of the California Attorney General, and Dr. Per F. Peterson, the appointee of the Governor of California, and Dr. Lam introduced himself as the appointee of the California Energy Commission and current serving DCISC Chair. Dr. Budnitz then briefly reviewed Dr. Lam's professional background.

Present:	Committee Member Robert J. Budnitz Committee Member Peter Lam Committee Member Per F. Peterson
Absent:	None

II INTRODUCTION

Dr. Lam introduced the Committee's Technical Consultants Mr. Richard D. McWhorter Jr. and Mr. R. Ferman Wardell and DCISC Assistant Legal Counsel Robert W. Rathie. Dr. Lam then introduced Mr. Thomas R. Baldwin, P.E., Pacific Gas & Electric (PG&E) Director of Generation Business Planning and Mr. Hector Garcia, Diablo Canyon Power Plant (DCPP) Chief Nuclear Officer Support Manager. Mr. Baldwin and Mr. Garcia play key roles on behalf of PG&E in working with the DCISC in coordinating activities, providing information, and facilitating its public meetings and the frequent fact-finding visits to DCPP conducted by a single member and one of the technical consultants.

III PUBLIC COMMENTS AND COMMUNICATIONS

The Chair invited any members of the public present who wished to address remarks to the Committee on items not appearing on the agenda for the public meeting to do so at this time by using the Zoom webinar's "raise your hand" feature. There were no comments from members of the public at this time.

IV ACCEPTANCE OF MINUTES

The item concerned review and acceptance of the Minutes of the Committee's October 22-23, 2020 public meeting conducted as a Zoom Webinar. A draft of the October 2020 Minutes was included in the public agenda packet for this meeting. The Members and Consultants reviewed the Minutes and provided corrections and substantive changes to certain references which will be included in the final version of the October 2020 Minutes. The Members and Technical Consultants discussed some of the follow-up actions to be taken, provided clarification concerning typographical errors and the accuracy of certain references in the Minutes and made editorial comments and changes concerning the draft of the October 2020 Minutes.

The Minutes of the Committee's public meetings in their final accepted form become part of its Annual Reports on Safety of Diablo Canyon Nuclear Power Plant Operations (Annual Report). Upon a motion made by Dr. Budnitz, seconded by Dr. Peterson, the Minutes of the Committee's October 2020 public meeting were accepted subject to inclusion of the changes provided to the Committee's Assistant Legal Counsel. The October 2020 Minutes will become a part of the Committee's 31st Annual Report.

V ACTION ITEMS

A. Receive PG&E's Response to DCISC's 30th Annual Report on Safety of Diablo Canyon Operations; July 1, 2019 - June 30, 2020. Mr. Rathie reported that upon its approval at a public meeting the DCISC's annual reports are required to be provided to PG&E for a response and PG&E then has up to 45 days to provide its response which

becomes a part of each annual report. PG&E is required to respond substantively to any recommendation made by the DCISC in an annual report and for the 30th Annual Report the Committee made one recommendation relative to DCCP's safe operation as follows:

"Recommendation:

The DCISC recommends that when PG&E considers decisions about the future management on-site of the spent fuel from DCCP's two reactor units, the risks arising from spent fuel management should be one part of the PG&E decision process and that process should be informed by the conclusions contained in the Study entitled "Probabilistic Risk Assessment of Nuclear Power Plant Spent Fuel Handling and Storage Programs: Methodology and Application to the Diablo Canyon Power Plant." (4.19.3)"

In his letter of December 7, 2020, PG&E Senior Vice President Generation and Chief Nuclear Officer Mr. James Welsch responded to the DCISC's Recommendation as follows:

"We agree with the recommendation and will incorporate it into our decision process on spent fuel management at the plant."

Dr. Budnitz stated he was very pleased to see that PG&E accepted the strengths and validity of the Study. Dr. Budnitz reported that one of the two principal authors of the Risk Assessment Study, Dr. B. John Garrick, very recently passed away and Dr. Budnitz observed that Dr. Garrick's passing is a great loss to the community of safety analysts.

There being no public comment, on a motion made by Dr. Budnitz seconded by Dr. Peterson, the Committee unanimously accepted PG&E's Response to its Thirtieth Annual Report on the Safety of Diablo Canyon Operations for the period July 1, 2019 - June 30, 2020.

The DCISC Annual Reports are made available in two bound volumes, as a compact disk, on a USB thumb drive and online on the Committee's website at www.dcisc.org. The reports are made available to the public and sent to the California Public Utilities Commission (CPUC) and the entities appointing members of the DCISC and to other interested parties and provided for inclusion in the collections of the Cal Poly Library and local libraries in San Luis Obispo County.

B. Update on Financial Matters and Committee Activities.

Mr. Rathie reported that once again the Committee has concluded its financial year with a surplus of the funds provided by the PG&E ratepayers for the Committee's operation. He reported for calendar year 2020 due to savings realized by conducting fact findings and public meetings remotely due to the restrictions imposed by COVID-19 pandemic the Committee will be remitting approximately 35% of the funding received during 2020 to the ratepayers. Mr. Rathie stated that accordingly it would be appropriate for a motion to direct that any funds received which were not expended during 2020 be returned to PG&E for credit to its ratepayers. He reported that the Committee has commenced drawing down the funds provided for its operation in 2021. Dr. Lam

remarked the Committee has a duty and obligation to impose budgetary discipline and in his view the Committee has been exceptionally sensitive to its fiduciary responsibility which is shown by the Committee having returned funds for credit to the ratepayers for several successive years. Dr. Peterson observed that while the DCISC strives to be fiscally responsible it is important for the Committee to resume its on-site visits to DCPD and its public meetings in the San Luis Obispo area as soon as practicable given the present pandemic as these activities add substantial value to the Committee's work. Dr. Budnitz agreed and observed that the Committee's remote visits and meetings have in his view, been less than 100% effective and they represent a compromise in the Committee's ability to receive information that should not continue forever. Dr. Peterson stated it will be important to discuss later during this public meeting the Committee's plans for transitioning from remote to in-person activities. The Members discussed and confirmed that in the event an emergent issue required the expenditure of funds in excess of the amount remaining during a calendar year the Committee's practice and preference would be to not curtail or terminate its investigation into the issue and to make up any resulting deficit from the funding provided for the following year.

Upon a motion made by Dr. Budnitz, seconded by Dr. Peterson, the DCISC unanimously accepted the financial report by Mr. Rathie for calendar year 2020 and authorized the return to the ratepayers of any funds remaining unexpended for that year.

Mr. Rathie directed the attention of the Committee to the section of the public agenda packet, made available on the Committee's website for this public meeting, to the list of fact findings and public meetings, along with key dates prepared by Consultant Wardell.

C. Discussion of Issues on Open Items List.

Dr. Lam requested Consultant Wardell lead a review of items on the Open Items List, which he described as a very important tool used by the Committee to track and also to follow issues, concerns, and information requests identified for subsequent action or receipt during fact-finding and public meetings. Dr. Peterson commented the Open Items List identifies items for continued or periodic review, adds new items and, in order for the Committee to accomplish its work within budgetary constraints, items are removed from the Open Items List. Dr Lam remarked the Open Items List focuses attention on items that are most important for safety and allows the Committee to adjust the resources it devotes to different topical areas. Mr. Wardell stated newly added or changed items were shown in *red italics* on the version of the Open Items List included with the agenda packet and certain items are being identified for closure.

Items discussed or concerning which action was taken included the following^[1]:

Item	Re:	Action Taken
CO-13	CAISO Load Following Policy	Next Action As Necessary

RA-6	Seismic Fragility Analysis	Close & Merge with SC-3
SE-50	Maintenance Rule Functional Failures (SE-42 merged with SE-50)	Next Action 3/21 or 4/21 FF
SG-1	Steam Generator Inspections & Tests	Next Action As Needed (Delete ref. to 1R21 & 2R21)
SEC-4	Cybersecurity	Next Action 9/21 FF (Pending results of NRC inspection)
SC-3	Long Term Seismic Program (Review Seismic PRA in context of LTSP; strike ref. to prior reviews)	Include RA-6; Next Action 3Q21
BDB	Beyond Design Event Basis Category	Delete as a category
10/20PM-3	Drone Activity	Close
10/20PM-12	Forced Outages Generator Hydrogen Leak	Next Action 6/21 PM. (Pending completion of RCE)

Some items on the list and not included in the above were identified by Mr. Wardell for closure and were so approved. In response to Dr. Lam's inquiry, Mr. Wardell reported the number of items closed and added to the Open Items List remains fairly stable with the number of open items possibly showing a slight decline. Mr. McWhorter stated that when an item is added to the list it is usually addressed at fact-finding which is conducted before the next public meeting and therefore items on the Open Items List are being closed earlier. Mr. Wardell then called the Committee's attention to Page 9 of the Open Items List which tracks the dates on which system and component reviews were completed or are scheduled. Items identified for review were adjusted as follows:

DCPP Systems/Components Periodic Review

<u>System, Program or Component</u>	<u>Date/Action</u>
Auxiliary Feedwater System	No Change - Defer Next Action
Boric Acid Corrosion Control Program	No Change - Defer Next Action
Long-term Capital Planning	Change Last Reviewed Date to September 2020

Following review of the Open Items List, Mr. Tom Marré was recognized. Mr. Marré remarked that the issue of the hydrogen leak has been cropping up for several months and he finds the matter of a hydrogen leak to be frightening. He closed his remarks by observing the Committee is doing a fantastic job. Mr. Wardell responded that

the possibility of a fire as a result of the Unit 2 Main Generator hydrogen leak was discussed by DCP's Station Director Mr. Cary Harbor during the DCISC's October 2020 public meeting and he called page B.3-5 of the meeting Minutes, available online on the Committee's website as part of the agenda packet for this public meeting, to Mr. Marré's attention. Dr. Peterson observed the hydrogen leakage is associated with the cooling water lines and a pressure differential causes hydrogen to leak into the cooling water system where it is detected.

A short break followed consideration of the Open Items List. Following the break, Mr. Rathie reported on a change to the order of the agenda for the afternoon session with the presentation on the State of the Plant, including the Unit 2 forced outages to address Main Generator issues to be presented as the third informational presentation followed by a report on the January 2021 fact-finding by Consultant McWhorter and Dr. Lam.

VI COMMITTEE MEMBER REPORTS AND DISCUSSION

A. Public Outreach, Site Visits and Other Committee Activities:

The Members confirmed public meetings of the DCISC for June 23-24 and October 19-20, 2021 and February 15-16, 2022, and the Members and Consultants then scheduled a public meeting for June 22-23, 2022, tentatively with a public tour of the power plant. Mr. Garcia stated he would check and subsequently confirm that DCP could support a public meeting of the DCISC on June 22-23, 2022. Mr. Garcia confirmed refueling outage 1R23 is scheduled to commence on March 27, 2022, and conclude on May 5 or 6, 2022. He confirmed that 2022 will see two refueling outages occur at DCP with Unit 2 also refueling in the fall. Mr. Garcia reported refueling outage 2R22 is scheduled from mid-March to the end of April 2021.

Fact-finding visits were confirmed and scheduled as follows: ^[2]

[2021] March 17-18 RJB/RFW; April 20-21 PL/RDM; May 11-12 PFP/RFW; July 14-15 PFP/RDM; August 18-19 PL/RFW; September 13-14 RJB/RDM; November 9-10 RJB/RFW; December 7-8, PFP/RDM; and

[2022] January 11-12 PL/RFW; March 8-9 RJB/RDM; April 12-13 PFP/RFW (during 1R23); May 10-11 PL/RDM.

Mr. Garcia stated he would review the dates of the fact findings set and changed during this public meeting and confirm that DCP can support fact-finding by the DCISC on those dates.

The Committee Members and Consultants discussed observing the next Evaluated Emergency Exercise scheduled to be held on September 15, 2021, which is the first day of the Yom Kippur high holy days for those of the Jewish faith. Dr. Budnitz commented he was bothered and disappointed by the scheduling of an important exercise on a day of such important religious significance. He remarked that with Consultant McWhorter he is scheduled to conduct a fact finding on September 13-14,

2021, but it is impossible for him to extend the fact finding to include observation of the emergency exercise. **The Committee then tentatively planned to have Consultant McWhorter stay over for the date of September 15, 2021, to observe the Evaluated Emergency Exercise to be possibly accompanied by Dr. Peterson.**

Mr. Rathie reported that a determination on when the Committee might again hold its public meetings in-person in San Luis Obispo County is dependent upon changes to the Executive Orders issued by Governor Newsom in response to the COVID-19 pandemic which now mandates meetings of state bodies may be conducted remotely while state and local governments continue to impose requirements for social distancing in accordance with COVID-19 protection protocols. The Committee has contracts with the Avila Lighthouse Suites for public meetings in Avila Beach for the June 2021 meeting and contracts under negotiation for the October 2021 and the February and June 2022 dates. Members discussed the contingencies which will govern whether the June 2021 public meeting will be held in Avila Beach or remotely as a Zoom webinar and tentatively planned that the June meeting would be conducted remotely with a priority placed upon resuming in-person fact-finding at DCPD.

B. Documents Provided to the Committee:

The Chair observed that a list of documents received by the DCISC since its last public meeting in October 2020 was included in the public agenda packet for this meeting. Dr. Lam remarked the Committee strives to always conduct its business in a transparent manner.

VII STAFF-CONSULTANT REPORTS & RECEIVE, APPROVE, AND AUTHORIZE TRANSMITTAL OF FACT FINDING REPORTS TO PG&E

The Chair requested Consultant McWhorter to report on the November 10-12 and 19, 2020, fact-finding meeting with Dr. Budnitz conducted as a Webex webinar. Mr. McWhorter then reviewed the topics discussed with PG&E during the November 10-12 and 19, 2020, meeting as follows:

- Attend Outage Planning Meetings - Mr. McWhorter reported the DCISC representatives observed an Outage Coordination meeting and a 1100 [hour] Schedule Review meeting related to outage activities during the Unit 1 refueling outage (1R22) and the Unit 2 forced outage (2Z22). The Outage Coordination meeting included review of general work activities, coordination between departments and clearances. The 1100 Schedule Review meeting included a specific review of the waterfall-type schedule prepared to detail all outage work activities. Mr. McWhorter reported both meetings had well-organized agendas and were effective in accomplishing their respective purposes.
- Attend Corrective Action Review Board (CARB) Meeting - the Fact-Finding Team observed a meeting of the CARB during which senior management conduct oversight of the corrective action system in general and the Corrective Action Program through review of cause evaluations, extensions of time for resolution of items in the Corrective Action Program, Corrective Action Program statistics and specific items identified for review.

For this meeting corrective actions were reviewed involving heat stress experienced by personnel inside Containment during the refueling outage due to the use of anti-contamination clothing in conjunction with their use of face coverings to provide protection from COVID-19. Mr. McWhorter reported the use of face coverings resulted in the face coverings becoming wet with perspiration making it difficult to breathe. Corrective action included providing guidance on heat stress relief and the establishment of safe zones to allow personnel to step away, remain socially distanced and remove their face coverings for short periods of time as well as communicating the hazard to other employees. Mr. McWhorter reported these actions appeared effective and no further incidents of heat stress within Containment were reported to the DCISC.

- Meet with Nuclear Regulatory Commission (NRC) Senior Resident Inspector – The DCISC Fact-Finding Team met with Mr. Donald Krause, recently appointed to the position of NRC Senior Resident Inspector at DCP. Mr. McWhorter reported Mr. Krause's background includes experience with both nuclear operations as well as with decommissioning. The DCISC representatives discussed topics related to outage performance with Mr. Krause.
- Unit 2 Forced Outage – Forced outage 2Z22 was in progress for Unit 2 with the unit shut down for a second time due to a hydrogen leak inside the Main Generator. The forced outage overlapped with the scheduled refueling outage of Unit 1 (1R22) and Mr. McWhorter reported it is unusual that both units would be shut down at the same time. He reported this resulted in an increase in workload and an increase in the number of personnel brought on site for the work and he reported the DCISC team found the work was well-managed with routine schedules maintained for the refueling of Unit 1. Unit 1 was successfully restarted while Unit 2 remained shut down and Unit 2 was able to split the steam supply for Unit 1 startup. Mr. McWhorter reported 2Z22 began on October 15, 2020, due to a similar hydrogen leak to that experienced in July 2020 (2Y22). During 2Z22 a leak was found in a different location on the same ring header that experienced a previous leak and several small, cracked welds inside the generator were identified all of which were non-structural, that is, the cracked welds were not on the generator's main frame. Mr. McWhorter reported the root cause evaluation (RCE) for the hydrogen leak has been expanded and at the time of the fact finding the RCE was still open. Four independent consultants have been retained to oversee the RCE process, to assess vibration issue, to review the generator failure and to bring historical knowledge of similar generator failures within the nuclear industry. Testing involving different scenarios for the failure was conducted and it was determined the failure was due to vibration, as the weld failures were caused by fatigue cracking which is indicative of high cycle failure from vibration. Mr. McWhorter reported frame-to-floor weight loading checks on all corners of the Unit 2 Main Generator were performed and some corrections were made and vibration monitoring instrumentation has been installed to obtain a detailed, real-time analysis of the vibration being experienced and to be able to prepare a monitoring plan and a definitive threshold for shutdown for when the unit was restarted. **The DCISC Fact-Finding Team reviewed the monitoring plan and found it satisfactory and the DCISC representatives assessed that Unit 2 was in a good position for restart. The DCISC representatives concluded the 2Z22 forced**

outage was properly managed and the DCISC should review the final RCE during a future fact-finding.

Dr. Budnitz reported the issues which occasioned the 2Z22 forced outage arose on the secondary side of the plant^[3] and do not have an important effect on the probability of an accident on the primary side. He observed the plant was properly shut down and maintained in that state such that the hydrogen leak did not present a public safety issue. Dr. Lam remarked at times risk assessment relies on modeling of a component failure and he stated he found the information and conclusions presented by Mr. McWhorter to be compelling as they are based upon first-principles observation which he found more credible than any detailed modeling one might develop. Dr. Budnitz observed that a nuclear power plant is safest when shut down and safer when it is running than it is during the process of shutting down, as there is always modest risk involved in the process of shutting a plant down but that risk is less when it involves an issue on the secondary side as opposed to the primary side.

- **Cybersecurity Program** – Mr. McWhorter reported the Cybersecurity Program which was implemented at DCPD in 2017 provides protection for approximately 4,000 critical digital assets many of which are small, programmable components. He reported the DCISC team conducted a regular review and the Cyber Security program has not changed significantly since the time of the DCISC's prior review other than to provide ongoing maintenance. He reported there have been some minor implementation issues and lessons learned including regarding the control of maintenance activities. An NRC inspection of the Cybersecurity Program is scheduled for March 2021 and a self-assessment was recently conducted by the plant which identified the program as being generally in good order. **The DCISC Fact-Finding Team found the Cybersecurity Program to be effectively managed and recommended the DCISC follow-up on the results of the NRC inspection.**
- **Radioactive Waste Processing Systems** – Mr. McWhorter reported these systems process primarily liquid and solid waste. The Liquid Radioactive Waste System (LRWS) collects liquid waste from all sources, approximately one million gallons per year, which is filtered and processed through ion exchangers to remove most of the radioactivity and the remaining small amounts of radioactivity are discharged to the Pacific Ocean through the Auxiliary Saltwater (ASW) System. Mr. McWhorter reported the LRWS is generally healthy and effective in managing liquid radioactive waste and discharged approximately 30 millicuries, not including tritium, to the environment during 2019 which is within NRC allowable limits and which represents performance in the industry's third performance quartile due to an off-normal event in 2019 that generated a larger amount of liquid waste because of a caustic liquid spill which did not represent a direct release and concerning which the Committee has received a report in the past. The DCISC representatives also briefly reviewed the Solid Radioactive Waste System (SRWS) which provides for removal from DCPD of radioactive ion exchange media and other solid radioactive waste by shipping it off-site and out of state. The DCISC fact-finding team found both the LRWS and the SRWS to be effective in minimizing the volume of radioactive waste released to the environment.

- Meet with DCPD Officer -The fact-finding team met with DCPD Site Vice President Ms. Paula Gerfen to discuss items reviewed during the fact-finding and other subjects of interest.
- Seismically Induced System Interactions (SISI) Program – Mr. McWhorter described this as a routine review of a program unique to DCPD that is intended to protect installed plant equipment against seismic events and from unrestrained temporary equipment or components. The Fact-Finding Team found the SISI Program to be effective and healthy with no significant issues. Some programmatic changes were recently made that improved performance including use of a checklist in the field to improve accountability.
- Control Room Simulator – Mr. McWhorter reported the Control Room Simulator is a full-size accurate copy of the Unit 1 Control Room and the Simulator is used for training and operator examinations. The Simulator uses the same equipment as the Control Room and events can be simulated by the Simulator's computer system for which the software was upgraded approximately two years ago which Mr. McWhorter reported improved the stability of the event modeling, eased its use by instructors in programming the system and enhanced system reliability. Mr. McWhorter reported that the Simulator facility is regularly tested in accordance with American Nuclear Society (ANS) Standard 3.5 which compare the performance of the Simulator to actual plant performance during events. The conclusion of the DCISC review was the Simulator continues to perform its function well in support of operator training and examinations.
- Drone Sightings – Mr. McWhorter reported this issue concerning drone sightings at U.S. nuclear power plants was brought to the Committee's attention by representatives of the Alliance for Nuclear Responsibility. The issue dates back to 2014 when the NRC made all nuclear power plants aware of a possible security threat posed by drone activity and requested all plants to report drone sightings, several of which were reported by DCPD during 2017-2018. Mr. McWhorter reported that although details of these events are considered safeguards information and are not in the public domain, the sightings were over the large owner-controlled areas of DCPD and not typically near the plant's protected area. Mr. McWhorter reported a small drone does not consist of enough mass that it poses a significant physical threat, as nuclear power plants are required to consider the effect of a large aircraft impact on a station and information on the areas around nuclear power plants is generally available through Google maps or other public sources. Current security planning assumes an attacker would have access to a fairly large body of knowledge about a plant. He reported drone sightings are treated similarly to incursions by watercraft into the one mile exclusion zone off shore from DCPD for which a report is made to the U.S. Coast Guard. He reported DCPD recently became the first U.S. nuclear power plant to obtain a permanent airspace restriction near the plant from the Federal Aviation Administration (FAA) and this provides a strong legal basis for prosecution of individuals found to be violating restricted airspace. Mr. McWhorter reported the Fact-Finding Team determined DCPD continues to monitor drone activity in the vicinity of the power plant and has acted appropriately when drones have been observed in the past.

- Engineering Reorganization and Excellence Plan – Mr. McWhorter reported the Engineering organization was reorganized in 2018 to transform System Engineering to Strategic Engineering, with a focus on long-range activities while removing Strategic Engineering's focus on supporting emergent activities or work in the plant. Responsibility for tactical and emergent work in the plant was transferred to the Engineering Fix It Now (EFIN) Team and to the Component Engineering organization. Effectiveness reviews of the transition have been completed and it is generally considered to have been successful. The DCISC representatives reviewed the Engineering Excellence Plan including six broad areas which focus on the transition of DCPD engineers as work at the plant begins to ramp down with the 2025 cessation of power operations. Mr. McWhorter stated the Fact-Finding Team concluded the Engineering Department continues to perform effectively and the organizational changes were effectively implemented.
- Nuclear Safety Oversight Committee Exit Meeting - On November 19, 2020, Mr. McWhorter reported that with Dr. Budnitz he observed an exit meeting of the Nuclear Safety Oversight Committee (NSOC). He reported the NSOC's function is similar to that of other committees required by NRC Standard Technical Specifications for operating reactors such as DCPD. [Each licensee authorized to operate a nuclear power plant must provide technical specifications derived from the analyses and evaluations included in the safety analysis report for the plant and as amended and the NRC includes such additional plant-specific technical specifications within its Standard Technical Specifications for the reactor type ("Technical Specifications").] The NSOC consists of six external executive-level industry peers and it conducts its review of DCPD's performance three times each year over a four-day period. For the latest review period two members of the NSOC visited the plant in person while the other four members performed their reviews remotely. While the conclusions of the NSOC are governed by confidentiality restrictions, Mr. McWhorter reported the NSOC appeared comprehensive in its investigations and candid in its reports with no significant safety concerns having been identified. **Two items were noted for follow-up by the NSOC in January 2021, those being the results of the corporate assessment of DCPD by the Institute of Nuclear Power Operations (INPO) and an item involving the Low Temperature Over-pressurization Protection (LTOP) System. Mr. McWhorter reported the DCISC representatives found the NSOC meeting to be effective and the DCISC should follow up on these two items.**

Following Mr. McWhorter's presentation, Ms. Judith Iklé, Branch Manager for the Procurement Strategy and Oversight Branch within the California Public Utilities Commission's (CPUC) Energy Division, was recognized. The Chair welcomed Ms. Iklé to the meeting. Ms. Iklé stated she was concerned regarding the Unit 2 forced outages and she inquired as to two matters: whether the Control Room Simulator as it is a mock-up of the Unit 1 Control Room could have had an effect on the forced outages; and how the EFIN Teams might be involved in the forced outages. Mr. McWhorter replied the Simulator is used for training operators for Unit 2 as well as for Unit 1 and the DCPD units are very similar with regard to control and operation of the turbines. Mr. McWhorter reported that during the January 2021 fact-finding the DCISC learned the physical construction of the frames of the main generators for Unit 1 and Unit 2 differ and this is a

reason why Unit 1 has not experienced problems similar to those encountered by Unit 2. But Mr. McWhorter stated these differences would not be reflective of any modeling changes needed by the Simulator and would not make a difference to the operation of the generators from the Control Room. Mr. Baldwin responded that the EFIN Teams have been a core support and troubleshooting organization for DCPD with respect to the Unit 2 Main Generator forced outages and the plant's Engineering organization is interacting with the vendor and with the consultants engaged. The EFIN Team has been reviewing and supporting the recommended repair plans and modifications to the generator that have been proposed by the vendor and the consultants. He remarked the EFIN Team is the plant's first-line of expertise with respect to issues encountered in the plant. Dr. Peterson reported the Unit 1 and Unit 2 Control Rooms are both located within the same larger Control Room and the Unit 1 and Unit 2 Control Rooms at DCPD are essentially identical and the operators are licensed by the NRC to operate either of the two units.

Mr. John Geesman representing the Alliance for Nuclear Responsibility was recognized. Mr. Geesman inquired as to the FAA designation of restricted airspace around DCPD and whether that designation would be permanent, specifically extending to the operation of the Independent Spent Fuel Storage Installation (ISFSI). Mr. McWhorter replied he did not have that information but as a presentation is scheduled by DCPD for later in this public meeting Mr. Geesman's question might be answered at that time.

Upon a motion made by Dr. Budnitz, seconded by Dr. Peterson, the November 10-12 and 19, 2020 Fact Finding Report was accepted by the DCISC and its transmittal to PG&E was authorized. The report will become a part of the Committee's 31st Annual Report.

The Chair requested Assistant Legal Counsel Rathie to report on administrative, regulatory, and legal matters. Mr. Rathie repeated the announcement he made earlier about a change in the order of the agenda for the afternoon session. He also reported the Office of Legal Counsel has developed, in consultation with Sun Star Media of Monterey, California, a new website for the DCISC and the site remains in development and he requested any suggestions or feedback on how the site might become a more useful tool for the Committee. He reported that the Committee's website www.dcisc.org has averaged 621 unique visits every month during 2020 with the greatest number of visitors being from the United States, the Russian Federation, Saudi Arabia and Great Britain.

Mr. Rathie reported that on November 13, 2020, with Dr. Budnitz he attended a remote meeting with members of the California Attorney General's staff to discuss a number of topics which the Committee has recently been following and reviewing. Dr. Budnitz stated that as the Attorney General's appointee to the Committee these meetings are held from time to time to keep the Attorney General's office updated and to provide answers to any questions the Attorney General's staff may have. Mr. Rathie reported the Committee's 30th Annual Report has been issued in two bound volumes and made available on the Committee's website and will soon be distributed in a compact disk format.

Mr. Rathie reported the Committee recently received and responded to an inquiry from David Zizmor, Esq., of the CPUC Energy Division concerning the Unit 2 Main Generator hydrogen leak issue.

In closing his remarks, Mr. Rathie reported the Committee continues to await the issuance of a proposed decision by the California Public Utilities Commission in the 2018 Nuclear Decommissioning Cost Triennial Proceeding (2018 NDCTP) which proceeding includes a proposed Settlement Agreement which may, if it is approved as part of the 2018 NDCTP, provide a venue to extend the Committee's safety oversight role to the post-shutdown period. He reported the process for making the next appointment of a member to the DCISC by the Chair of the California Energy Commission is now underway with Dr. Lam and Dr. Michael Quinn having been selected as candidates by the President of the CPUC. Dr. Peterson announced that he has recently been reappointed by the Governor to serve a term on the Committee commencing on July 1, 2020 through June 30, 2023. Mr. Rathie reported Form 700 Statements of Economic Interest have been distributed to the Members as required by the CPUC Decisions which created and continued the Committee.

VIII ADJOURN MORNING MEETING

The Chair adjourned the morning meeting of the DCISC at 12:22 P.M.

IX RECONVENE FOR AFTERNOON MEETING

The afternoon meeting of the DCISC was convened by the Chair at 1:30 P.M.

X COMMITTEE MEMBER COMMENTS

There were no comments from any Members at this time.

XI PUBLIC COMMENTS AND COMMUNICATIONS

Dr. Lam invited members of the public to address the Committee on matters not on the agenda for this meeting. There were no comments from members of the public at this time.

Assistant Legal Counsel Rathie reported that shortly before adjournment this morning a communication was received from Mr. David Weisman of the Alliance for Nuclear Responsibility. The communication included a video made 15 years ago with comments by the then members of the DCISC concerning the Committee having scheduled a public meeting on Yom Kippur. The Chair observed the video confirmed a lack of sensitivity in the past by the Committee and in the present by the federal agency for having scheduled events on high holy days for those of the Jewish faith.

XII INFORMATION ITEMS BEFORE THE COMMITTEE

The Chair requested PG&E Director of Generation Business Planning Mr. Thomas Baldwin to introduce the first of the informational presentations for this public meeting. Mr. Baldwin introduced the DCPD Director of Risk and Compliance Mr. Russ Prentice to

make that presentation concerning the NRC's assessment of plant performance. Mr. Baldwin reported Mr. Prentice was licensed as a Senior Reactor Operator and has been employed at DCPD for more than ten years including as Maintenance and Instrumentation & Controls Manager. In his present assignment Mr. Prentice oversees the Generation organization's regulatory relations and risk programs including those for DCPD. Mr. Prentice also serves on the Emergency Response Organization.

Update on the Status of NRC Performance Indicators, Licensee Event Reports, NRC Inspection Reports and Notices of Violation, Issues Raised by NRC Resident Inspectors, Open Compliance Issues and License Amendment Requests and Other Significant Regulatory Issues/Requests.

Mr. Prentice stated his presentation would provide an overview of DCPD's performance based on NRC metrics and performance indicators for a period of approximately four months from November 2020 through February 2021. He remarked this presentation would cover approximately 1,800 hours of NRC inspection time. During this period DCPD met and remained in the highest performance category for all performance expectations for all NRC performance indicators and continues to maintain margins with respect to equipment performance, regulatory performance and operational performance. No Licensee Event Reports (LER) were issued by PG&E and there was one finding and two non-cited violations (NCVs) of very low safety significance issued by the NRC since the last DCISC public meeting in October 2020.

Mr. Prentice displayed the 16 performance indicators reviewed and used to collect data by the NRC, and concerning which data is collected daily, as currently being within Green^[4] status with margin for both units as follows.

- Unplanned Scrams per 7000 Critical Hrs.
- Unplanned Power Changes per 7000 Critical Hrs.
- Unplanned Scrams with Complications
- Safety System Functional Failures
- Mitigating Systems Performance Index, Emergency AC Power System
- Mitigating Systems Performance Index, High Pressure Injection System
- Mitigating Systems Performance Index, Heat Removal System
- Mitigating Systems Performance Index, Residual Heat Removal System
- Mitigating Systems Performance Index, Cooling Water Systems
- Reactor Coolant System Activity
- Reactor Coolant System Leakage
- Drill/Exercise Performance
- ERO Drill Participation
- Alert & Notification System
- Occupational Exposure Control Effectiveness
- Radiological Effluent Occurrence

Mr. Prentice reported on the NCVs and the finding issued by the NRC for the period November 2020 through February 2021 and he stated there were three such violations issued:

- Non-Cited Violation (Green) – associated with the level of detail in the documentation for the evaluation performed for scaffolding placed in the plant in support of maintenance on a diesel generator. (Cross-cutting aspect ^[5] H-1 Resources/Inadequate Procedure.) Mr. Prentice stated review of this NCV revealed a need for improvement of processes and procedural control for performing scaffolding evaluations with respect to locating scaffolding in proximity to other equipment. In response to Dr. Budnitz' observation Mr. Prentice stated the vulnerability lay in the level of procedural rigor and documentation and in response to Dr. Lam's observation he stated the intent of the procedure is to review and assess seismically induced system interaction. Dr. Budnitz observed a regulatory guide exists on the procedural requirements for the technical analysis. In response to Dr. Lam's comment that, given the low probability of a seismic event, perhaps the regulatory guide may be an example of excessive and unnecessary regulation. Dr. Budnitz replied that while the probability of a seismic event is low it is not zero and the NRC does not distinguish the need for the technical analysis based on the duration the scaffolding or other equipment is expected to remain in place.
- Finding (Green) – associated with the inadequate use of industry operating experience associated with environmental corrosion of outdoor piping. (No cross-cutting aspect assigned.) This finding was associated with the corrosion found on outdoor piping of the Auxiliary Feedwater (AFW) System and will be discussed in more detail during this public meeting. Mr. Prentice stated this was a self-revealing finding and the inadequate assessment of prior operating experience on corrosion under insulation was not indicative of current performance due to improvements made to the Operating Experience Program.
- Non-Cited Violation (Green) – associated with a Containment spray drain valve mispositioning that occurred during Outage 1R22 in October-November 2020. (Cross-cutting H-12 avoidance of complacency.) Mr. Prentice stated this violation occurred when the Containment Spray System was being realigned for testing and a valve supposedly verified to be in the closed position was found not to be closed due to the valve being stuck. The issue involved ensuring extra verifications are in place and the steps taken include implementing improved briefings and component history regarding performing verifications to raise awareness. Mr. Prentice stated that information concerning this violation has been widely communicated to station personnel.

Mr. Prentice displayed the NRC Cross-Cutting Issues Summary with performance over a rolling four-month period and stated DCPD remains in Green status for all categories with only two cross-cutting aspects identified for H-1 and H-12 as discussed. He reported for 2020 a total of four violations were issued by the NRC which he described as a low number indicative of proactive performance monitoring. No licensee amendment requests were issued during the period November 2020 to February 2021.

Mr. Prentice stated DCPD's overall performance remains in the highest performance category for all NRC Performance Indicators and three inspection reports have been issued since the last public meeting of the DCISC as follows:

- 3rd Quarter 2020 Integrated Inspection Report (2020-003, 10/29/2020).
- Problem Identification and Resolution (PI&R) Inspection (2020-010, 10/30/2020).
- 4th Quarter 2020 Integrated Inspection Report (2020-004, 01/26/2021).

In response to Consultant McWhorter's inquiry Mr. Prentice stated the DCPD Decommissioning organization is monitoring the need for license amendment requests in context of decommissioning the power plant. He reported his organization is evaluating a potential license amendment request related to Technical Specification surveillance completion time requirements. In response to Dr. Budnitz' inquiry Mr. Prentice reported there are presently no issues under review by Mr. Prentice's organization regarding permits issued by the state. In response to Dr. Lam's query Mr. Prentice confirmed that his organization is involved with the risk-informed aspects of decommissioning and is reviewing options and industry lessons learned and working with the DCPD Decommissioning organization in this effort to ensure the most up to date information is used to drive the mitigation necessary to ensure a successful transition to decommissioning.

Ms. Sherry Lewis of San Luis Obispo Mother for Peace was recognized. Ms. Lewis questioned whether the NCV related to the Containment spray drain valve involved a situation where the valve was not stuck but was tied open and its purported closure was verified by two people and if this were the case she questioned whether avoidance of complacency was the correct designation for this event. Mr. Prentice confirmed the valve was the same as described by Ms. Lewis and he observed the cross-cutting aspect of this event was assigned by the NRC not by DCPD. He stated there were other factors involved and in a nuclear industry context complacency has aspects which include challenging assumptions and he stated that accordingly there was an opportunity to improve the way operators in the field addressed that event.

Ms. Judith Iklé, Branch Manager for the CPUC Energy Division office of Procurement Strategy and Oversight was recognized. Ms. Iklé stated from the perspective of the CPUC her interest was in operational performance, safety and reliability and she inquired as to the Green finding associated with inadequate use of industry operating experience concerning the corrosion of the AFW System piping and as to whether the issue involved DCPD staff's inadequate use of industry operating experience and if so how that matter is being addressed. Mr. Prentice stated the AFW System corrosion involved corrosion found under insulation and the issue of under-insulation corrosion was identified elsewhere in the industry at another facility during the period 2008-2009. At that time he stated there was a missed opportunity by DCPD to identify its broader implications and to have put measures in place that would have required routine inspections and this could have resulted in the recent event at DCPD not occurring. Mr. Prentice stated that since 2008-2009 there have been improvements made to the Operating Experience Program at DCPD and additional actions have been taken to prevent a recurrence. These actions include improvements to operating experience procedures, training on the subject of corrosion, performance of extent of condition reviews for various operating experience evaluations and walkdowns by the

Engineering organization to identify extent of condition issues and to identify other locations where corrosion may occur under insultation. The AFW System corrosion event has been widely communicated to station personnel. Dr. Lam observed that these actions appear to be more than commensurate with the safety significance of the issue.

Mr. Baldwin next introduced DCPD Outage Manager Mr. Matt Coward and stated Mr. Coward holds a Bachelor's Degree in Mechanical Engineering from California Polytechnic State University in San Luis Obispo (Cal Poly) and is a registered Professional Engineer. Mr. Coward held a license from the NRC as a Senior Reactor Operator and has thirty years' experience with PG&E and in the nuclear industry. Mr. Baldwin reported Mr. Coward is DCPD's most tenured outage manager having led twelve refueling outages.

Performance During 22nd Refueling Outage for Unit 1 (1R22) Including Key Activities, Performance Indicators, Results Achieved, Fuel and Steam Generator Inspection Results, Unexpected Equipment Issues and Open Items.

Mr. Coward stated in his presentation he would summarize key activities, performance indicators and the results of the fuel and steam generator inspections during 1R22 which commenced on October 3 and terminated on November 2, 2020, and which Mr. Coward reported was the first DCPD refueling outage in more than ten years to have been completed in under 30 days.

Mr. Coward identified and discussed the key activities during 1R22 as follows:

- Reactor Vessel Hot Leg ^[6] inspection – all four hot legs were inspected.
- Steam Generator - eddy current testing.
- Reactor Coolant Pump - seal replacement.
- Main Low Pressure Turbine "C" - inspection.
- Circulating Water Pump 1-1 - motor overhaul.
- Condensate Polisher Computer - upgrade
- 230 kV Tower – replacement of the tower closest to DCPD.
- 500 kV Tower 5-1 and 5-2, - vertical insulator replace on the towers closest to DCPD.
- Auxiliary Transformer 1-1 - high voltage bushing replacement (emergent work).

Mr. Coward stated the Outage Safety Plan and Outage Safety Schedule provide defense-in-depth levels which were maintained during 1R22 to ensure key safety functions were satisfied. High-risk and infrequently performed tests and evolutions (IPTE) during 1R22 included:

- Initial drain to lowered reactor coolant inventory for reactor disassembly and reassembly.
- Refueling cavity drain to lowered reactor coolant inventory following core reload.
- Vital bus transfer and integrated safeguards testing done at the start of 1R22.
- Initial criticality of the new reactor core.
- Performance of heavy lifts over the reactor core.

Mr. Coward reviewed the performance metric goals set and the results achieved during 1R22, which commenced on October 3 at 2100 hours and concluded on November 2, 2020, at 2140 hours as follows:

<u>Performance Measure:</u>	<u>Goal</u>	<u>Actual</u>
Serious Near Hit events	0	0
Nuclear Safety Events	0	0
Site Clock resets	0	0
Outage duration (Days)	30	29.9
ALARA –As Low As Reasonably Achievable (Rem)	30.5	26.7
Power Ascension (Days)	5	4.1

Mr. Coward observed that previously refueling outages commenced at midnight but one of the lessons learned during prior outages was that this timing puts the residual heat removal flush on the critical path right at the time of a change of an Operations shift and by commencing 1R22 at 9:00 p.m.(2100 hours) this situation was avoided. Mr. Coward remarked the outage performance metrics were achieved during a period when Unit 2 was in a forced outage that began almost half-way through 1R22. In response to Consultant Wardell's query Mr. Coward stated the plant sets a 90-day goal for continuous operation once a unit returns to full power after a refueling outage and to date Unit 1 is continuing to perform well.

Mr. Coward discussed the results achieved during 1R22.

- Hot leg inspection – robotic ultrasonic inspections performed underwater by Westinghouse of welds and reactor coolant piping as part of DCCP In-service Inspection Program to detect either development of new flaws or stress corrosion cracking based on review of previous data. Dr. Peterson observed the weld locations for the welds that join the hot leg piping to the vessel likely present particular challenges for eddy current inspection.
- Steam Generator eddy current inspection – no tubes needed to be plugged and Mr. Coward reported 1R22 should be the final time steam generator eddy current inspection is performed for Unit 1 due to its scheduled retirement.
- Zero significant Human Performance Events.
- Line ownership, i.e., individual organizational ownership, of the As Low As Reasonably Achievable (ALARA) radiation minimization program continues to be a strength.
- Best collective radiation exposure for Unit 1
- Addressed the Unit 2 forced outage in an effective manner during 1R22.

In response to Dr. Lam's inquiry Mr. Coward replied there were no inspection activity reductions during 1R22 because of the scheduled retirement of Unit 1 on November 2,

2024. He reported the only item shifted from 1R22 to 1R23 involved some discretionary work for the 10-year In-Service Inspection Program. No license amendments or other relief were requested of the NRC for 1R22.

Mr. Coward reviewed the fuel and steam generator inspection results during 1R22 as follows:

- No fuel defects - fuel and bottom nozzles examined with high-definition cameras underwater with no defects or debris found.
- Only minor non-safety significant fuel findings associated with boric acid on some fuel.
- Steam Generator inspections revealed no findings.

Mr. Coward reported that during 1R22 in-processing for temporary workers DCPD brought in 743 temporary outage workers to assist in outage and related work activities. Included were staff augmentation as well as vendor personnel. Due to the COVID-19 pandemic in progress during 1R22 efforts were undertaken to minimize the numbers of personnel on-site. In response to Dr. Lam's query Mr. Coward stated the number of personnel employed during the outage was appropriate to the scope of work during 1R22. Mr. Coward reported that due to the approaching end of the license period for DCPD there were no large projects planned during 1R22.

Mr. Coward stated that follow-up tasks from the outage include extensive work on the reliability of fuel handling equipment. He described the operation of the Upender mechanism which is used as part of the fuel movement and transfer process from the reactor vessel to the spent fuel pool. He reported that during 1R22 the kicker spring on the Upender, which functions to tip the fuel off-center and allow it to lie in a horizontal position, failed. New kicker springs will be installed in the Upender for Unit 2 during 2R22 and for Unit 1 during 1R23. Mr. Coward reported the decision not to repair the kicker spring during 1R22 was based upon the radiation exposure which would have been incurred.

In response to Consultant McWhorter's request Mr. Coward identified some of the major activities planned for 2R22 planned for March to May 2021 including Main Generator repairs for the stator core cooling water inlet and outlet headers, work at the ends of both the turbine and the exciter, two low pressure turbine inspections, and a reactor vessel hot leg inspection. There will be no eddy current inspection required for Unit 2 during 2R22 and Unit 2 will also have vital bus H cleared. Mr. Coward reported that due to the expected 49-day length of 2R22 one emergency diesel generator will have a maintenance window conducted during the outage. He reported the use of wet axial burnable absorbers in the nuclear fuel is a consequence of a core redesign required as a result of the duration of the Unit 2 outages and this will also be addressed during 2R22. In response to Dr. Budnitz' inquiry Mr. Coward identified the work on the Main Generator as the critical path for 2R22. Mr. Coward stated DCPD estimates the traditional refueling outage work performed during 2R22 will occupy 28 days and the balance of the expected 49-day duration will be due to work on the Main Generator. Once that work is

completed he stated the plan is to be in a position to perform restart and progress smoothly through startup.

Mr. Coward reported for 1R22 COVID-19 procedures were established including standards concerning the use of face coverings by personnel. Early in the outage two workers at DCPD experienced heat stress due to wearing masks and a clarification was implemented to the procedure to direct personnel to socially distance and lower their mask if experiencing distress was implemented. Spare masks were provided to replace potentially contaminated masks.

In response to Consultant Wardell's questions Mr. Coward reported that prior to 1R22 an issue was addressed concerning the software for the spent fuel bridge crane but other than the broken Upender kicker spring there were no other issues experienced with the fuel handling equipment. Mr. Coward reported the Foreign Material Exclusion (FME) Program performed well with no challenges experienced for the Main Generator, the low pressure turbine or the reactor cavity. He reported due to operating experience at a nuclear power plant owned by the Exelon Corporation DCPD performed a full inspection of its latching tools due to a latching tool at the Exelon plant having lost a rivet into a rod control cluster assembly.

Following Mr. Coward's presentation Ms. Judith Iklé, Branch Manager for the CPUC Energy Division office of Procurement Strategy and Oversight, was recognized. In response to Ms. Iklé's inquiry Mr. Coward stated the dates he provided for the 2R22 outage were estimates and an official submittal will be provided to the grid operator. He reported at this time the goal for 2R22 is to complete the outage in 49 days and to commence the outage on March 13, 2021, at 2100 hours. He reported that each unit has three 2.4 megawatt, air-cooled, emergency diesel generators (EDG) which provide back-up power to the plant's 4kV vital buses and during 2R22 one of the Unit 2 EDGs will be inspected and tested. Mr. Coward remarked this work would usually be performed while the unit was online but due to the duration of 2R22 the work has been scheduled during the outage.

Ms. Sherry Lewis was recognized. Ms. Lewis remarked that in context of nuclear power the problem lies in having a terrifyingly dangerous and complicated mechanical process that has to be run absolutely perfectly at all times. Dr. Budnitz responded that this was not a correct characterization of DCPD or any other nuclear power plant as nuclear power plants are designed, maintained and operated such that certain equipment failures can occur yet the plant remains safe and Dr. Budnitz provided several examples including the FLEX^[7] strategy and the redundancy of having six EDGs. He remarked this diversity and redundancy is designed precisely in order to allow one or more components to fail and yet the plant will remain adequately safe. Dr. Budnitz observed the DCISC has devoted a substantial amount of time to reviewing defense-in-depth strategies and it is simply not correct that everything must run perfectly at all times or a disaster will occur.

Mr. John Geesman representing the Alliance for Nuclear Responsibility was recognized. Mr. Geesman inquired as to the expected operational lifetime for the Upender kicker spring and whether the spring that failed was part of the plant's original

equipment. Mr. Coward reported that the spring which failed is part of the Upender transfer cart system and was original plant equipment and was not included in the Preventative Maintenance Program. He stated the failure of the kicker spring did not have nuclear safety consequences as the fuel remained in a safe condition. One other instance of a failure of a kicker spring within the nuclear industry was discovered. Dr. Budnitz remarked the fact that there was one other instance of a kicker spring failure, the consequences of which did not impact nuclear safety, calls into question DCCP's evaluation of operating experience. Consultant Wardell remarked the fact that there was no safety concern and the spring is a passive component, and springs rarely fail, together with the fact that the plant was able to continue with the movement of the fuel makes this event unusual but not an event that DCCP should necessarily have discovered ahead of time.

In response to Mr. Rathie's observation concerning operating experience Dr. Budnitz confirmed the Operating Experience Programs at nuclear power plants represent a systematic, carefully structured, international effort to document and to share information and evaluations on operational events amongst nuclear facilities. At DCCP operating experience information is reviewed and evaluated on a daily basis. Dr. Budnitz observed these programs did not exist at the time of the accident in March 1979 at the Three Mile Island Nuclear Generating Station (TMI) in Pennsylvania. Dr. Budnitz reported a similar event to that which caused the partial meltdown of TMI Unit 2 occurred approximately one year before the accident at TMI at a different power plant but the event was identified and the accident sequence was interrupted by the other plant's operators. He stated that had an operating experience program been in place in the industry at the time of the TMI accident there is a very high likelihood the accident at TMI would not have occurred. Dr. Budnitz stated one of the most important lessons learned from the TMI accident was the importance of documenting and sharing operating experience.

Mr. John Geesman representing the Alliance for Nuclear Responsibility was recognized. Mr. Geesman remarked there was confirmation earlier during this public meeting that operating experience is not always perfect and this fact is demonstrated by the Auxiliary Feedwater System under insulation piping corrosion event which went undetected despite the identification of an earlier occurrence. Mr. Geesman observed that his client's concern is that problems are quite often not identified as being of safety significance until they are found to be so and it may be a mistake to place too much faith in operating experience. Dr. Budnitz stated he agreed with Mr. Geesman's observation and this represents a major concern and worry for everyone in the nuclear industry as the effectiveness of any operating experience program depends upon the events being correctly documented and categorized correctly and for that information to be accessible when a search is undertaken. Dr. Budnitz acknowledged that some events which should be documented are not and hence the program is not perfect and this is more reason that a defense-in-depth strategy must always be employed. He observed that any assertion that the risk of a core damage accident is zero is simply not correct and he agreed with Mr. Geesman's comment that placing too much reliance on core damage frequency is a parallel concern which can result in overlooking other potential

risks.

The Chair thanked Mr. Coward for his presentation and a short break followed.

Mr. Baldwin introduced DCPD Station Director Mr. Cary Harbor who has given many presentations to the Committee in the past. Mr. Harbor has more than 30 years' experience in the nuclear industry including holding leadership positions at DCPD in Engineering, Operations, Maintenance, Quality Services and in Generation Risk and Business Planning organizations. Mr. Baldwin reported Mr. Harbor held a Senior Reactor Operator License and holds a Bachelor of Science Degree in Nuclear Engineering from the University of California at Santa Barbara as well as a Certificate from Stanford's Certificated Program in Executive Business Administration.

Presentation on the State of the Plant including Key Events, Highlights, Outages Including Unit 2 Forced Outages to Address Main Generator Issues, Organizational Changes, Response to the COVID-19 Pandemic, and Other Station Activities since the DCISC's October 2020 Public Meeting.

Mr. Harbor reported Unit 1 is currently safely operating at 100% power with a probabilistic risk assessment (PRA) of Green, meaning all items are within acceptable risk parameters. Since returning to operation after 1R22 Unit 1 has been at 100% power with no significant issues. Unit 2 is safely shutdown in Mode 3^[8] to perform maintenance on the Main Generator. He reported all NRC Performance Indicators are Green. Mr. Harbor displayed graphs showing the daily load profiles for calendar year 2020 for both units. Mr. Harbor reported the team working on the Unit 2 Main Generator issue have demonstrated good engagement.

Mr. Harbor reported the station has completed the Tier 2 Employee Retention Agreement period with more than 90% of the workforce signing retention agreements and there have been no anomalies identified to date concerning future staffing issues. He reported there has been no impact on DCPD's safe operations due to employee attrition and a robust monitoring program is in place.

Concerning the COVID-19 pandemic which began in March 2020, Mr. Harbor stated the plant was challenged to work through the issues presented and to develop standards including the wearing of face coverings and maintaining social distancing. Temperature monitoring was instituted for all personnel entering the plant as well as development of a live-safe computer application which allows personnel to self-screen before coming to the station. Work stations have been modified to provide plexiglass separation. Mr. Harbor reported to date there have been a total of 68 cases of COVID-19 amongst the thousands of persons who have had access to the plant since March 2020. He reported at the present time there are no employees actively recovering from COVID-19 and six persons remain in quarantine. In response to Consultant McWhorter's inquiry Mr. Harbor stated that to date there has been no confirmation of the on-site transmission of the COVID-19 virus identified. Mr. Harbor reported the lessons learned during 1R22 concerning face coverings and heat stress will be implemented during 2R22 that will start soon, in March.

Concerning the Unit 2 electrical Main Generator Mr. Harbor stated the issues encountered do not represent nuclear safety issues and do not affect or include the plant's steam generators. The work is being performed on the main electrical generator on the non-nuclear side of the plant and there has been no impact to the health and safety of the DCPD workforce or on the community. DCPD has been working to address vibration issues on the Unit 2 Main Generator and Mr. Harbor reported the plant is committed to making sure it is fully capable and reliable as the high electricity demand season approaches. Extensive investigation and analysis are being performed by PG&E, by the Siemens firm as the generator vendor, and by industry experts. DCPD has engaged structural experts, generator experts, and the Electric Power Research Institute in the effort to resolve the issues with the Unit 2 Main Generator.

Mr. Harbor reported modifications were made to the Unit 2 Main Generator at the end of 2020 and an effort has continued into 2021 to identify, repair and resolve issues identified with vibration of the Main Generator. Mr. Harbor displayed a visual representation of a 3-D model developed to identify where vibration is taking place and causing the generator to move. Mr. Harbor stated these issues mainly involve the generator's frame but the stator is also experiencing some level of vibration and it is important that this vibration be dampened as it is this vibration that is causing the cracks which have resulted in hydrogen leaking into the generator's cooling system. Mr. Harbor displayed another visualization of the generator showing where three weights have been placed on each side of the Unit 2 Main Generator to help dampen the vibration by changing the resonance frequency.

Mr. Harbor reported the repairs to the Unit 2 Main Generator include adding additional plastic resin blocking or support in the end-winding which was determined to be vibrating. He stated another small crack has been identified on a parallel ring at the last winding of the exciter end of the generator through elevated hydrogen levels in the cooling water but the hydrogen leakage as a result of this small crack has not resulted in the need to shut down the unit. Mr. Harbor reported the ring where cracking was experienced in the past is in the round ring in which the stator core cooling water goes into the system and feeds the generator stator. The new crack is in a parallel ring, which is a different ring serving a different function. He reported DCPD is now working on a repair plan and Unit 2 is now offline once again in order to perform additional inspections and to look for other areas with small cracks and make adjustments based on what has been and will be learned. Mr. Harbor reported that a decision should be forthcoming in the next 24-48 hours concerning a restart of Unit 2 prior to the planned 2R22 refueling outage scheduled to commence in March 2021. He stated the plan now is to bring Unit 2 back online for additional monitoring and data gathering prior to the scheduled spring refueling outage and then run the unit for a period of time and then shut it down for the spring outage. During 2R22 Mr. Harbor reported DCPD will make additional refinements to address the vibration issues and replace some components. He commented PG&E is committed to ensuring the availability and reliability of Unit 2 well in advance of the summer months and, to this end, there is an importance placed on understanding the extent of condition and on identifying and addressing all the potential issues.

Mr. Harbor addressed upcoming station activities including completion of a recent reactor operator license class which he stated was one of DCP's largest operator classes with more than 20 persons having completed exams and who are now awaiting the final results from the NRC. He reported 2R22 scheduled to start in March 2021 and the outage milestones are being developed. The commencement of 2R22 has been moved up by two weeks to try to ensure there is adequate time to complete repairs to the Main Generator. Mr. Harbor reported the NRC's Evaluated Emergency Planning Exercise & Inspection is now scheduled for September 15, 2021.

In response to Consultant McWhorter's inquiry Mr. Harbor stated taking Unit 2 offline was part of the planned response to the vibration issues with the unit having run through a trial period to see if additional cracks developed and the occurrence of the new crack prior to unit shutdown emphasized the need to take the unit offline to investigate and to attempt to understand the extent of condition. Dr. Lam reported the Committee received an inquiry from the CPUC concerning the hydrogen leak issue and came to a consensus that the leakage was not an issue of safety concern based upon the inventory of hydrogen available, the presence of ambient air and the fact the leakage is into a water containment with no safety equipment in proximity. In response to Dr. Lam's comment Mr. Harbor stated that for perspective it is important to understand that hydrogen acts as a cooling mechanism for the generator such that water enters and takes heat away from the hydrogen through the cooling system and if for some reason there is a crack or a leak, hydrogen in small quantities enters the closed Stator Cooling Water System due to a pressure differential. Mr. Harbor reported the system is designed in such a way that the hydrogen is intended to be identified before the leakage becomes an issue.

Mr. John Geesman representing the Alliance for Nuclear Responsibility was recognized. Mr. Geesman observed PG&E attributed a considerably greater danger to the risk of a hydrogen leak in its attempt to justify the stator repair project. Mr. Geesman inquired if the stator repair project had a correlation to the problems Unit 2 experienced with hydrogen leaks and might there have been an element of causation involved. Mr. Harbor responded and stated the replacement of the stator and of the generator's internals was made due to those components having exceeded their expected lifespan and this represented a potential for greater failure than what DCP is now experiencing. Mr. Harbor reported the cause of the stator replacement was due to issues experienced with the older generator components which had more than 30 years of wear and the problems DCP is now experiencing were likely due to the generator now having a tightly packed stator core and the changes that were made in the replacement of the stator are now producing the vibration which aligns with a resonance frequency which has resulted in the problem. Mr. Harbor reported that prior to the stator replacement the Unit 2 Main Generator did not have vibration levels that were causing cracking or hydrogen leakage into the Stator Cooling Water System. In response to Mr. Geesman's inquiry as to whether it was a mistake to restart Unit 2 in November 2020, Mr. Harbor stated that after the initial cracking issue was identified in July 2020 it was believed the issue was attributable to workmanship, specifically the quality of a certain weld. At that time instruments for measuring vibration were not in place on the generator and other than

the quality of the weld there was nothing identified as a main driver for the problem. Mr. Harbor stated that immediately after a second crack was identified specific structural experts were brought in to assess the problem and to develop a 3-D model. In response to Dr. Budnitz' inquiry, Mr. Harbor stated that DCPD has not identified and is not aware of any operating experience elsewhere concerning the issues experienced with the Unit 2 Main Generator.

In response to Dr. Lam's inquiry as to the cost of the Unit 2 Main Generator repairs, Mr. Harbor stated there has been no impact due to the repairs from a financial standpoint but having one unit shut down does have financial implications. Mr. Harbor stated there is a warranty from Siemens which PG&E expects Siemen will honor and no litigation has been commenced in connection with the Unit 2 Main Generator issues.

Mr. Jane Swanson of the group San Luis Obispo Mothers for Peace was recognized. Ms. Swanson inquired whether the replacement stator was newly manufactured or refurbished. Mr. Harbor replied that with the exception of the generator shell the stator has all new components. He remarked that seismic, technical and other considerations including the weight of the stator make it infeasible to completely remove and replace an intact stator and the work of replacement was accomplished by packing all the components. In response to Ms. Swanson's query Mr. Harbor confirmed that the capacity factor for Unit 2 he provided during his presentation was for its operation during calendar year 2020 and the capacity factor metric represents more than just the time the unit is on-line as this metric also includes production of a certain amount of energy. Mr. Harbor stated he does not at present have data for the capacity factors for 2021.

Mr. Greg Haas, District Representative for U.S. Representative Salud Carbajal was recognized. Mr. Haas inquired and Mr. Harbor confirmed that DCPD will be making a decision very soon concerning restarting Unit 2 before commencing its next refueling outage (2R22). Mr. Harbor stated that this decision will be based upon the repair plan involved and the duration of the repairs. Mr. Haas stated he understood that despite a restart prior to 2R22, during 2R22 DCPD will be making repairs to address the cracking that is causing the hydrogen leakage issue and he queried whether there might be a need following 2R22 to again shut the unit down to make further repair. Mr. Harbor responded that while he could not answer with certainty the expectation is that the plant should be able to accomplish all the needed repair during the 47-49 day duration planned for 2R22 commencing in early March 2021 and bring Unit 2 back on line for a reliable run with the vibration dampening counterweights remaining in place. He reported blocking material will be installed at the stator end winding to address cracking on the parallel ring and this is expected to be successful in preventing further cracking.

Ms. Judith Iklé of the CPUC Energy Division was recognized. Ms. Iklé stated her concern was regarding the issue of electrical safety and reliability and focuses upon the availability and reliability of Unit 2 during the coming summer months. She inquired whether the two episodes of cracking occurring in the Stator Cooling Water System were both due to vibration and she inquired whether the same issue might affect Unit 1. Mr. Harbor replied that the initial cracking issue concerned a hairline crack on the stator core cooling water ring and both the initial and the second occurrence [on a parallel but

different ring] of hairline cracking were due to vibration and accordingly dampening the vibration is believed to be the key to resolving the issue. The counterweights installed on the side of the Unit 2 Main Generator are being tuned to dampen vibration and the additional blocking installed on the parallel rings should dampen vibration in those areas. Mr. Harbor reported the Unit 1 Main Generator is of a different design than the Unit 2 Main Generator and accordingly the stator cooling water rings and the hydrogen cooling system on Unit 1 differ from those on Unit 2. The vibration signature for Unit 1 is also completely different as is its structural integrity and accordingly Mr. Harbor reported DCPD sees no translation of the events which have occurred on Unit 2 over to Unit 1.

In response to Dr. Lam's inquiry concerning whether PG&E would consider a subsequent replacement Mr. Harbor replied that PG&E believes the modifications put in place with the dampening weights have definitely worked to dampen vibration and it is expected the issue with the Unit 2 Main Generator will be completely resolved following 2R22. Dr. Peterson stated the issue with vibration should be covered in a future course on reliability engineering for mechanical engineers as high-cycle fatigue presents very interesting problems and he stated that it is fortunate mass can be used to change the frequency resonance. Dr. Budnitz observed DCPD structures and components have been analyzed for motion during seismic events including how energy propagates through a building and the building itself changes the frequency spectrum. He observed that the Turbine Deck supports massive pieces of equipment and that fact needs to be accounted for in order to work out what the motions are for other nearby equipment and this can be done using in-structure spectrum analysis.

Mr. John Geesman representing the Alliance for Nuclear Responsibility was recognized. Mr. Geesman inquired as to what type of resonance evaluation was performed by DCPD prior to acceptance of the stator repair. Mr. Harbor stated he believed that the specific design criteria parameters were included in the contract for the work and were adequate and it is incumbent upon the vendor to meet those criteria. Mr. Harbor confirmed Dr. Budnitz' observation that the experts engaged by DCPD subsequently analyzed those criteria using a sophisticated 3-D model in the development of the modifications to dampen the vibration of the Unit 2 Main Generator. Mr. Harbor confirmed Dr. Lam's observation that in dealing with vibration on rotating equipment there are a great many dimensions to account for, including magnetic forces, and modeling may not be 100% accurate and in those situations there remains an element of trial and error concerning the placement of a mass used to dampen vibration.

Mr. Tom Marré was recognized. Mr. Marré observed that with installation of weights to provide mass on the Unit 2 Main Generator this may have an effect on the bearings within the generator. Dr. Peterson stated and Mr. Harbor agreed that the effect of adding the mass is not so much in dampening the vibration but rather in moving the frequency of the resonance of the vibration. Mr. Harbor stated that when Unit 2 came out of the outage, the bearings on the shaft, that drives from the turbine down into the generator rotor, were and continued to be monitored and no significant vibration on any of the bearings or on the rotating element were observed and that remains the case at this time. He stated the issue principally concerns the mass of the stator and the manner in which the main generator is anchored to the floor.

The Chair thanked Mr. Harbor for an informative and insightful presentation.

XIII TECHNICAL CONSULTANT REPORTS & RECEIVE, APPROVE, AND AUTHORIZE TRANSMITTAL OF FACT FINDING REPORTS TO PG&E

The Chair requested Consultant McWhorter to report on the January 13-14 and 21, 2021, fact-finding visit with Dr. Lam conducted remotely as a WebEx conference. He reviewed the topics discussed with PG&E during the January 13, 14 and 21, 2021, visit as follows:

- Unit 2 Main Generator Issues and Root Cause Evaluation Update – the Fact-Finding Team met with DCP's Manager of Performance Improvement Mr. Mark Frauenheim to receive an update on the Unit 2 Main Generator issues. Mr. McWhorter reviewed the events in connection with this matter and reported the generator was refurbished in the fall of 2019 and Unit 2 ran for several months. The first hydrogen leak indication occurred in July 2020 and Unit 2 entered forced outage 2Y22 which had a duration of approximately two weeks. The hydrogen leak was attributed to a cracked weld/quality issue. In hindsight Mr. McWhorter stated that it now appears the weld cracked due primarily to high cycle fatigue and vibration. Unit 2 was restarted on August 2, 2020. On October 15, 2020, a second hydrogen leak indication was discovered and Unit 2 entered forced outage 2Z22. The DCISC reviewed issues with the Unit 2 Main Generator hydrogen leakage during a fact-finding in November 2020 and additional weld cracking was noted during 2Z22. At this time, Mr. McWhorter stated, it began to be apparent there was a vibration issue. Corrections were made to the generator frame-to-floor weighting and additional instrumentation to monitor vibration was installed including approximately 25 instruments which were placed on the generator frame in various locations and connected to a data collection system. As of October 2020 a root cause evaluation (RCE) had been initiated but not yet closed and the RCE was expanded to include the participation of additional consultants. Unit 2 was restarted on November 28, 2020, with the RCE open and a plan to monitor vibration and take corrective action as needed. On December 2, 2020, the hydrogen leakage increased and Unit 2 entered 2G22, its third forced outage. The January 2021 fact-finding occurred as Unit 2 was in the process of restarting after 2G22.

Mr. McWhorter reported DCP made efforts to develop a finite element analysis and 3-D computer model of the generator frame which permits vibration to be introduced in the model at differing points to assess the effect on the generator frame. Mr. McWhorter explained the generator frame consists of the outside of the generator which is welded to form the frame and structure of the generator. Various models were run and it was found the frame had a natural resonance frequency at 120 hertz which Mr. McWhorter stated is a very significant frequency relative to an electrical generation occurring at 60 hertz which the Unit 2 generator was designed to produce. The generator rotor spins at 1,800 rpm which is a natural frequency of about 30 hertz. The Unit 2 Main Generator is a four-pole generator and produces 60 hertz electricity so he stated it is very natural that a 60 hertz generator could have a forcing function at 120 hertz that could stimulate the resonant vibration observed. Mr. McWhorter reported it is essentially

the spinning rotor at 1,800 rpm that produces a very natural frequency that appears to be stimulating the external frame of the generator, with a fixed stator, at a resonant frequency of 120 hertz. He reported the model also showed larger vibration occurring at the ends of the generator, in particular at the exciter end of the frame where most of the leaks have occurred. Additional work was also performed inside the generator to further examine the welds. Minor modifications were made inside the generator to reduce the vulnerabilities of welds to cracking due to vibration.

Mr. McWhorter reported twelve different possible design changes were considered and a decision was made with input from the vendor to install various combinations of weighted plates externally on the generator at six separate locations to allow for tuning and shifting of the generator's resonant frequency from 120 hertz to another frequency or to reduce it. Mr. McWhorter displayed a photo of the Unit 2 Main Generator showing the location of the weighted plates installed at three locations on each side of the generator with the monitoring equipment installed.

On January 12, 2021, Unit 2 was restarted and vibrations were measured at various loads and the weighted plates were adjusted several times and the generator frame vibration was reduced significantly. Data showed the vibration of the generator frame increased after refurbishment and decreased after installation of the weighted plates with vibration after installation being comparable to the vibration prior to the refurbishment. Mr. McWhorter commented there is a significant difference in the frames of the main electrical generators for Unit 1 and Unit 2 with the vendor having apparently made significant design changes to the generator construction between the times the two generators were built.

Mr. McWhorter reported the DCISC Fact-Finding Team found DCPD managed the forced outages properly and the ongoing response was appropriate. **The team was concerned about the findings of the RCE and recommended that the DCISC should continue to follow this issue in future fact-finding and during future public meetings.**

In response to Consultant Wardell's question Mr. McWhorter reported the DCISC representatives were not informed as to the timetable for a fourth shutdown, because on January 21, 2021, the initial installation of the weighted plates had just been completed and the Unit was at 100% power.

CPUC Branch Manager Ms. Judith Iklé was recognized. Ms. Iklé inquired as to the timing of the DCISC fact-finding and whether there has been any consideration of lowering the capacity of the generator. Mr. McWhorter replied that at the time of the DCISC's visit Unit 2 had just been restarted from its third forced outage and is now shut down and in a fourth forced outage to make internal inspections and assessments of the work performed on issues related to vibration. Mr. Thomas Baldwin, PG&E Director of Generation Business Planning, responded that PG&E is still pursuing continued full operation for Unit 2. Measurements were taken of the vibration experienced as the unit changes power levels and the present shutdown was preplanned. Part of the preplanned shutdown was to gather extensive information on the vibration experienced as the unit

shut down. Mr. Baldwin stated he was unaware at this time of any discussion concerning derating Unit 2 and PG&E believes the cause of the vibration will be successfully addressed and Unit 2 will be operable at 100% power for the rest of its operating license.

Mr. John Geesman representing the Alliance for Nuclear Responsibility was recognized. Mr. Geesman inquired whether there were any components of the Unit 2 Main Generator that would be considered seismically sensitive. Dr. Budnitz stated and Mr. Baldwin confirmed that in the event of a large seismic event this would result in a unit trip of the powerplant and the steam supply to the main generators would cease. Mr. Geesman inquired as to whether Unit 2's Main Generator is addressed in the plant's Technical Specifications and in that connection specifically related to derating the unit. Mr. McWhorter stated there are areas of the Technical Specification which address reactor trips that might be initiated from the generator system but he did not expect that the main generator would, in general, be addressed by the Technical Specifications. Mr. McWhorter stated he could not provide Mr. Geesman with any information as to the Technical Specifications including information on derating. Mr. Baldwin stated that if DCPD were to pursue a permanent derating that would require the NRC to engage in a review process under a 10 CFR 50.59 screening evaluation.

Ms. Jean Merrigan was recognized. Ms. Merrigan inquired whether the fourth forced outage on January 12, 2021, was correctly characterized as a planned outage and Mr. Baldwin responded that this was correct and the January 2021 outage was preplanned. In response to Ms. Merrigan's query DCPD Station Director Mr. Cary Harbor stated that the hydrogen leakage experienced prior to the outage that commenced on January 12, 2021, was not of sufficient magnitude that it would have otherwise required the plant to be shut down. He reported for the prior forced outages the hydrogen leakage surpassed procedural limitations and those procedures instructed the operators to shut down the unit. Mr. Harbor stated the hydrogen leakage experienced prior to the fourth shutdown was not at prior levels and the consistent hydrogen leakage was sustained at much lower levels. Mr. Harbor confirmed in response to Ms. Merrigan's query that the fourth outage was planned to occur in December 2020 but was delayed due to a request from the PG&E power trading organization.

- Institute of Nuclear Power Operations (INPO) Corporate Evaluation – Mr. McWhorter reported this evaluation is performed by INPO every six years and because of confidentiality agreements most details cannot be shared in public but he stated he could report certain appropriate corrective actions were taken in response to the INPO Corporate Evaluation and there were no significant safety concerns identified by INPO during the evaluation.
- Steam Generator Inspection Results – Mr. McWhorter reported the results reviewed by the DCISC representatives will be the last set of steam generator inspections for Unit 1. There were 12 new indications on the steam generator tube support plates and 4 new indications on anti-vibration bars none of which were large enough to require additional tube plugging. Structural evaluation found all indications to be acceptable for continued operation for three fuel cycles. Mr. McWhorter displayed a

photo of a steam generator and described its component parts. A total of 8 tubes have been plugged in all four Unit 1 steam generators which Mr. McWhorter described as indicative of their excellent performance.

- Safety System Functional Failures – a safety system functional failure as defined by the NRC represents an event or condition that could have prevented the fulfillment of the safety function of a system. Mr. McWhorter reported DCPD has experienced a high number of such failures in the past but the plant's performance has improved. **The DCISC fact-finding team found the overall reduction in safety system functional failure to be acceptable and recommended that the DCISC cease looking at this issue on a recurring basis and instead continue to review NRC Maintenance Rule functional failures and NRC Maintenance Rule performance in general.**
- Large Transformer Health – Mr. McWhorter reported there are 14 large transformers at DCPD which are generally used to transfer high voltage down to medium voltage. He reported all large transformers are in good health and are monitored regularly during outages and while the plant is on line. Mr. McWhorter reported the only major project remaining for a large transformer prior to cessation of operations is the replacement of the radiator on Auxiliary Transformer 2-1.
- Meeting with NRC Senior Resident Inspector – the DCISC representatives met with the Senior NRC Resident Inspector to discuss outage performance.
- Meeting with DCPD Officer - Dr. Lam met with DCPD Site Vice President Ms. Paula Gerfen to review the schedule for the Unit 2 Main Generator repairs and the matter of a financial impact due to the extended outages and repeated shut downs.
- Licensed Operator Training Class Observation – Mr. McWhorter reported licensed operators spend approximately every fifth week in training which consists of their training in the Simulator facility and in the classroom. Due to COVID-19 pandemic protocols classroom training is being conducted remotely. The DCISC representatives sat in on a two-hour training presentation on abnormal operating procedures including Control Room evacuation procedures. Mr. McWhorter reported the training was well prepared, excellently performed and professionally presented. He stated that video was not used in the training and the class was conducted only in audio mode in order to preserve internet bandwidth for the participants. Mr. McWhorter noted that this was an example of the limitations imposed by the response to coronavirus pandemic.
- Low Temperature Over-pressurization Protection (LTOP) System Event – Mr. McWhorter stated the LTOP System is a control system which is activated when the plant is shut down and at low temperature to protect the reactor vessel against brittle fracture. At low temperature the vessel if subjected to too high a pressure could fracture. The LTOP System actuates the power-operated relief valves (PORV) on the Pressurizer to relieve pressure if needed at low temperature. During a "solid water" reactor coolant pump (RCP) start on October 29, 2020, two pumps successfully started but two other pumps experienced issues. Operators "drew a bubble" in the Pressurizer. It was then determined that one of the RCPs needed to be slow-rolled to move the pump at low

speed. The plant was returned to a "solid water" condition, and when the pump was started a pressure transient in the system actuated the LTOP System. Mr. McWhorter reported the operators responded promptly within two seconds to maximize the let-down flow and recover pressure control. Mr. McWhorter reported the root cause evaluation investigation was still in progress at the time of the fact-finding but there are really only two ways this event could have occurred, either by injecting water in the Reactor Coolant System (RCS) when the system is water solid or a heat source was present which heated the RCS. Mr. McWhorter stated it has been confirmed that there was no water injection taking place at the time of the LTOP System actuation so it appears that somehow starting the RCP allowed more heat to be transferred in the RCS than is typical. DCPD has retained the services of Westinghouse, the vendor, to model the thermal situation and assist with further analysis. **The DCISC representatives concluded the plant's response to this event was appropriate but the DCISC should review this event when the root cause evaluation is completed.** In response to Dr. Budnitz' query Mr. McWhorter stated there have been other LTOP System events within the industry but the LTOP systems are only designed for a certain number of actuations during the life of a plant and events are infrequent. Dr. Budnitz observed he suspected there would be some evidence found of asymmetrical heating.

- Chemical and Volume Control System (CVCS) and Emergency Core Cooling System (ECCS) – Mr. McWhorter reported the DCISC representatives conducted a routine review of these two systems. The CVCS includes two high-head safety injection pumps and the Fact-Finding Team also discussed the Safety Injection System which includes two pumps, four accumulators and the residual heat removal pumps used for low-head safety injection. He reported with this review the DCISC has now had an opportunity to review the health of all six pumps and four accumulators within the ECCS. Mr. McWhorter reported all these Tier 1 systems receive formal health reports and all were classified as being in Green health status with only minor issues being tracked. Mr. McWhorter reported testing of the ECCS is a large part of safeguards testing performed for every outage.
- Control Room Ventilation Systems – the Control Room Ventilation System includes heating, cooling and pressurization systems for the shared Main Control Room and adjacent areas. The system also serves to protect operators from radiation by pressurizing the Control Room with filtered air to keep radioactive gaseous radioactivity out of the Control Room. Mr. McWhorter reported the system was generally in good health but there are some reliability issues with dampers which will continue to be monitored.
- COVID-19 Pandemic Response -Mr. McWhorter reported DCPD continues to be effectively focused primarily upon self-screening, social distancing, hygiene and limiting the number of personnel on the site. The DCISC representatives also reviewed plans for vaccinating plant personnel who will be divided into four priority groups and this effort will be coordinated with San Luis Obispo County. He reported the response by the station to the pandemic continues to be effective.
- Learning Services Department Update -Mr. McWhorter reported the reaccreditation

of all twelve training programs during 2020 was a significant accomplishment for the Learning Services Department, together with a 100% pass rate for the last two initial operator training classes during 2019. The final class which is also the largest in DCPD history has now finished examinations and is awaiting results. Mr. McWhorter reported the Learning Services Department has approximately 45 persons on its training staff and personnel continue to be moved to other programs as training needs are reduced as the plant approaches the end of its operational life. Mr. McWhorter reported the Learning Services Department is appropriately focused on future challenges.

Dr. Lam thanked Mr. McWhorter for an excellent and expedient report.

Following a motion by Dr. Peterson seconded by Dr. Budnitz the January 13, 14 and 21, 2021 Fact Finding Report was accepted by the Committee.

XV ADJOURN AFTERNOON MEETING

The Chair observed the evening meeting of the Committee would be convened at 5:30 P.M. and he adjourned the afternoon meeting of the Committee at 5:20 P.M.

XVI RECONVENE FOR EVENING MEETING

Dr. Lam reconvened the evening meeting of the DCISC at 5:30 P.M.

XVII COMMITTEE MEMBER COMMENTS

Dr. Budnitz commended Mr. McWhorter for his report made during the afternoon session. Mr. McWhorter expressed his appreciation to PG&E and to Mr. Mark Frauenheim at DCPD for Mr. Frauenheim's assistance with the Committee's inquiries concerning issues with the Unit 2 Main Generator repairs.

XVIII PUBLIC COMMENTS AND COMMUNICATIONS

Dr. Lam invited members of the public to address the Committee on matters not on the agenda for this meeting. There were no comments from members of the public at this time.

XIX INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

Mr. Baldwin introduced Director of Nuclear Security Services and Emergency Services Mr. Shawn Kirven to make the next informational presentation to the DCISC. Mr. Baldwin reported Mr. Kirven has more than 34 years of nuclear industry experience including experience with both contract and proprietary nuclear companies as well as a long tenure with PG&E including within the Security Department, the DCPD Fire Department and an oversight role at PG&E's Humboldt Bay Power Plant's Independent Spent Fuel Storage Installation (ISFSI). Mr. Kirven holds a Bachelor's Degree in Management and an Associate's Degree in Criminal Justice and is affiliated with local and federal law enforcement agencies.

History of Drone Sightings at Diablo Canyon and Implications Upon Nuclear Safety.

Mr. Kirven reported that in 2014, in response to the sighting of a drone above the Indian Point Energy Center, a nuclear power plant in Buchanan New York, the NRC enhanced its existing advisories on suspicious aircraft and established voluntary reporting guidelines. Suspicious aircraft including drones are categorized as unmanned aerial systems (UAS) and unmanned aerial vehicles (UAV). Guidance included contacting the Federal Aviation Administration (FAA), local law enforcement and NRC Headquarters. Mr. Kirven remarked that the use of drones by the nuclear plants themselves is not included within the guidance and many plants including DCPD use drones to conduct inspections of power transmission lines and plant structures.

Mr. Kirven stated the NRC believes there are no risk significant vulnerabilities at nuclear power plants that could be exploited by adversarial use of currently available commercial drones. He reported that working with the Nuclear Energy Institute (NEI) the NRC has concluded nuclear plants remain safe from drones as the plants are among the most robust structures in the nation, they employ comprehensive defense strategies and these are thoroughly tested even against drones, the plants are protected from cyberattacks and a unified industry response is already in place. In response to Dr. Lam's query Mr. Kirven reported these considerations apply to the ISFSIs as well as to the power plants. He reported DCPD recently received a restricted air space designation from the FAA and such designation was previously not in place at any nuclear power plant in the country. This airspace restriction includes drones and covers the area of the ISFSI at DCPD.

Mr. Kirven reported prior to 2014 when the NRC put its guidance in place the nuclear industry through the NEI had formed a task force, of which DCPD is a member, under the auspices of the of the Department of Homeland Security's Critical Infrastructure Partnership Advisory Council on Unmanned Aircraft Systems (CIPAC UAS) to identify risk and develop solutions. As a result all U.S. nuclear power plants now have protocols and standards in place to respond promptly to suspicious aircraft activity including reporting to the FAA, local law enforcement, the FBI and the NRC. He reported the details of these protocols and standards are security related information and therefore cannot be publicly shared.

Mr. Kirven reported FAA rulemaking initially prevented DCPD from taking any action against a drone, as without FAA sanction there can be no interference with the flight of an aircraft, manned or unmanned. DCPD worked with the Department of Energy (DOE) to obtain federal sponsorship for nuclear power plants to request restricted airspace under "special security instructions" and the DOE approved this sponsorship in September 2019. DCPD volunteered to be a pilot plant, working through with the appropriate agencies, in order to be granted airspace restrictions and in October 2020 DCPD was granted that permanent designation. In response to Dr. Peterson's query Mr. Kirven replied that it is his understanding that this designation which includes the DCPD ISFSI will remain in place after DCPD ceases to generate electricity. Dr. Peterson observed although the DCISC's Charter from the CPUC does not include issues related to security there is a great deal of interest in the local community on this topic and removing the restricted airspace designation after cessation of power generation

operations would not seem logical.

Dr. Budnitz observed that after the 9-11-2001 terrorist attacks every nuclear plant in the nation was required to assess the effect of a large aircraft's impact on the plant's facilities and structures and the NRC assembled a task force to understand the issue. While the results of that inquiry remain security-related information Dr. Budnitz reported the general conclusion was that nuclear plants would be adequately safe. Analyses were also performed by other countries including concerning containment structures and with some exceptions these structures were found to be sufficiently robust. Dr. Budnitz remarked that as a drone has much less mass and travels at a lesser velocity than a large aircraft with massive engines, while a drone may pose a threat to off-site power lines nuclear power plants are designed for the loss of off-site power. He stated that in his opinion drones do not present a threat outside of the envelope of matters which have been reviewed and assessed regarding the operation of nuclear power plants. Mr. Kirven agreed with Dr. Budnitz' assessment and observed that nuclear security is required to stay ahead of technological developments which often evolve faster than legislation. Mr. Kirven reported other nuclear power plants including the Palo Verde Nuclear Generating Station in Arizona have been in communication with DCPD concerning obtaining airspace restrictions for their facilities.

Mr. John Geesman representing the Alliance for Nuclear Responsibility was recognized. On behalf of the Alliance for Nuclear Responsibility Mr. Geesman complimented PG&E for its leadership on the issue of restricted airspace for nuclear power plants and Mr. Geesman stated he hoped that others in the industry will follow PG&E's leadership. Mr. Kirven thanked Mr. Geesman for his comment and stated he was proud of the team and the work accomplished in securing FAA airspace restriction designation for DCPD.

The Chair thanked Mr. Kirven for his presentation.

Mr. Baldwin introduced the Manager of the DCPD Chemistry Department Mr. David Cortina. Mr. Baldwin reported Mr. Cortina has more than 30 years' experience with PG&E in both the Chemistry and Radiation Protection Departments and came to DCPD from the U.S. Navy. Mr. Cortina holds a Bachelor's Degree in Nuclear Technology from the University of the State of New York Regents College and a Master's Degree in Business Administration from the University of La Verne.

Monitoring and Reporting of Radiological Effluent Releases and Radiological Environmental Impacts.

Mr. Cortina reported commitments for radiological monitoring are tied to the Generation organization's Operating Plan and the DCPD Chemistry and Radiation Protection organizations are committed to meeting all regulatory standards regarding radiological nuclear safety, to following procedures, and to raising identified concerns or challenges which could prevent the plant from meeting its commitments. He stated DCPD maintains the Radiological Monitoring and Controls Program (RMCP) in conformance with applicable federal regulations, the Technical Specifications and in accordance with ALARA

(As Low As Reasonably Achievable) principles.

Mr. Cortina stated the RMCP is comprised of: Radioactive Effluent Control Program (RECP), which controls radioactive material released from the plant and the resulting dose to individuals or principal pathways of exposure, and Radiological Environmental Monitoring Programs (REMP) which ensures concentrations in the environment from radioactive effluent releases conform to the reasonably achievable design objectives of 10 CFR Part 50 Appendix I.

Mr. Cortina discussed and described the RECP which consists of:

- Monitoring requirements for potential release paths.
- Periodic sampling of systems with the potential of becoming radioactively contaminated.
- Procedures to control potential liquid and gaseous radioactive discharges.
- On-site meteorological program for the performance of dose assessments.
- Radioactive liquid and gaseous monitoring instrumentation.
- Liquid and gaseous effluents limits per 10 CFR Part 20, Appendix B.
- Annual and quarterly doses or dose commitment limits from effluents released per 10 CFR Part 50, Appendix I.

He then described the REMP which provides for:

- Monitoring the radiation and radionuclides in the environs of the plant by the use of thermoluminescent dosimeters (TLDs).
- Air and environment sampling.
- A land census to identify changes in use of areas at and beyond the site boundary.
- Complying with the plant's Technical Specifications..

Mr. Cortina reported DCPD submitted its 2019 Annual Radioactive Effluent Release Report (ARERR) and the 2019 Annual Radiological Environmental Operating Report (AREOR) to the NRC in April 2020. In all cases for 2019 the impacts of DCPD operations were well below federal approved limits for the year. For 2020 the annual reports are in progress and are due on or before May 1, 2021. Mr. Cortina reported concerning those reports there are no identified challenges and he remarked this reflects the plant's focus on safety. He reported DCPD is in full compliance with industry guidance and all regulatory standards regarding radiological and nuclear safety. Mr. Cortina reviewed the annual amounts of radiation which individuals in the U.S. experience from common sources as follows:

	Millirems
Average annual radiation exposure from all sources	624
Natural background radiation	311
Medical procedures	300
Consumer products (air travel, smoking, building materials, etc.)	13
Remainder (including living near a nuclear power station)	Less than 1

Mr. Cortina stated that less than 1 millirem is equivalent to the cosmic radiation exposure an individual would experience during one or two hours of a cross-county flight. He displayed a graph depicting different radiation sources and observed that the dose from effluents from the operation of a nuclear power plant is very low compared to other commonly encountered sources of radiation.

Mr. Cortina reported the dose from liquid effluents during 2019 to the total body of hypothetical person at the site boundary from all liquid effluents, as reported to the NRC as a percent of Technical Specifications limits, as reported in the ARERR were 0.000031 millirem per year which is 0.0001% of the Technical Specification limit. He stated the site boundary location used in this calculation is located approximately 800 yards from the plant. He provided a graph showing a three-year summary of liquid releases which he described as well controlled and maintained in accordance with ALARA principles. He reported 2019 was a year in which the plant conducted two refueling outages and this resulted in an increase in total activity from that during 2018 and 2017 for both total body dose, excluding tritium, and for dose from tritium but levels for both remained well within Technical Specification limits.

Mr. Cortina reported dose from gaseous effluents during 2019 to a hypothetical person at the site boundary from noble gas or dose from iodine, particulate, and tritium to the nearest actual resident located, located northwest of the power plant at a distance of 3.6 miles, was significantly less than 1% of the Technical Specification limit.

Mr. Cortina reported on the direct radiation dose to personnel during 2019 who were located on the site at the Make-up Water Facility from direct radiation from noble gas was 0.0016 millirem per year or .016% of the Technical Specification limit and the iodine, particulate and tritium dose to the nearest resident during 2019 was 0.00034 millirem per year which was 0.0023% of the Technical Specification limit which compares to the average dose a person experienced annually of 624 millirem. He provided a graph showing a three-year summary of gaseous releases and observed there were no detectable releases from iodine during the past three years. He reported the gamma air dose and beta air dose were calculated at the northwest site boundary, while total body dose was calculated for a full-time resident residing 3.6 miles from the site. All gaseous releases were well below Technical Specification limits and consistent with ALARA principles.

Dr. Peterson observed liquid effluent releases for tritium were approximately 2 curies per year with gaseous releases much less, at approximately 70-80 millirem per year. Dr. Peterson observed keeping gaseous effluents low relative to liquid is logical as a gaseous release is more likely to cause off-site exposure but he stated he was curious as to the large differences described by Mr. Cortina in his presentation. In response Mr. Cortina stated that DCPD does not reprocess water as is done by some other nuclear power plants and the water is discharged by DCPD so ion exchange of tritium is not possible. Dr. Peterson remarked and Mr. Cortina concurred that evaporation from the spent fuel pools is the primary contributor to the gaseous component of tritium released and tritium production through liquid and gaseous sources is similar with differences being due to the discharge of the liquid effluent. Dr. Peterson observed that due to very

low levels of actual effluent the public health consequences are very small and much less than when compared to the operation of a natural gas power plant. Dr. Budnitz remarked and Dr. Peterson and Mr. Cortina agreed that the total body dose of 2×10^{-3} millirem per year at the site boundary is very small and approximately equivalent to being in an aircraft flying across the country for approximately one minute and he opined while it is important to keep dose low this is too low to be of consequence.

Mr. Cortina reported while no persons reside at the site boundary there are personnel who work at the Makeup Water Facility and the dose from direct radiation for those persons was calculated at 4.5 millirem per year which is approximately 18% of the 40 CFR Part 190 limit and this calculation was performed to demonstrate what the upper limit would be for any member of the public. Mr. Cortina reported the source for that direct radiation comes from the presence of Warehouse "A," a storage site for reactive materials from the ISFSI and from the on-site storage of spent fuel in storage casks, and from the storage facility for the old steam generators. Mr. Cortina reported that as a radiation worker he is subject to the federal limit of 5,000 millirem per year although the administrative limit at DCPD is lower. Dr. Peterson observed that the dose described by Mr. Cortina would in Dr. Peterson's experience be undetectable in the presence of background radiation and could not be measured.

Mr. Cortina stated that thermoluminescent dosimeters (TLDs) capable of measuring direct ambient radiation are in place in and around the plant and are continuously measured at 32 locations surrounding DCPD. These 32 locations are made up of 29 indicator stations and 3 control stations. Three TLD badges are placed at each location and each badge has three detectors to provide an average dose at each location and the data are collected and read every calendar quarter. Mr. Cortina stated that over a one-year period 1,330 TLD measurements are collected and the results are trended and compared with preoperational and historical operating values to look for adverse trends with no adverse trends noted for 2019. Dr. Peterson observed and Mr. Cortina concurred that one can conclude that relative to the natural background there is no statistically detectable change in radiation levels since the commencement of operations by DCPD consistent with dose being down to less than 2% of natural background which can vary from location to location within only a short distance. Mr. Cortina provided a photo of an air sampling station and its equipment and reported 364 air samples were collected in 2019 and 884 radionuclide analyses were performed and he showed a photo of personnel involved in environmental sampling. He reported no DCPD-related radionuclides were detected in any of the following :

- Drinking water samples
- Ocean surface water samples
- Marine Biological samples
- Marine Aquatic Vegetation
- Recreational Beach Sampling
- Vegetation (Food Crops)
- Milk
- Meat Products

Mr. Cortina stated that at the end of 2019 a total of 58 spent fuel storage casks were located within the DCPD ISFSI. Eight TLD locations surround the ISFSI in addition to the 32 TLDs he discussed earlier. Data have indicated that ISFSI loading campaigns have not affected the TLD direct radiation trending results with respect to the 32 locations surrounding DCPD.

Mr. Cortina reported personnel involved in direct implementation of chemistry/radiochemistry, operations or radiation protection activities in support of the Radiological Monitoring and Controls Program are qualified in accordance with the requirements. Instrument performance is monitored and quality is controlled by the Chemistry Lab Quality Control Program in accordance with strict requirements to conduct testing, calibration and quality control checks. Analytical confidence is assessed by replicating and technical sampling programs and REMP split sampling which is sent to the California Department of Public Health - Radiologic Health Branch. Off-site labs are audited and participate in an interlaboratory comparison program.

Mr. Cortina concluded his presentation by observing the radiological impacts of DCPD's operations are well below federal approved limits. This has been confirmed by environmental sampling around the plant indicating no unusual environmental isotopic findings from DCPD site operations with results compared to preoperational data which show no unusual trends.

In response to Dr. Lam's inquiry Mr. Cortina confirmed that in almost 40 years of operation DCPD has not experienced a radiological release which would be considered to approach the level of a major release. Consultant Wardell observed the Committee reviews the radiological release reports each year and all releases reported have been extremely small and sampling has shown nothing as far as radioactivity impact which Mr. Wardell described as an impressive performance.

Ms. Jane Swanson of San Luis Obispo Mothers for Peace was recognized. Ms. Swanson inquired whether the previous status of not having a "no fly" zone situated above DCPD reported by Mr. Kirven had now been changed. Dr. Budnitz replied and confirmed that for approximately one year an airspace restriction by the FAA has been in place for the airspace above DCPD. Ms. Swanson remarked that the NRC's use of a "reference man" proxy as a theoretical model for the effects of exposure to ionizing radiation has been called into question by a research project known as the Gender and Radiation Impact Project conducted by Ms. Mary Olson of the Nuclear Information and Research Service. Ms. Swanson reported Ms. Olson's research compares the effects of radiation on female persons to that of males and Ms. Swanson stated the effect is much greater on female persons than on males. Ms. Swanson stated Mr. Cortina did a great job in his presentation but she stated her view that a general statement that exposure to persons working at DCPD is within NRC limits may not be accurate as that conclusion should not be necessarily applied to female persons. Mr. Rathie reported and Ms. Swanson confirmed that information is available on the San Luis Obispo Mothers for Peace website at www.mothersforpeace.org and the group is hosting a Zoom meeting with Ms. Olson on March 11, 2021. Mr. Rathie thanked Ms. Swanson for Mothers for Peace having provided notice of this public meeting of the DCISC on its website. Ms.

Swanson stated that Mothers for Peace finds the public meetings of the DCISC to be extremely valuable including the opportunities provided to ask questions and the ability to receive written information. Mr. Cortina remarked that he and his wife have two daughters and he is concerned about their health as well as of that in the community. Mr. Cortina observed the concepts of ALARA are principal drivers in keeping exposure well below federal limits for both women and men. Ms. Swanson stated she derives no reassurance based upon the concept of ALARA as the message she takes from ALARA principles is that it cannot be done right so it will be done to the best of our ability and she stated that she expects more than an adequate assurance of public safety. She acknowledged DCPD appears to be achieving all the standards set by federal regulations but she has a fundamental disagreement with the adequacy of those standards.

Dr. Budnitz called the attention of the other Members, Technical Consultants and Counsel to an email received from Mr. David Weisman of the Alliance for Nuclear Responsibility which had an attachment with a document by Mr. David Lochbaum regarding the NRC issuance of a Green finding concerning the drain-down issue due to a closed valve discussed during this public meeting. The Chair observed the receipt of the email is noted and it will become a part of the DCISC's public record.

XX ADJOURN EVENING MEETING

The Chair adjourned the evening meeting of the Committee at 6:55 P.M. Dr. Lam reported the Committee will reconvene at 9:00 A.M. on the following day.

XXI RECONVENE FOR MORNING MEETING

The February 17, 2021, public meeting of the Diablo Canyon Independent Safety Committee was called to order by its Chair, Dr. Peter Lam at 9:00 A.M. Dr. Lam welcomed those persons attending the Zoom Webinar and watching the proceedings on live streaming video.

XXII COMMITTEE MEMBER COMMENTS

There were no comments by Members of the Committee at this time.

XXIII PUBLIC COMMENTS AND COMMUNICATION

The Chair reviewed the invitation to address remarks to the Committee on matters not on the agenda for this public meeting and invited any comments from members of the public who wished to address the Committee to do so now. There were no remarks by any members of the public at this time.

XXIV INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

The Chair requested Mr. Baldwin to introduce the next presenter. Mr. Baldwin introduced Mr. Shane Guess of the Generation Business Planning team and reported Mr. Guess, who has been with PG&E for eighteen years, currently holds a Senior Reactor Operator License and holds a Bachelor's of Science Degree in Nuclear Engineering from the University of California at Berkeley and a Master's Degree in Business Administration

from the University of La Verne.

Results of the 2020 Operating Plan and Key Elements of the 2021 Operating Plan..

Mr. Guess stated the Operating Plan is the Generation organization's line of sight to providing safe, reliable and affordable energy to PG&E's customers and encompasses all three groups which make up the Generation organization as reorganized in 2019, including the Nuclear Generation, Power Generation and Business and Technical Services groups. He reported the Operating Plan process includes alignment of Generation's goals with those of PG&E and in doing so eight major categories were established as focus areas for the 2021 Operating Plan. In response to Dr. Lam's inquiry Mr. Guess replied that safety is the highest priority, with reliability a second priority and affordability focusing on PG&E's customers a third priority. Dr. Budnitz observed that a principal reason for the formation of the DCISC was a concern that PG&E would allow financial considerations to impede its focus on safety and that concern has always remained at the forefront of the DCISC's principal focus.

Mr. Guess reported on and discussed some of the results of the 2020 Operating Plan as follows:

- DCPD completed 1R22 safely and on schedule, meeting all goals for safety, reliability, schedule and budget.
- DCPD's performance on the NRC's performance metrics places DCPD in the highest performance category, Column 1 of the NRC's Licensee Response metric. There were four violations identified during 2020 compared to eight in 2019 and this represents the lowest annual total since 2016.
- DCPD established robust safety standards for COVID-19 prevention including working remotely where possible, restricting travel, requiring face coverings and sanitizing work spaces which has resulted in no incidents of workplace transmission of COVID-19.
- DCPD has maintained a skilled, proficient workforce during the Tier 1 four-year employee retention period and is now in the process of monitoring progress on the Tier 2 three-year employee retention period to identify any signs of decline or issues concerning a lack of qualified personnel.

Mr. Guess reported on measurable results of the 2020 Operating Plan as follows:

Metric:	Goal	Actual
Reliability & Safety Indicator	95.0	92.5
1R22 Outage Radiation Exposure	<30.5 rem	26.7 rem
Preventable Motor Vehicle Accidents	1 st quartile	1 st quartile
Days Away, Restricted or Transferred Cases	1 st quartile	1 st quartile
Lost Work Day Cases	1 st quartile	1 st quartile

Regulatory Findings	No Significant	No Significant
NRC Reactor oversight Process	Column 1 w/ cross-cutting issues	Column 1 w/ cross-cutting issues

Mr. Guess stated DCP's failure to meet the goal set for the Reliability & Safety Indicator which combines industrial safety, radiological safety, nuclear fuel reliability and chemistry performance was due to the Unit 2 Main Generator vibration issues which resulted in Unit 2 being off line for unplanned maintenance activities. In response to Dr. Lam's inquiry Mr. Guess confirmed that a weighted factor is assigned to the components of this indicator.

Mr. Guess displayed a depiction of the 2021-2025 Generation Operating Plan which he stated is a published document distributed to the entire plant staff and the entire Generation organization. **Dr. Budnitz inquired and Mr. Guess promised to check to determine if a copy of the 2021-2025 Generation Operating Plan could be made available for posting on the DCISC's website.** Mr. Guess displayed a graph depicting the line of sight focus areas, cultural statements and the individual actions which he stated provide the line of sight he described to Generation excellence.

Mr. Guess described and discussed the eight key focus areas in the 2021 Generation Operating Plan including:

- Safety – employing principles of speaking up, listening up and following up to engage both employees and leadership in the field to eliminate barriers and to ensure incidents are reviewed to prevent a recurrence.
- People – fostering a safety culture through an engaged and involved workforce including through use of the Generation People Committee and the Pathways Program.
- Customer – focusing on proper planning and execution to improve reliability and affordability while never compromising on safety. Mr. Guess confirmed Dr. Budnitz' observation that the customer in this respect is the electrical grid as well as customers who receive electrical service and both those components are integrated into the customer focus area. In response to Dr. Lam's query Mr. Guess stated there is a separate focus area for budget issues which includes goals and metrics developed for dollars-per-megawatt of generation and Mr. Guess confirmed DCP is subject to and allowed an authorized rate of return under the CPUC as established by its general rate cases. Mr. Baldwin stated affordability is not an element of the customer focus area as the category is entirely focused on reliability including acknowledging that equipment failure can challenge reliability which can challenge the customer's experience. Mr. Baldwin stated PG&E recognizes its obligation to live within performance and cost metrics as determined by its general rate cases.

Dr. Peterson observed that at this time Texas is experiencing many electrical black-outs and the South Texas Nuclear Generating Station (the "South Texas Project") has experienced a unit trip due to frozen feedwater lines. **Dr. Peterson inquired**

whether DCPD would be reviewing Texas' experience for issues which could potentially impact DCPD. Mr. Guess replied that the South Texas Project reactor trip is believed to be related to the very low temperatures experienced which exceeded the plant's design basis and he agreed that an extent of condition review may be appropriate. Mr. Guess remarked PG&E does have a climate resiliency organization which reviews issues concerning floods, heatwaves and issues involving wildfires. Mr. Baldwin commented the heatwaves experienced in California during 2019 did cause power shortages and as a result the PG&E Generation organization is reviewing plans and strategies for the peak demand summer season and is shifting some plans with regards to maintenance and refueling outages to ensure DCPD will be available to provide reliable service to PG&E's customers. Dr. Peterson remarked these issues arise due to the progressive destabilization of the jet stream and the polar vortex, accompanied by ingestion of massive amounts of warm air and the emission of methane up through Siberia which accelerates heating and Dr. Peterson stated severe weather events are to be expected and will become increasingly frequent as the driving factor is carbon dioxide in the atmosphere and it is therefore necessary to assess what this implies around electrical supply and reliability.

- Relentless Execution – to leverage safety culture and leadership and to take advantage of external review organizations such as the Diablo Canyon Independent Safety Committee and the Nuclear Safety Oversight Committee.
- Wildfire Mitigation – ensuring issues are resolved in a timely manner to leverage the nuclear experience in assisting the other parts of the PG&E organization to meet the Generation organization's goal of effectively mitigating for wildfire. In response to Dr. Lam's observation concerning the replacement of very old equipment and tree trimming Mr. Guess replied that the Electric Operations organization is committed to achieving an International Organization for Standardization (ISO) 550001 asset management certification and DCPD is assisting in that effort.
- Risk-Informed Work & Resource Plan – to develop risk-informed work and resource plans. Mr. Guess observed the Nuclear Generation organization assists in the use of risk evaluation methodology on a case by case basis but risk evaluation methodology is not integrated into the Electric Operations organization.
- Commitments – includes maintaining regulatory performance and documenting areas for improvement through the Corrective Action Program which Mr. Guess reported is important across the Generation organization including for the Business and Technical Services group.
- Financial Stability – to complete the business unit work plan within 2% of the budget established while meeting goals and choosing projects on a priority basis and following through and monitoring budget performance. Mr. Guess remarked that assessing whether a better way exists is something that is intrinsic to nuclear safety culture.

Mr. Guess stated the leadership model at DCPD employs concepts of engaging,

enabling and sustaining each employee to be successful in achieving a high level of performance and to encourage each person to act swiftly if performance declines or a gap to a standard is identified. He reported on the key work projects and initiatives under the 2021 Operating Plan which include:

- Maintaining 1st quartile safety performance as the number one priority.
- Executing one refueling outage (2R22) in mid-March 2021.
- Planning and preparing for two refueling outages in 2022.
- Monitoring the first year of Tier 2 retention period for DCPD employees.
- Pathways Program, Phase 2 ("Building Your Pathway") ensuring DCPD employees have skills and knowledge to enable them to succeed at the end of DCPD generation operations whether that is within the Decommissioning organization, elsewhere within PG&E, at another nuclear facility or in retirement. Programs have been established at Cal Poly to enable employees to obtain professional certifications.
- Nuclear Regulatory Commission evaluated emergency planning exercise scheduled for September 15, 2021.
- Last initial operator license class which Mr. Guess stated would free up some instructors in the Operations training department who maintain licenses as senior reactor operators to ensure that the minimum number of licensed operators is met at all times.

In response to Dr. Lam's inquiry Mr. Guess stated that he did not have statistics on what percentage of DCPD employees may choose to retire following DCPD's cessation of generation operations. He reported there may be more interest among employees in joining the Decommissioning organization than that organization can accommodate and employees are also exploring other areas in the Generation organization as many employees have expressed their wish to continue employment with PG&E and a strong interest remains in staying in the local area.

In response to Consultant Wardell's question Mr. Guess replied each employee has access to a pdf file containing the Operating Plan and elements from the plan are incorporated in the Site Standards Handbook and the individual goals to achieve line of sight to generation excellence and employee performance are tied to and assessed against specific goals and metrics in the Plan. In response to Consultant Wardell's inquiry concerning the Station Excellence Action Plan Mr. Guess replied that plan is designed to ensure any gaps to excellence are identified and the plan is distributed to different departments in the form of Departmental Excellence Action Plans. He described the Operating Plan as ranking above the Departmental Excellence Action Plans in the Generation organization's planning hierarchy.

Dr. Budnitz observed, and Mr. Guess agreed that in Mr. Guess' presentation Mr. Guess had described the highest level policy stance of the company but these descriptions alone while important are not informative as to how the plan is performing and as such the Operating Plan is important but it is not sufficient in itself. Dr. Budnitz observed the fundamental mission of the DCISC has been to dig down and to see how such plans are working and how their details are being implemented.

Ms. Sherry Lewis of San Luis Obispo Mothers for Peace was recognized. Mr.

Lewis stated she very much appreciated Dr. Budnitz' remark as she finds presentations such as Mr. Guess made to be irritating because while saying all the right things it is not known whether any of the concepts described are being followed. She observed that as long as people take these high level policies seriously and follow through then they are beneficial but otherwise they can represent just a list of high aspirations.

Mr. Baldwin introduced DCPD Director of Risk and Compliance Mr. Russ Prentice,. Mr. Prentice also made a presentation to the DCISC during the afternoon session of this DCISC public meeting held the previous day.

Causes and Corrective Actions for the Unit 2 Auxiliary Feedwater System Leak that Occurred During Shutdown in July and Actions Taken to Inspect Unit 1 for Similar Issues.

Mr. Prentice stated in his presentation he would discuss the root cause for the Auxiliary Feedwater (AFW) System leak and what was discovered during the root cause evaluation of that event including the cause, contributing organizational factors and actions taken in response. He reported the AFW System is a Class 1, safety-related system that supplies an alternate source of feedwater to the steam generators when normal feedwater is unavailable. The design basis of the AFW System is to supply water to the steam generator in a minimum required flow rate corresponding to steam generator pressure to prevent over-pressurization.

Mr. Prentice reported the process of conducting a root cause analysis involves defining the object of the analysis, accurately identifying the defect in question and the consequences of the defect and ensuring that corrective actions are appropriately focused. He explained the object of the AFW System root cause analysis involved the Unit 2 AFW System piping at a piping elbow downstream of Steam Generator 2-2 AFW Control Valve. The defect involved an approximate 1/16-inch diameter hole in the pipe which resulted in a calculated 3.9 gallon-per-minute leak. As a consequence two trains^[9] of the AFW System were declared inoperable on July 24, 2020, per Technical Specifications which required a mode transition to Mode 4. Unit 2 was shut down in Mode 3 at the time of the discovery of the leak. In response to Dr. Budnitz' request Mr. Prentice stated Mode 3 is entered when the Reactor Coolant System temperature is greater than 350 degrees Fahrenheit but the reactor is not critical^[10], while Mode 4 is entered with the reactor temperature greater than 200 degrees Fahrenheit again with the reactor not critical. In response to Consultant McWhorter's query Mr. Prentice confirmed that only Steam Generator 2-2 was impacted by the leak which was on a common feedline from two auxiliary feedwater pumps.

Mr. Prentice reported a root cause evaluation (RCE) was conducted to address this problem. He described the root cause process as a formal investigation that uses industry accepted analysis methods to determine the root cause or causes of a problem with the goal of identifying not only the direct cause but also any organizational aspects.

Mr. Prentice summarized the event and stated on July 23, 2020, during shift operator rounds at 11:00 a.m. personnel assigned to the Unit 2 Turbine watch noticed

water coming down from the Unit 2 AFW pipe rack and leaking out from under the insulation covering the pipe elbow just downstream of the Steam Generator 2-2 AFW control valve. Maintenance removed the insulation and a 1/16-inch diameter hole was revealed. At the time of discovery Unit 2 was shut down in Mode 3 with the AFW System in service feeding the steam generators with 10% steam dumps with pressure in the system at that time of approximately 1,000 pounds-per-square-inch. Mr. Prentice reported based upon the location and magnitude of the leak, DCPD was required to declare two trains of the AFW System inoperable per Technical Specifications.

Mr. Prentice displayed photos of the leaking pipe and the hole in the pipe which was revealed once the insulation covering the piping was removed. Station personnel welded and repaired the pinhole leak. The AFW System piping was inspected to determine an extent of condition assessment and to confirm no other active leaks were present due to the same or a similar defect. Unit 1's AFW System piping was also inspected to confirm no active leakage. Unit 1 at the time was at 100% power operation. The Engineering organization performed ultrasonic testing on the piping to determine wall thinning of the AFW System piping. All Unit 2 AFW System outdoor piping had its insulation removed. He reported the result of these inspections found several areas of AFW piping showing wall thinning below acceptable American Society of Mechanical Engineer's (ASME) minimum wall-thickness in seven different locations due to corrosion. The affected areas were welded and repaired in addition to the weld repair performed on the leak. It was determined that damaged insulation on the cold AFW piping had allowed moisture and contaminants to penetrate the aluminum insulation jacket and become absorbed by the calcium interior of the insulation. These conditions led to a process called Corrosion Under Insulation (CUI) which caused an accelerated localized external corrosion.

On July 31, 2020, based upon the repairs made, both trains of the AFW System feedwater piping were declared operable in accordance with Technical Specifications and the resulting ability of the AFW System to perform its function. Mr. Prentice stated DCPD had a very clear inspection criterion for what repairs were required which was based upon ultrasonic methodology which he described as a nondestructive examination technique to identify locations and depth of any thinning. He reported the direct cause of the leak was the damaged insulation on the cold AFW piping that allowed moisture to penetrate the aluminum jacket of the insulation and be absorbed by the insulation's calcium interior. The root cause revealed that there was external operating experience circa 2009-2010 regarding the concept of CUI and the vulnerabilities it introduces to cold insulated piping but this operating experience at different nuclear plant was not appropriately recognized or incorporated into the Engineering organization's walkdown and inspection processes. Mr. Prentice reported that in 1984 there was a design change initiated on the AFW System prior to either unit going into service which installed check-valves in the system and as a result the AFW System piping temperature rating was not as great as initially designed. The installation of the insulation was due to the expected high temperature but it was not removed in response to the lower temperatures experienced.

Mr. Prentice reported corrective actions to prevent recurrence include permanently removing insulation from all indoor and outdoor Unit 1 and Unit 2 AFW System discharge piping that is not required for equipment performance and to recoat that piping, as well as restoring or replacing any affected AFW piping that does not meet the minimum ASME Code for wall thickness. Removal of insulation has been implemented for Unit 1 during 1R22 and for Unit 2 for all areas which were reviewed.

In response to Dr. Budnitz observation that the root cause for the AFW System leak was the missed recognition opportunities in 2009-2010 for operating experience and for the design change made in 1985 Mr. Prentice replied that the goal of the root cause evaluation was to get to the lowest actionable level where corrective actions could be initiated to prevent recurrence. He reported that the CUI phenomenon was poorly understood prior to this event and DCPD's susceptibility to CUI was not fully understood. He reported the CUI operating experience came from the South Texas Project but upon review DCPD did not identify the AFW System as a potentially vulnerable system. Dr. Budnitz stated a similar event happened at the Waterford Nuclear Power Plant in Louisiana which was reviewed by DCPD but the evaluators did not appreciate its application to AFW piping. Dr. Budnitz remarked and Mr. Prentice agreed that the root cause was not in missing the operating experience write-up but rather in not interpreting the write-up as applying to AFW piping. Mr. Prentice stated DCPD also reviewed records of the 1985 design change and found an opportunity was missed at that time to remove the insulation. In response to Dr. Lam's comment Dr. Budnitz replied that all operating experience received by DCPD is reviewed. Mr. Prentice reported that in the 2009-2010 timeframe operating experience received from INPO was initially reviewed by a single individual and since that time DCPD has implemented procedures for evaluation guidelines for operating experience that include a review process which utilizes multiple subject matter experts and if the operating experience is found to be potentially applicable to DCPD it is referred to and reviewed by additional evaluators.

Mr. Prentice stated the System Engineering Program procedures have been revised to add additional information regarding cold piping that can be vulnerable to CUI and the Containment Spray pipeway structure aging management procedures have been revised to place a focus on piping vulnerabilities. Design change development procedures have been revised to include consideration of CUI as a potential failure mode in the procedure's material compatibility segment and training has been conducted for Engineering personnel to addresses the effects of CUI, associated vulnerabilities and the symptoms and conditions that lead to CUI.

Mr. Prentice reported that standards have been enhanced for accountability by the evaluator and screener responsible for the technically inaccurate operating experience evaluations. He reported enhanced review of the event was completed during the Unit 1 refueling outage and during the next Unit 1 and Unit 2 refueling outages a sample of insulation will be removed and inspected to look broadly at extent of condition for other systems for leakage or piping damage on the following systems:

- Steam Generator blowdown lines.
- Feedwater Regulating Valve bypass piping.

- Main Feedwater drain piping.

Mr. Prentice reported materials and housekeeping procedures are being revised to provide guidance for identification of insulation damage or degradation to ensure those items are entered into the Corrective Action Program and the work management process.

Mr. Prentice concluded his presentation with the observation DCPD has applied focus and energy concerning the AFW System leakage event to ensure that a similar event does not occur and has applied the lessons learned in that effort to drive corrective actions. In response to Dr. Budnitz' observation concerning piping temperature Mr. Prentice confirmed that a key piece of the analysis is the recognition that when piping temperatures are high moisture will evaporate and will not result in corrosion. In response to Consultant McWhorter's observation Mr. Prentice confirmed that the location of the AFW System leak in proximity to the drains for the steam generator power relief valves contributed to the problem as this area tends to be wetter than other areas. Mr. Prentice stated there are also differences at the site in the wind pattern and the local environment between the two units which contributes to differences in corrosion rates and accordingly creates different susceptibilities.

Following Mr. Prentice's presentation, Mr. Tom Marré was recognized. Mr. Marré remarked that there have been a number of instances at DCPD, including corrosion of a control rod circuit board, the issues with a phantom vibration issue for the generator such that weights were jury rigged to try to reduce the vibration and he commented a representative of the CPUC attended yesterday's public meeting out of a concern that DCPD be able to provide full generation capacity during the summer season and finally now this issue with the AFW System leak. He asked whether Mr. Prentice had any comment given that the plant is scheduled to close within the next five years. Mr. Prentice responded that when events occur at DCPD they are taken seriously and he gave the root cause evaluation of the AFW leak as an example. He stated his goal as Director of Risk and Compliance is to ensure a thorough evaluation is performed and if there is an extent of condition aspect, to ensure the highest level of rigor is employed to make sure the event is understood and appropriate mitigation measures are taken to reduce the identified risk. He commented the vibration problem with the Unit 2 Main Generator is another example of this effort and multiple processes are in place for both internal and external review of the issue and to manage the risk for items that are raised within the Corrective Action Program.

The Chair thanked Mr. Prentice for his presentation.

Mr. Rathie reported that an email was received earlier in the day from Dr. Justin Cochran, the Senior Nuclear Policy Advisor and Emergency Coordinator for the California Energy Commission who has attended a number of the DCISC's past public meetings. Dr. Cochran stated he was listening remotely to the DCISC's public meeting but due to the cascading impacts being experienced by California from winter storm activity he was unable to participate fully in the meeting but he stated he valued the questions and the focus that the Committee is bringing to the subjects and topics reviewed at this meeting. Dr. Cochran observed relative to Dr. Peterson's earlier comment about the problems with

the electric grid in Texas that it is not just the electrical grid that has experienced problems but also natural gas and petroleum supplies are experiencing problems which are spreading. Mr. Rathie confirmed that he responded to Dr. Cochran's communication and had thanked Dr. Cochran for his message.

A short break followed.

XXV TECHNICAL CONSULTANT REPORTS & RECEIVE, APPROVE, AND AUTHORIZE TRANSMITTAL OF FACT FINDING REPORTS TO PG&E

The Chairman requested Consultant Wardell to report on the December 14-15, 2020, fact-finding visit with Dr. Peterson to DCP. Mr. Wardell reviewed the topics discussed with PG&E on that occasion as follows:

- Refueling Outage 1R22 Foreign Material Exclusion (FME) and COVID Experience – Mr. Wardell reported 1R22 commenced on October 4 and ended on November 11, 2020. The Fact Finding Team reviewed the COVID-19 prevention program used during the refueling outage and Mr. Wardell reported a COVID-19 outage response coordinator position was created for the outage with the result that there were no new cases of COVID-19 amongst DCP personnel. From the approximately 800 contractor personnel on the site there were initially two cases of COVID-19 identified and both persons were placed in quarantine and one case was subsequently identified during 1R22 which Mr. Wardell described as good performance. Mr. Wardell reported the FME Program focuses upon the exclusion of objects from entering or being dropped into components which are open during an outage such as valves, tanks and the reactor vessel. Mr. Wardell reported extra precautions were taken during 1R22 with no Level 1 or Level 2 (the most significant) FME violations and a total of nine Level 3 or lower FME violations identified during 1R22. All violations were entered into the Corrective Action Program.
- Motor- and Air-Operated Valve Testing Programs – Mr. Wardell reported the valves in these programs are operated by electric motors or by air, although there are also manually operated and hydraulically operated valves in the plant which are addressed by the Air-Operated Valve Testing Program. He reported the Maintenance organization testing program stroke-tests 1,900 motor and air-operated valves during outages when the valves are not needed for operation. Valves are classified as follows:

Category 1 - six valves consisting of three Pressurizer relief valves on the Pressurizer for each unit which Mr. Wardell described as the most significant valves at the stations.

Category 2 – other safety-related valves.

Category 3 – non safety-related valves which are important for reliable operation.

Category 4 – valves of lesser importance.

During 1R22, 44 air-operated valves and 23 motor-operated valves were successfully tested by the use of automatic testing machines which open and close the valves and record opening times, the force need to open the valve, stem travel, etc. The Air and

Motor-Operated Valve Testing Programs are in Green health status.

- Electronic Work Packages – Mr. Wardell reported 2% of the work at DCPD is done through the use of an electronic work package. This work is of a relatively simple type such as painting, insulation, installing and removing scaffolding, etc. Mr. Wardell reported the transition to electronic work packages represents a significant transition for the DCPD workforce and accordingly the plant has proceeded slowly in making a transition to electronic work packages due to the scheduled retirement of DCPD in 2025.
- Meeting with NRC Senior Resident Inspector – the DCISC representatives met with the NRC Senior Resident Inspector Mr. Donald Krause to discuss outage 1R22, the Unit 2 forced outages to address the Main Generator hydrogen leak issue and the need to sustain a good nuclear safety culture through the end of the plant's operational period. Mr. Wardell reported the Fact Finding Team found the meeting with Mr. Krause to be very beneficial. Dr. Peterson reported that DCPD has issued laptop computers to its NRC resident inspectors which allows the inspectors to log in to the PG&E information system from their homes to be able to observe the state of the plant and the indications that are available in the information system from the Control Room. Dr. Peterson reported this was of great benefit to the inspectors but he commented that not all nuclear power plants have taken this step. Dr. Peterson stated this action demonstrates a substantial level of transparency by DCPD with its NRC resident inspection team and he remarked that the DCISC has also enjoyed a proactive relationship with DCPD with the plant making information available and guiding inquiries toward resources and he opined that this is of great value to the Committee.
- Workplace Seismic Safety: Control Room Procedure Cart – The Fact Finding Team continued its review of workplace seismic safety which review is intended to assure that personnel remain safe and have access to equipment that remains available following a seismic event. Mr. Wardell reported the DCISC representatives reviewed the capability during a seismic event of the cart used in the Control Room to hold the procedures for responding to abnormal emergencies. Mr. Wardell reported DCPD performed an analysis of this matter in 2010 which demonstrated that the probability is that while the cart might move during a seismic event it would not damage any important equipment and it is likely that the procedures would remain in the cart and in any event, the cart would remain available to the operators. He reported operators also have access to additional sets of procedures and the condition of the cart would have no effect on the operators' ability to respond.
- Operations Equipment Status Control Issue Update – Mr. Wardell reported the Operations organization has a procedure for Plant Status Control to assure proper equipment configuration. In 2019 problems were identified by the Quality Verification organization which led to a Yellow Operations performance status. A Plant Status Control Action Plan was developed and its implementation and an effectiveness review have now been completed. **Mr. Wardell reported that Plant Status Control performance is now judged satisfactory and he recommended that review of this issue be closed on the DCISC's Open Items List.**

- Meeting with Senior Vice President Generation and Chief Nuclear Officer Mr. James Welsch – Dr. Peterson and Mr. Wardell met with Mr. Welsch to discuss the items covered during the fact-finding and other topics and areas of interest.
- Safety-Security Interface and Intake Structure Devitalization – Mr. Wardell reported the safety-security interface reviews concerns about the effects of changes in security on nuclear safety and vice-versa with each security change or plant or procedural modification by the Operations or Maintenance organizations going through a checklist process. The DCISC team found this process to be effective. Mr. Wardell stated the Fact Finding Team reviewed the changes to the security classification for the concrete Intake Structure located at the level of the Pacific Ocean where seawater is drawn into the plant for condenser cooling. The Intake Structure contains watertight chambers for the safety-related auxiliary saltwater (ASW) pumps. Mr. Wardell stated it is the vital nature of those pumps which supported the classification that made the Intake Structure a vital security area. As such, access to the Intake Structure was restricted and security personnel were required to be posted at the Intake Structure. Mr. Wardell reported recent analysis demonstrated other pumps are available to provide the same function as the ASW pumps and DCCP made a decision to seek to devitalize the Intake Structure and performed an analysis to support the request which was reviewed and approved by the NRC.
- Turbine-Generator Health – Mr. Wardell reported the turbine generator health was selected as the system to be reviewed during the December 2020 fact-finding visit. He reported the turbine generator consists of large components used to convert thermal energy from nuclear-generated heat, which is converted to steam by the steam generators, into mechanical and electrical energy. Steam from the steam generators provides rotational energy for the high and low pressure turbines which drive the generators which produce electricity. Mr. Wardell displayed photos of the turbine, the generator and the generator exciter, both with the casings in place and with the casings removed. Mr. Wardell reported system health for the Unit 1 Turbine Generator System is in Green status and for Unit 2 it is in Red status due to the hydrogen leakage problems discussed previously during this public meeting.
- Meeting with Vice President Generation, Business & Technical Services Ms. Maureen Zawalick - the DCISC representatives met with Ms. Zawalick and discussed the various technical and business oriented functional areas which come under her oversight and leadership responsibilities which include Nuclear Decommissioning.

Mr. Wardell concluded his presentation with the observation that the fact-finding visit while productive would have been even more productive had it been possible to conduct an on-site visit. In response to Dr. Budnitz' query Mr. Wardell confirmed that both he and Dr. Peterson attended each of the meetings held with the NRC and with Mr. Welsch and the DCCP representatives during the December fact-finding. Dr. Lam observed this practice is and should be at the attending member's discretion.

Mr. David Weisman representing the Alliance for Nuclear Responsibility was recognized. Mr. Weisman inquired as to the type of informational access afforded to the

NRC resident inspection team through their use of PG&E laptop computers which allows the inspectors to monitor the plant remotely and the nature, vulnerability and cyber security provided for connectivity which enables this function. Mr. Wardell and Mr. Guess responded that the NRC resident inspectors have the same access afforded to some DCPD employees and are subject to the same security restrictions. Dr. Peterson commented that this type of information constitutes safeguarded information but the information that is provided through outside access goes out from the plant through the use of data diodes and accordingly there is no path for a control signal to go back to the plant from any outside source. Mr. Guess stated there is no plant control function that can be manipulated remotely through the plant system firewall. He reported the type of information available to the NRC resident inspectors through their laptops includes access to Corrective Action Program documents and plant logs but no video recordings are transmitted off-site and accordingly there is no risk of compromising security. Mr. Guess confirmed Dr. Peterson and Dr. Budnitz' observations that information accessible to the NRC inspectors through their laptop computers is limited to plant operating status information and included electrical production, status of temperatures or pressures and other information relative to the business side of plant operations and there is no possibility of any information flowing back through that system to enable control of plant systems. Mr. Weisman commented that the terminology and impression given that the NRC resident inspectors are able to remotely monitor what occurs in the Control Room is not entirely correct in accordance with the response to his inquiry. Dr. Peterson remarked that both NRC resident inspectors have complete access to any and all areas of the plant and the inspectors are present on the site on a frequent basis and typically visit the Control Room each time they are on-site. He remarked the remote access function for the resident inspectors was implemented in response to the efforts to address the COVID-19 pandemic.

Upon a motion made by Dr Budnitz, seconded by Dr. Peterson, the December 14-15, 2020, Fact Finding Report was accepted by the DCISC and its transmittal to PG&E was authorized. The report will become a part of the Committee's 31st Annual Report.

XXVI ADJOURN MORNING MEETING

The Chair adjourned the morning meeting of the Committee at 11:45 A.M.

XXVII RECONVENE FOR AFTERNOON MEETING

The February 17, 2021, afternoon session of the Diablo Canyon Independent Safety Committee was called to order by its Chair, Dr. Peter Lam at 1:30 P.M. Dr. Lam welcomed those persons participating in this Zoom Webinar and those watching the proceedings on live streaming video. Dr. Lam requested any of the members who wished to make remarks to do so at this time.

XXVIII COMMITTEE MEMBER COMMENTS

There were no comments by Members at this time.

XXIX PUBLIC COMMENTS AND COMMUNICATION

The Chair reviewed the invitation to address the Committee on matters not on the agenda for this public meeting and invited any comments from members of the public who wished to address the Committee to do so now. There was no response to this invitation. However, Assistant Legal Counsel Rathie reported that an email was received during the lunch break from Ms. Rochelle Becker, Executive Director for the Alliance on Nuclear Responsibility, with a link to a news report on PG&E's response to and responsibility for a wildfire in California. The Members and Mr. David Weisman of the Alliance for Nuclear Responsibility observed the matters raised by Ms. Becker's email were broadly applicable to PG&E's corporate safety culture as they address issues of cost versus safety which were also formed the basis for the establishment of the DCISC.

XXX INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

Dr. Lam requested Mr. Baldwin to introduce the next presentation. Mr. Baldwin introduced DCPD Director of Engineering Services Mr. Pat Nugent to make that presentation and reported Mr. Nugent has more than 30 years' service with PG&E and holds a Bachelor's Degree from Cal Poly San Luis Obispo and completed a certification as a Shift Technical Advisor and has held leadership roles within the Engineering and Regulatory Services organizations and completed an assignment with the Institute of Nuclear Power Operations. Mr. Baldwin reported Mr. Nugent was the Fukushima Response Manager for DCPD and has led the Quality Verification Department. Mr. Nugent reported he has held his position as Engineering Services Director for the past three and one-half years.

Engineering Department Update Including 2018-2020 Reorganization (Purposes, Actions and Results), Excellence Plan, and Current Significant Work Activities.

Mr. Nugent displayed an organizational chart depicting the current organization of the Engineering Department and he stated that in his role as Director of Engineering Services he has five separate direct reports from four separate sections including the Strategic Engineering, Tactical Engineering, Program Engineering and Design Engineering groups reporting directly to him as the Director and he is assisted in his role by an Assistant Engineering Director who also reports directly to Mr. Nugent and who has responsibility for Engineering applications in the Corrective Action Program and also for various special projects including for the work on the Unit 2 Main Generator. In response to Consultant McWhorter's inquiry Mr. Nugent reported the Engineering organization consists of 133 individuals with approximately 33 persons in each of the suborganizations he identified.

Mr. Nugent reported in August 2020 the DCPD Engineering organization was reorganized to maintain proficiency with decreasing staff size as the power plant approaches retirement and personnel leave employment through attrition and also to increase cross-training between engineers. A knowledge transfer program was established ten years ago prior to the decision to retire DCPD at the end of 2024-2025. Mr. Nugent stated the reorganization has allowed Engineering to better serve needs of its internal customers and the changes were based on industry guidance and recommendations. Five Engineering Fix-it-Now (EFIN) teams were expanded with staff

increases through the reorganization to provide additional resources and more rapid response to equipment challenges. The EFIN teams now include civil, mechanical, electrical and instrument & control engineers with broad skill sets, system knowledge and design change capabilities. Both the EFIN teams and all component experts were grouped together into Tactical Engineering by the reorganization to allow for the EFIN teams to respond rapidly in support of plant challenges.

Mr. Nugent reported system engineers were grouped together by the reorganization into Strategic Engineering to allow focus on system monitoring and planning for maintaining reliable equipment. Design Engineering and Project Management were combined by the reorganization in anticipation of having fewer major projects. All major engineering programs were moved into Program Engineering to allow for continued focus through the end of plant life and Mr. Nugent reported many of these programs will be applicable through the shutdown of Unit 2 in 2025.

Mr. Nugent reviewed the highlights of the 2020 Excellence Plan including its focus on personnel safety through the successful elimination of safety vulnerabilities for personnel working remotely and the communication to staff of routine reinforcement of safety and human performance tools. He reported DCPD successfully implemented the engineering reorganization initiative while personnel were working remotely and implemented knowledge transfer plans in advance of retirements and departures. A grass roots committee was established to identify ways to help staff prepare for the end of the plant's operational lifetime.

Mr. Nugent reported Unit 1 reliability performance during 2020 was at the top of the industry. However, Unit 2's performance has been driven by challenges with Main Generator and he stated the Engineering organization has a strong role in supporting resolution of those issues. Mr. Nugent remarked there continues to be a focus on maintaining a strong technical conscience amongst Engineering staff. He reported opportunities were identified through the use of operating experience to reduce Unit 1 refueling outage work without affecting safety or reliability. Mr. Nugent stated this was accomplished through the elimination of some testing and maintenance activities where it was identified and determined that certain components were being over-tested or over-maintained which Mr. Nugent stated can have an adverse effect on their reliability. Some maintenance and testing frequencies have been adjusted accordingly.

Mr. Nugent reported on the focus areas for the 2021 Excellence Plan which continues to include personnel safety including monitoring the health and well-being of staff as the plant moves into its second year of having personnel who can do so continue to work remotely. Mr. Nugent reported personnel are expected to continue to work remotely until at least July 6, 2021, at which time the issue of remote work will be reviewed. In response to Dr. Lam's observation Mr. Nugent confirmed that certain Executive Orders issued by the Governor will play a part in any decision concerning continuing, modifying or ending remote work. The grass roots committee he described will continue to be utilized to implement ideas to strengthen PG&E knowledge of DCPD personnel and to ensure personnel are aware of career opportunities available in other areas of PG&E's operations such as within PG&E's Gas Transmission and Distribution

organizations and that organization is aware of the specialized skill sets and capabilities of those persons in DCP's Engineering organization.

Mr. Nugent reported that for 2021 reliability goals will include maintaining Unit 1's performance at the top of industry and to resolve the Unit 2 Main Generator challenges to assure both units operate reliably during the summer months when power is needed most by PG&E's customers. Continued maintenance of a strong technical conscience for Engineering staff remains a priority for his organization. He stated process improvements will continue to be implemented to improve affordability by reducing the time required for refueling outage equipment testing and to improve efficiency in that process.

In response to Consultant McWhorter's inquiry Mr. Nugent replied that the Engineering organization at the present time is not providing support to the DCP Decommissioning organization which has a separate staff but communication exists between the two organizations toward the development of an understanding of the types of engineering support that will be required for decommissioning the power plant.

In response to Consultant Wardell's inquiry, Mr. Nugent replied his organization encourages engineering staff to obtain professional engineering licenses through an educational incentive refund program and through payment for renewal of their annual license fees. Mr. Nugent stated a certain number of professional engineering licenses are maintained amongst DCP's employees in order to review and approve design calculations but there are no specific requirements for new engineers to necessarily have a certain professional license. Mr. Nugent, in response to Mr. Wardell's query, stated that DCP is not looking to hire new engineers at the present time and is backfilling engineering positions as needed, in some cases from other areas of PG&E's operations. In response to Consultant Wardell's inquiry Mr. Nugent identified replacement of a computer system for the Condensate Polishing System, replacement of the plant's air compressor system, and replacement of the oily water separator as examples of major projects being undertaken by Design Engineering between now and 2025.

Dr. Budnitz observed that, as Mr. Nugent described, sometimes doing more maintenance can be detrimental to equipment. Mr. Nugent agreed and observed that review of the monthly testing and maintenance previously performed on all six emergency diesel generators (EDG) was determined to have caused additional and excessive wear on their components and accordingly at the present time DCP tests only one EDG each month which has significantly increased the EDG's overall reliability and availability. He remarked that too-frequent maintenance also carries a risk of failing to restore equipment properly and of introducing a new part that is less reliable than the part replaced and sometimes a new part can experience what Mr. Nugent described as infant mortality, meaning it can fail early in its life.

Following Mr. Nugent's presentation Ms. Sherry Lewis of San Luis Obispo Mothers for Peace was recognized. Ms. Lewis stated she wondered whether any of the opportunities to reduce refueling outage work were connected to DCP's plans to delay the transfer spent fuel from the spent fuel pools to dry cask storage which would

necessarily result in a large number of spent fuel assemblies remaining in the spent fuel pools and thereby saving the cost of transferring the assemblies incrementally rather than all at one time. Ms. Lewis stated her opinion that PG&E's preference in this regard is not safe due to the required tight packing of the fuel assemblies in the spent fuel pools and she referred to the comments earlier in this public meeting concerning PG&E choosing cost savings over safety. The Chair thanked Ms. Lewis for her remarks.

Mr. Tom Marré was recognized. In response to Mr. Marré's inquiry, Mr. Nugent confirmed that the DCPD Decommissioning organization is part of the PG&E Generation organization but Mr. Nugent stated that a final decision on how decommissioning the power plant will be accomplished and how and under what oversight that process will proceed for the long term is pending and a final decision has not been made. Mr. Nugent stated different power plants have taken differing paths in decommissioning and consideration is being given to industry experience. Dr. Lam remarked federal regulations provide a 60-year time period for the licensee to complete decommissioning and within that period there exists considerable discretion and choices.

The Chair thanked Mr. Nugent for a very informative presentation.

XXXI CONCLUDING REMARKS & DISCUSSION BY COMMITTEE MEMBERS OF FUTURE DCISC ACTIVITIES

Dr. Budnitz expressed his hope that it might be possible to hold the June 23-24, 2021, public meeting in person in Avila Beach, California ,

Dr. Lam reported that all matters on the Committee's agenda for this public meeting have now been addressed and he expressed the thanks of the Committee to Mr. Baldwin and the DCPD management team for their assistance and participation in this public meeting and to the AGP Video team for supporting this Zoom webinar and livestream internet format. Mr. Rathie expressed his appreciation to Mr. Garcia who was instrumental in making this public meeting successful.

XXXII ADJOURNMENT OF NINETY-EIGHTH PUBLIC MEETING

There being no further business the ninety-eighth public meeting of the Diablo Canyon Independent Safety Committee was then adjourned by its Chair, Dr. Peter Lam at 2:15 P.M.

[\[1\]](#) Key to abbreviations used: California Independent System Operator (CAISO), Fact-finding (FF), Public Meeting (PM), Quarter (Q), Root Cause Evaluation (RCE).

[\[2\]](#) Robert J. Budnitz (RJB), Peter Lam (PL), Richard D. McWhorter Jr. (RDM), Per F. Peterson (PFP), R. Ferman Wardell (RFW).

[\[3\]](#) Primary and secondary side refer, respectively, to the Reactor Coolant System which is used to remove heat from the nuclear reactor and to the Main Steam and

Feedwater Systems which provide cooling to the steam generators and generate and provide steam to the turbines.

[4] The safety significance characterizations used for the performance indicators as either Green (very low), White (low to moderate) Yellow (substantial) or Red (high). A Green non-cited violation indicates very low safety significance, with no impact to public health and safety.

[5] Cross-Cutting Aspect is the performance characteristic of a violation that is either the primary cause of the performance deficiency or the most significant contributing cause.

[6] For pressurized water reactors such as those operated by DCPD the reactor vessel is a cylindrical vessel with a hemispherical bottom head and a removable hemispherical top head. There is one inlet (or cold leg) nozzle and one outlet (or hot leg) nozzle for each reactor coolant system (RCS) loop. Each of DCPD's reactors have four RCS loops.

[7] FLEX is not an acronym but describes a strategy developed by the nuclear industry to provide diverse and flexible coping strategies to address the loss of safety-related systems due to beyond design basis events.

[8] For Westinghouse pressurized water reactors: Mode 1 is power operation, Mode 2 is startup, Mode 3 is hot standby, Mode 4 is hot shutdown, Mode 5 is cold shutdown, and Mode 6 is refueling.

[9] "Train" means one of at least two independent channels of operability in a single system.

[10] A reactor is said to be critical when each fission releases a sufficient number of neutrons to sustain an ongoing series of nuclear reactions.

[31st Annual Report, Volume II, Exhibit B.9, Minutes of the June 23-24, 2021 Public Meeting](#)

Minutes of the Diablo Canyon Independent Safety Committee's June 23-24, 2021 Public Meeting [Approval at the October 19-20, 2021 Public Meeting.]

Wednesday & Thursday
June 23-24, 2021
Avila Beach, California
Also conducted as a Zoom Webinar

Notice of Meeting.

A legal notice of the public meeting and several display advertisements were published in local newspapers and mailed to the media and those persons on the Committee's mailing list. The meeting agenda and the entire agenda packet for the meeting together with the informational presentations made during the meeting were posted on the Committee's website at www.dcisc.org prior to the meeting and the meeting agenda contained information on how to access the webinar using a computer or a telephone. This meeting was also produced as a webinar by AGP Video, Inc. and was webcast live on SLO-SPAN at <http://www.slo-span.org> and through <https://www.dcisc.org> and was subsequently broadcast on San Luis Obispo, California local government access television Channel 21.

I CALL TO ORDER - ROLL CALL

The June 23, 2021, public meeting of the Diablo Canyon Independent Safety Committee (DCISC), the ninety-ninth public meeting of the Committee, was called to order by Committee Chair Dr. Peter Lam at 9:00 A.M. Dr. Lam briefly reviewed the professional backgrounds and appointment to the DCISC for each of his fellow Members, Dr. Robert J. Budnitz, the appointee of the California Attorney General, Dr. Per F. Peterson, the appointee of the Governor of California, and Dr. Lam introduced himself as the appointee of the California Energy Commission and current serving DCISC Chair. Dr. Budnitz briefly reviewed Dr. Lam's professional background.

Present:	Committee Member Robert J. Budnitz Committee Member Peter Lam Committee Member Per F. Peterson
Absent:	None

DCISC Assistant Legal Counsel Robert Rathie was recognized and he announced that the AGP Video technicians requested that there be no cellphone use in proximity to the microphones in that doing so could interfere with the recording of the meeting. He also announced that all unvaccinated persons in the meeting room were asked to wear face masks and he reported that all Committee Members and staff were fully vaccinated against COVID-19. Mr. Rathie reported this public meeting was also being conducted as a Zoom webinar and members of the public may make comments and interact with the Committee via Zoom by referencing the information given on the agenda and online at the Committee's website www.dcisc.org.

II INTRODUCTION

Dr. Lam introduced and briefly reviewed the professional backgrounds of the Committee's Technical Consultants and Assistant Legal Counsel including Technical Consultants Mr. Richard D. McWhorter Jr. and Mr. R. Ferman Wardell, P.E. and DCISC Assistant Legal Counsel Robert W. Rathie. Dr. Lam then introduced Mr. Thomas R. Baldwin, P.E., Pacific Gas & Electric Company (PG&E) Director of Generation Business Planning and Mr. Hector Garcia, Diablo Canyon Power Plant (DCPP) Chief Nuclear Officer Support Manager. Dr. Lam remarked Mr. Baldwin and Mr. Garcia each play key roles on behalf of PG&E and DCPP in working with the DCISC in coordinating activities, providing information and facilitating the Committee's public meetings and the frequent fact-finding visits conducted by a single member and one of the technical consultants.

III PUBLIC COMMENTS AND COMMUNICATIONS

The Chair invited any members of the public present who wished to address remarks to the Committee on items not appearing on the agenda for the public meeting to do so at this time.

Dr. Gene Nelson, a representative of Californians for Green Nuclear Power (CGNP) was recognized. Dr. Nelson observed CGNP continues to advocate at the county, state and federal levels for the continued safe operation of DCPP beyond 2025. He reported CGNP recently uncovered information that the California Public Utilities Commission (CPUC) in its mid-range Integrated Resources Planning (IRP) proceeding is planning after 2025 to replace the electric power generated by DCPP with 5,000 megawatts of power generated by what he described as highly polluting coal-fired generation from Wyoming. Dr. Nelson remarked the CPUC has used the legal euphemism "unspecified imports" to refer to this coal-fired produced power. He commented CGNP has been highly critical of this plan in its recent filings with the CPUC and has abundant documentation in support of its position against the environmental harms that would result. He reported that only three of the 50 parties who filed comments on the CPUC's IRP proceeding mentioned the connection between the term "unspecified imports" and coal-fired generation and Dr. Nelson stated that political pressure may be the reason, as CGNP's sources have stated, that the State of California pressured PG&E to close DCPP. Dr. Nelson stated CGNP has contacted the San Luis Obispo County planner who is managing the County's review of the shut down and decommissioning of DCPP and has raised objections to the improperly scoped Environmental Impact Report (EIR) in PG&E's

initial filings with the County. Dr. Nelson observed that a section in the EIR which focused on greenhouse gas emissions distinguished the operation of DCPD from the operation of the San Onofre Nuclear Generating Station (SONGS) which is no longer operating due to what Dr. Nelson stated was the Southern California Edison Company's mismanagement of the replacement of its steam generators. He reported there were never any adverse health consequences associated with the shutdown of SONGS, however, there have been massive but delocalized harms from increased coal combustion in the western part of the United States and CGNP's legal team will be drafting a stronger objection to the County which will address the issue of unspecified imports.

Dr. Nelson reported CGNP will refile its complaint with the Federal Energy Regulatory Commission (FERC) and will focus on the lethal Texas power system inadequacies revealed during the polar vortex event in February 2021. He reported during this event nuclear power performed best while natural gas electric production lost approximately 5,000 megawatts of generation mostly due to lack of fuel and the performance of renewables was inadequate with very low capacity factors.

Dr. Budnitz thanked Dr. Nelson for his comments and he observed that Dr. Nelson's comments addressed important matters that were, however, outside the DCISC's remit which remains the safety of operation of DCPD.

Members of the public were invited to use the Zoom webinar's "raise your hand" feature which was monitored by the technicians from AGP Video. Mr. Bob Lloyd of AGP Video was recognized. Mr. Lloyd reported he was traveling by car and enroute to Sacramento, California and was listening to a clear transmission via Zoom of the meeting. Dr. Peterson remarked that the hybrid, in-person/Zoom webinar format for this public meeting is quite consistent with the mandate in the Committee's Restated Charter to provide public outreach. Dr. Peterson observed he was grateful to once again be meeting in person and to be able to conduct fact-finding in person at DCPD and he expressed his gratitude to the scientists and researchers who developed a vaccine for the COVID-19 coronavirus which has made this possible once again. Dr. Peterson remarked he hoped the same kind of dedication might be applied to solving other critical global problems.

IV ACCEPTANCE OF MINUTES

The item concerned review and acceptance of the Minutes of the Committee's February 16-17, 2021 public meeting that had been conducted entirely as a Zoom Webinar. A draft of the February 2021 Minutes was included in the public agenda packet for this meeting. The Members and Consultants reviewed the Minutes and provided corrections and substantive changes to certain references which will be included in the final version of the February 2021 Minutes. The Members and Technical Consultants discussed some of the follow-up actions to be taken, provided clarification concerning typographical errors and the accuracy of certain references in the Minutes and made editorial comments and changes concerning the draft of the February 2021 Minutes.

The Minutes of the Committee's public meetings in their final accepted form become part of its Annual Reports on Safety of Diablo Canyon Nuclear Power Plant Operations (Annual Report). Dr. Lam complimented Ms. Denise Righetti of the Wellington Law Offices and Mr. Rathie for a job well done in preparing the Transcript and the Minutes of the DCISC's February 2021 public meeting. Dr. Lam asked for any public comments and hearing none, upon a motion made by Dr. Budnitz, seconded by Dr. Peterson, the Minutes of the Committee's February 2021 public meeting were accepted subject to inclusion of the changes provided to the Committee's Assistant Legal Counsel. The February 2021 Minutes will become a part of the Committee's 31st Annual Report.

V ACTION ITEMS

A. Update on Financial Matters and Committee Activities During 2021. Dr. Lam requested Mr. Rathie to report on this item. Mr. Rathie reported that the Committee conducts its financial affairs on a calendar year basis and for the 2020 calendar year the DCISC ended the year with a surplus balance of unspent funds from the grant of funds provided for the Committee's operation by PG&E's ratepayers. In accordance with a motion adopted at the February 2021 public meeting the balance of the funds unspent in 2020 have now been remitted to PG&E for credit to the ratepayers. Mr. Rathie stated the reason for a larger remittance in 2020 than in past years was due to the Committee conducting most of its activities remotely including public meetings and fact-findings. Based on the Committee's activities to date in 2021, Mr. Rathie stated he expects the Committee will finish calendar year 2021 without expending all funds provided for its operation and will again remit the unspent funds to the ratepayers. He reported the Committee's accountants have drawn down two quarters of the funds provided for 2021. He reported that as 2021 concludes, the Committee will move into the period of preparation of its 31st Annual Report and its activities and spending in support of that effort will increase.

Mr. Rathie directed attention to the green colored sheets in the public agenda packet which contained a list of fact findings and public meetings scheduled and some key dates for plant activities. This list is prepared and maintained by Consultant Wardell.

Dr. Lam stated he is honored to have served on the DCISC for four terms and reported his present term expires in seven days. Dr. Gene Nelson was recognized. In response to Dr. Nelson's question as to whether a member of the public might support a renomination to the Committee Dr. Budnitz replied that the process of appointment of members of the Committee is entirely under the purview of the CPUC. At the present time it is too late to provide input to the CPUC on the pending appointment by the California Energy Commission (CEC) of the seat held by Dr. Lam but one could write to the CEC Chair and advocate for one of the candidates recommended by the President of the CPUC (and ratified by the Commission). Prior to selection of a member, which takes place every year, the CPUC makes public the name and professional qualifications of each candidate through its website and invites public comment. Dr. Budnitz observed that the CPUC conducts an open nomination process and the CPUC reviews the nominees for their qualifications. The names of up to four qualified persons are provided to the appointing entity making the appointment, i.e., the Governor, the California Attorney

General, or the Chair of the California Energy Commission. Dr. Lam observed this process is transparent and traceable in every respect. Dr. Lam observed that in accordance with California law a member of the DCISC continues to serve until he or she is reappointed or replaced.

Ms. Rochelle Becker, Executive Director of the Alliance for Nuclear Responsibility, was recognized. Ms. Becker stated that any person can request to be added to the service list for the nomination process by contacting David Zizmor, Esq. at the CPUC Energy Division at David.Zizmor@cpuc.ca.gov.

B. Discussion of Issues on Open Items List.

Dr. Lam requested Consultant Wardell lead a review of items on the Open Items List, which he described as a very important tool used by the Committee to track and also to follow issues, concerns and information requests identified for subsequent action or receipt during fact-finding and public meetings. Mr. Wardell stated newly added or changed items were shown in *red italics* on the version of the Open Items List included with the agenda packet and certain items are being identified for closure.

Items discussed or concerning which action was taken included the following^[1]:

Item	Re:	Action Taken/Next Action
CO-10	Mispositioning Errors	Next Action 11/21 FF
CO-11	Operator Concerns & Issues	Next Action 3Q22 FF
CO-14	Operator Retention Project	Next Action 2Q22 FF
CM-10	On-Line Maintenance	Next Action 2Q22 FF
HP-1	Human Performance	Next Action 1Q22 FF
HP-25	Management Observation Program	Next Action 7/22 FF
HS-6	Safety Culture/SCWE	Next Action 8/21 FF
PI-1	Performance Improvement Programs	Next Action 8/21 FF
EP-2	Observe Emergency Drills/Exercises	Next Actions 7/21 FF & 9/21 FF
RA-5	Non Seismic PRA Program	Next Action 9/21 FF
NS-5	Monitor NSOC Meetings	Next Action 7/21 FF
NS-9	Monitor Program to Track INPO AFIs	Next Action 8/21 FF
RP-12	Annual Radioactivity Release Reports	Next Action 7/21 FF
QP-3	Review Quality Verification Audits	Next Action 2Q22 FF
QP-9	Software Quality Assurance Program	Next Action 8/21 FF

ER-5	Equipment Reliability Process	Next Action 9/21 FF
OE-2	Station Excellence Plan	Add Item/Next Action TBD
SE-26	Reactor Pressure Vessel Compliance	Close
SE-39	Inspections/Repairs of Concrete at Intake	Next Action 8/21 FF
SE-40	Status of Transformers	Next Action 2Q22 FF
SE-49	Emergency Diesel Generators	Next Action 7/22 FF
SE-50	Maintenance Rule Functional Failure	Next Action 2Q22 FF
OM-3	Outage Coordination Center, Control Room, & Containment during Outage	Next Action 2Q22 FF
OM-5	Foreign Material Exclusion	Next Action 2Q22 FF
SEC-4	Cyber Security	Strike Bracketed Language in text
LD-3	Non Licensed Training Programs	Next Action 1Q22 FF

The Committee reviewed Pages 10 and 11 of the Open Items List which track the dates on which system, component and program reviews were completed or are scheduled. Items identified for review were adjusted as follows:

DCISC Systems/Component/Program Periodic Review

Program Reviewed	Action Taken
Excellence Plan	Close, replace with Station Excellence Plan
Long-Term Capital Planning Process	Close to 10/20PM-13

Dr. Lam thanked Mr. Wardell for an excellent presentation.

Ms. Rochelle Becker of the Alliance for Nuclear Responsibility was recognized. Ms. Becker remarked concerning item SEC-4 regarding cyber security there has been much media coverage of late concerning large companies cyber capabilities being hacked and the companies blackmailed and she suggested the DCISC may want to review SEC-4 more frequently than every two to three years. Dr. Budnitz replied and agreed cyber security worldwide is moving very fast and there is an electrical industry and nuclear industry group working on these issues in which PG&E participates. Dr. Budnitz remarked the electrical and pipeline industries have benefitted from the nuclear industry's cyber experience as nuclear power plants have always been isolated in terms of internet technology interface but he observed it is difficult to be proactive in this context. Dr.

Peterson observed the DCISC Charter involves review of safety and the details of specific cyber security designs do not fall within the scope of the Committee's review with the exception of their potential for interaction between cyber security issues and safety. He commented good cyber security implementation practices have a beneficial effect on safety systems. Dr. Lam commented the NRC would likely prohibit a detailed system review of cyber security by the DCISC under the NRC's "need to know rule." Mr. McWhorter suggested and the Committee agreed to remove the bracketed statement in item SEC-4 concerning a two or three year periodic review [that change is made on the review of the Open Items List above].

C. Nomination and Election of DCISC Chair and Vice-Chair for the July 1, 2021 - June 30, 2022 Term.

On a motion made by Dr. Lam, seconded by Dr. Peterson with Dr. Budnitz abstaining the Committee elected Dr. Budnitz to the position of DCISC Chair and on a motion made by Dr. Budnitz, seconded by Dr. Lam, Dr. Peterson was elected to the position of DCISC Vice-Chair both for terms of office from July 1, 2021 through June 30, 2022.

A short break followed.

VI COMMITTEE MEMBER REPORTS AND DISCUSSION

A. Public Outreach, Site Visits and Other Committee Activities:

The Members confirmed previously scheduled public meetings of the DCISC for October 19-20, 2021 February 15-16, 2022 and June 22-23, 2022, and the Members and Consultants then scheduled a public meeting for September 28-29, 2022, [changed from October 19-20, 2022] tentatively with a public tour of the power plant. Mr. Garcia stated he would check and subsequently confirm that DCPD could support a public meeting of the DCISC on September 28-29, 2022. Mr. Rathie mentioned the October 19-20, 2021, public meeting is expected to be held at an alternate venue and not at the Avila Lighthouse Suites due to a scheduling conflict.

Fact-finding visits were confirmed and scheduled as follows: ^[2]

[2021] July 14-15 PFP/RDM [to be held on-site]; August 18-19 PL/RFW; September 13-14 RJB/RDM with RDM holding over to observe the Emergency Preparedness Exercise on September 15; November 16-17 RJB/RFW; December 7-8, PFP/RDM; and

[2022] January 11-12 PL/RFW; March 22-23 [changed from 8-9] RJB/RDM; April 12-13 PFP/RFW (during 1R23); May 10-11 PL/RDM; July 13-14 PFP/RFW; August 16-17 PL/RDM; September 13-14 RJB/RFW.

Mr. Garcia stated he would review the dates set and revised at this public meeting for fact finding and confirm that DCPD can support fact-finding by the DCISC on those dates. Mr. McWhorter observed that while the Committee members and consultants may be able to return to conducting fact-finding onsite at DCPD there may be some portions of

those fact-findings which will continue to need to be conducted remotely. The Members and Technical Consultants discussed with Mr. Rathie the propriety of making inquiry as to the number of DCPD personnel who have been vaccinated against COVID-19 and the ability of PG&E to verify vaccination status of its employees. Mr. Baldwin remarked that the latest guidance is for a self-declaration to be requested and those who decline to state or are not vaccinated will be required to continue to wear a mask and practice social distancing when onsite.

Dr. Lam stated he was invited by the Diablo Canyon Decommissioning Engagement Panel's liaison to the DCISC, Ms. Linda Seeley, to participate by way of Zoom in a meeting of the Panel where the subject matter was dry cask storage. Dr. Lam reported he participated in the Panel's meeting and he confirmed that he was very clear that the opinions he expressed on that occasion were entirely his own and did not represent the consensus of the Committee.

Dr. Budnitz reported he was scheduled to observe inspection activities at the Independent Spent Fuel Storage Installation (ISFSI) during the afternoon of the previous day, June 22, 2021. However, Dr. Budnitz reported his flight to San Luis Obispo from San Francisco was delayed and he was unable to observe the outside experts and DCPD personnel working to perform an inspection of eight selected spent nuclear fuel storage casks, representative of several different configurations, to determine whether there might be any possible compromise to the integrity of either their outer or inner components. Dr. Budnitz reported the selected casks included those fabricated using older as well as newer technology including different types of stainless steels as well as casks with differing heat loads and certain age-related factors. Casks were also selected that were loaded during the earliest loading campaigns. Dr. Budnitz reported that while he did not have the opportunity to observe the inspection activity, he did tour the ISFSI with DCPD senior managers and was able to see the inspection equipment and he observed the ISFSI facilities were exceptionally clean and appeared very well organized and maintained. **Dr. Budnitz stated the inspection activity should be completed within about one week and a preliminary report will be issued and then followed by a comprehensive report, both of which will be provided to the DCISC.** Dr. Budnitz reported there are similar inspections being conducted throughout the nuclear industry which follow NRC and national codes which enable a comprehensive comparison of results through a nationwide database. He reported it is not expected at this time that these inspections will reveal important compromises to the integrity of the casks but there may be modest compromises due to surface stress corrosion or issues with the concrete. He reported that protocols will be developed to assess the results and this activity is also being followed by the two NRC resident inspectors assigned to DCPD.

Ms. Sherry Lewis of the group San Luis Obispo Mothers for Peace was recognized. Ms. Lewis posed several questions to which Dr. Budnitz and the other Committee Members and the Technical Consultants responded. Dr. Budnitz stated that he did not know whether the cask which was identified during an inspection in 2014 by the Electric Power Research Institute (EPRI) as having experienced some etching was one of the eight casks selected for inspection of the three parameters he identified as chosen for the inspection, being the type of stainless steel, the thermal properties and

the heat load of the fuel due to burnup, and time of storage in terms of the fuel and its radioactive decay. Dr Budnitz confirmed that the inspection equipment has the magnetic and electrical capability to inspect and to photograph both the inner canister as well as the outer cask. Dr. Lam remarked during his service with the NRC he was involved in and wrote the technical consensus for the NRC Atomic Safety and Licensing Board's approval of the DCPD ISFSI and for the use of generic casks which were modified by the use of anchors for service in this area of an active earthquake zone but the mechanism of stress corrosion cracking was not litigated at that time. Dr. Budnitz stated during the time he served as the NRC's Director of the Office of Research a program was instituted that recommended the use of certain steels due to their resistance to stress corrosion cracking and at the time of approval of the DCPD ISFSI there was a very high assurance that stress corrosion cracking would not be a problem. Dr. Lam observed stress corrosion cracking is not a phenomenon that with appropriate inspection would threaten the facility or result in exceeding the off-site boundary dose limit.

Dr. Budnitz confirmed, in response to Ms. Lewis' query, the most recent inspections have not found any cracking that would provide any pathway for radionuclide transport but there are incipient surface signs of what could lead to cracking many years or decades hence and the objective of the inspection campaign is to determine if that is true and to assess whether the process is either very slow or arrested entirely. In response to Ms. Lewis question as to how DCPD might cope with a cask or several casks having cracked after decommissioning of the spent fuel pools Dr. Budnitz stated that for older fuel a spent fuel pool is not required and Dr. Peterson reported the transportation casks can be used to contain the fuel canisters and the transportation casks do not require leak integrity credit as the transportation cask does not rely on the integrity of the canister or the fuel and that was one of the reasons Dr. Peterson concluded it would be acceptable to decommission the spent fuel pools once the fuel has been off-loaded and to proceed with decommissioning the rest of the facility. In response to Ms. Lewis statement that Mothers for Peace do not support transporting the casks offsite as it is too dangerous Dr. Peterson observed that concerning the hazards of transporting spent nuclear fuel, while not part of operational safety, there has never been a transportation accident which has resulted in an injury to a person.

Dr. Budnitz stated even if compromises to the concrete or the metal surfaces are identified, in even the most pessimistic scenarios the phenomena are still surface phenomena and the general conclusion is that for any mechanism that could threaten the integrity of a cask or canister there would be decades of warning and time to take action and the inspections he described were not undertaken because of the knowledge that cracking was taking place. He reported this is the first instance of this type of comprehensive inspection taking place and he stated his belief that it was the approximately 12-year time period from the time that the first casks stored at the ISFSI had been on that site that prompted the inspection. Dr. Lam opined the inspections may have been triggered by comments by Ms. Donna Gilmore, whom he described as a capable intervenor in connection with the San Onofre Nuclear Generating Station's spent fuel storage issues.

Dr. Lam remarked he has mixed feelings about the issue raised by Ms. Lewis in

that the DCPD site boundary is seven miles from the ISFSI and in his approval of ISFSI he was persuaded that the casks would not fall, break, rupture, fail, or lack cooling capability during a seismic event, even if buried, so as to cause a release of radioactivity but Dr. Lam acknowledged that the approval was without consideration of stress corrosion cracking as a failure mechanism. Dr. Budnitz reported the first casks were fabricated using 304 stainless steel with later casks being fabricated using 316 stainless steel and the most recent casks were fabricated using 316L stainless steel due to increases in the understanding of corrosion resistance and the present inspection campaign is assessing casks fabricated from different stainless steels. Dr. Budnitz reported even the most pessimistic assumptions would take considerable time to evolve and there are examples in the industry of stainless steels that have been in use for 40-50 years.

Consultant McWhorter observed the present inspection activity is also motivated by the requirement that a license renewal be procured from the NRC for the ISFSI and as part of a new license for the ISFSI an aging management plan must be developed which must include inspection activity and prior to submission of an aging management plan to the NRC inspection techniques must be validated. He reported, in response to Ms. Lewis' query, that the present license for the ISFSI does not require an aging management plan. Dr. Budnitz confirmed that for use of a new cask for DCPD an initial license for the cask will be required from the NRC. Mr. McWhorter reported that with reference to the period when the spent fuel pools have been decommissioned the cask transfer facility at the ISFSI has the capability to provide the ability for inspection of a spent fuel storage canister if necessary.

Dr. Gene Nelson of CGNP was recognized. Dr. Nelson commented on what he described as basic physics of radiation decay. He stated the time horizon, depending on the burn-up, is between 300 and 500 years from when the nuclear fuel is used to when its radioactivity decaying will result in its to the level of a good grade of uranium ore which Dr. Nelson observed is a natural product. Dr. Nelson stated opponents of nuclear power often seek to allege that something that decays at a high rate continues to decay at a high rate forever and that is not true. If radioactive decay occurs at a high rate the radioactivity also disappears at a high rate as well.

B. Documents Provided to the Committee:

The Chair observed that a list of documents received by the DCISC since its last public meeting in February 2021 was included in the public agenda packet for this meeting. Dr. Lam remarked the Committee strives to always conduct its business in a transparent manner.

VII STAFF-CONSULTANT REPORTS & RECEIVE, APPROVE, AND AUTHORIZE TRANSMITTAL OF FACT FINDING REPORTS TO PG&E

A. The Chair requested Consultant Wardell to provide an expedited report, due to public meeting scheduling concerns, on the March 4, 17, 18 & 24, 2021, fact-finding visit with Dr. Budnitz conducted remotely. Mr. Wardell then reviewed the topics discussed

with PG&E during the March 2021, meeting as follows:

- Station Excellence Plan – Mr. Wardell reported there is an item on the agenda later at this public meeting concerning the Station Excellence Plan. He commented the plan is the highest level plan now in use to align the individual departmental plans and other plans and was developed as a result of the October 2020 Institute for Nuclear Power Operations (INPO) corporate evaluation. The Station Oversight Committee has been established to monitor the Station Excellence Plan and it is comprised of seven of the highest-level leaders at the station including Mr. James Welsh, PG&E Senior Vice President Generation and Chief Nuclear Officer (CNO). The Fact-Finding Team (FFT) reviewed Minutes of a Station Oversight Committee meeting and concluded the Station Excellence Plan was appropriate for its intended purposes and has the potential to provide improved focus on leadership's efforts to obtain and maintain excellence.
- Meet with Quality Verification Director – Mr. Wardell stated the FFT met with the Quality Verification (QV) Department's Director Mr. Ken Johnston who reports directly to the CNO. QV verifies quality by means of assessments, audits and observations of work and produces the Quality Performance Assessment Report (QPAR) which is issued twice each year and rates the station's various functions and a monthly Quality Digest which focuses on audits and assessments and escalated issues and **he provided two examples of findings, one in the Chemistry Department regarding data entry and one in the Operations Department regarding completion of the shift watch list for radiation protection personnel, which have been escalated and Mr. Wardell recommended the DCISC follow up on those issues, as well as on an issue regarding performance improvement mentioned in the Fact Finding Report, and assess resolution of those issues.** Mr. Wardell reviewed the QPAR's current ratings which have an overall rating of White indicating stable performance. The FFT found QV is doing a good job of assessing quality at DCPD and bringing management's attention to issues that require resolution.
- Plant (Reactor) Protection System – Mr. Wardell reported the Plant Protection System is a system used to monitor various parameters of the Reactor Coolant System (RCS) and provides signals to the Solid-State Protection System, the Reactor Trip System, and the Engineered Safety Features Actuation System which when activated mitigate any off-limit parameters to either prevent or mitigate an accident. Mr. Wardell stated the Plant Protection System uses four separate, independent protection channels that read and send signals to the other trip systems and two out of four or three out of four must agree before the reactor is tripped or other actions are taken. He reported the Plant Protection System was updated in 1990 and was part of the original RCS controls provided by Westinghouse. The FFT found the Plant Protection System health to be acceptable with no significant issues and with spare parts available. Mr. Wardell reported DCPD is a member of the Westinghouse Owners Group which meets occasionally to review any problems with Westinghouse systems and the Plant Protection System is subject to full cyber security and has no connection outside DCPD and the system is expected to continue to function reliably through 2025.
- Vibration Monitoring Program – Mr. Wardell reported the Vibration Monitoring

System is one of three sub-systems of the Reliability Centered Maintenance Program together with the Lubrication Control and Infrared Thermography Systems. The goal of these systems is to preclude unanticipated equipment failures. Permanent vibration sensors are part of the reactor coolant pumps, the turbine generators and the main feedwater pumps and these provide readings at all times to control room personnel. Mr. Wardell reported 200-300 components are monitored for vibration on a monthly basis through the installation of portable vibration monitoring equipment. **Mr. Wardell reported the DCISC should follow up on the upgrades and modernization planned for the reactor coolant pump monitoring system as some problems were experienced with readouts in the Control Room.** The FFT found the Vibration Monitoring System to be satisfactorily implemented and very useful.

- Tornado Missile Licensing Update - Mr. Wardell stated all U.S. nuclear plants must be designed for prevention from damage by missiles generated by tornadoes. He reported DCPD is located in a low risk area for tornadoes but the Licensing Basis Verification Project which updated the Final Safety Analysis Report identified an issue where the air-cooled emergency diesel generator cooling fans were partially exposed to the possibility of impact generated by a missile or other object due to a tornado. A prompt operability assessment was performed which justified continued operation and a new tornado risk model was developed that resolved the issue.
- Winter Storm Response – Mr. Wardell remarked Pacific Ocean storm activity has the potential for generating large waves which bring kelp into the Intake Cove and potentially affect or block the intakes for the Condenser Circulating Water System and the Auxiliary Saltwater System which is protected by traveling screens. In response DCPD uses ocean sensor buoy data and reduces power if necessary. DCPD also has the ability to cut and harvest kelp in the Intake Cove. Mr. Wardell reported DCPD is well prepared for storm activity although there were no major Pacific storms during the winter of 2020-2021.
- Fire Protection: NFPA 805 – Consultant Wardell reported DCPD has implemented the NRC's regulation that implements the National Fire Protection Association's Standard 805 which employs risk-based procedures. He reported the Fire Protection Program System health is Green^[3]. Some paint was found on sprinkler heads but their performance was not affected and all NRC Maintenance Rule issues have been resolved so that the fire watches which had been required in the past several years are no longer needed and the issues with the fire doors are all resolved. The NRC Triennial Fire Protection Inspection found the Fire Protection Program to be in acceptable condition. DCPD has six firefighters and one supervisor assigned on each of three shifts and a new fire station which houses a new fire truck. Mr. Wardell stated the FFT found the Fire Protection Program to be healthy.
- Maintenance Department Update – Mr. Wardell reported the key performance indicator for the Maintenance Department is in Green health status as is the QPAR indication. He reported the Maintenance Index is in Yellow health status but is improving. The FFT concluded the Maintenance Department performance is strong.

- Nuclear Fuel Performance - Mr. Wardell reported Unit 1 has experienced no fuel defects since 1991 and Unit 2 fuel has been defect-free since 2011. Mr. Wardell reported DCPD fuel cycles will be slightly shortened to 17-18 months from 19-21 months at present and fuel enrichment has been lowered somewhat. He reported the fuel has been performing flawlessly with cores designed for the remaining life of the plant to 2025.
- Meet with NRC Resident Inspector - the FFT met with the NRC Senior Resident Inspector Mr. Don Krause to review issues of mutual interest. Mr. Wardell remarked Mr. Krause will be making a presentation later at this public meeting.
- Observe Nuclear Safety Oversight Committee Meeting - Mr. Wardell reported the FFT observed a meeting of the six executive-level nuclear industry peers who make up the DCPD Nuclear Safety Oversight Committee (NSOC) who are on site at DCPD three times each year for a four-day visit to conduct an in-depth review of plant operations. On the fourth day of each visit a report on the NSOC's finding is provided to the plant's senior management, and in the past the DCISC has been invited to observe the exit meeting, the details of which are proprietary and confidential by agreement.

Following Mr. Wardell's report, Ms. Sherry Lewis of Mothers for Peace was recognized. In response to Ms. Lewis inquiry concerning fuel defects Mr. Wardell reported a fuel defect is typically a crack or other damage to a fuel rod which contains the ceramic-coated uranium fuel pellets and serves to keep solid or gaseous radioactive materials generated in the fission process out of the reactor coolant. Dr. Budnitz commented a pressurized water nuclear reactor located in China recently experienced problems with five fuel pins and some radioactivity was released into the plant's primary system^[4]. Dr. Budnitz remarked that problems with five pins at once is worrisome as it may indicate a systematic problem but this event did not result in any onsite or offsite dose. Dr. Budnitz reported twenty years ago a U.S. nuclear plant might typically experience one fuel defect each year but since then manufacturing techniques have improved and today U.S. nuclear fuel operates almost defect free which he described as excellent performance.

Upon a motion made by Dr. Peterson, seconded by Dr. Budnitz, the March 2021 Fact Finding Report was accepted by the DCISC and its transmittal to PG&E was authorized. The report will become a part of the Committee's 31st Annual Report.

VIII ADJOURN MORNING MEETING

The Chair adjourned the morning meeting of the DCISC at 12:25 P.M.

IX RECONVENE FOR AFTERNOON MEETING

The afternoon meeting of the DCISC was convened by the Chair at 1:30 P.M.

STAFF-CONSULTANT REPORTS & RECEIVE, APPROVE, AND AUTHORIZE TRANSMITTAL OF FACT FINDING REPORTS TO PG&E (CONT'D.)

B The Chair requested Assistant Legal Counsel Rathie to report on administrative,

regulatory and legal matters. [In the interest of keeping on schedule this agenda item was deferred from the morning presentations.]

Mr. Rathie reported administrative matters included setting up this public meeting in a Zoom/hybrid format and he expressed his appreciation to Mr. Bob Lloyd of AGP Video and the technicians facilitating the broadcast of today's public meeting. He reported Ms. Linda Seeley, who is a frequent attendee at the Committee's public meetings, has been appointed by the Diablo Canyon Decommissioning Engagement Panel to serve as the Panel's liaison to the DCISC. Mr. Rathie reported it appears the Governor's Executive Order which now allows public meetings of state bodies to be conducted entirely by use of remote technology will stay in effect at least until September 30, 2021.

Mr. Rathie observed concerning regulatory matters that the 2018 Nuclear Decommissioning Cost Triennial Proceeding (NDCTP) is now scheduled to be concluded by September 13, 2021, and a proposed decision in that matter may be expected to be circulated for comment on or around August 10, 2021. He reported that at the February 2020 public meeting the Members approved the text of a proposed Second Restatement of a charter for the Committee and then directed that it be provided to the CPUC Energy Division and brought to the attention of the Administrative Law Judge in the 2018 NDCTP for consideration. He reported this direction was promptly carried out following the February 2020 public meeting. Mr. Rathie reported the next appointment to the Committee is now with the CEC Chair Mr. David Hochschild and the two candidates under consideration to serve a three-year term on the DCISC from 2021-2024 are Dr. Lam and Dr. Michael Quinn.

Mr. Eric Greening was recognized. Mr. Greening stated an incomplete application by PG&E for a coastal development permit is now pending before San Luis Obispo County in connection with plant decommissioning. He reported one of the items on which the County has requested information is waste characterization. Mr. Greening stated he is concerned with waste handling issues including cask specifications and he inquired as to the Committee's role relative to the environmental review of plant decommissioning. He stated that the draft Environmental Impact Report (EIR) is expected to be issued in a few months and he wondered if the DCISC would engage in the EIR review process as a body or whether any of the members might participate as individuals and he stated his belief that such participation would be useful and appreciated by the public. Dr. Budnitz responded to Mr. Greening's comments by stating it is not known at this time whether the Committee's charter will be extended to the period following DCCP's cessation of electrical generation and that decision likely lies with the CPUC as well as with the entities that appoint the Committee's members. Dr. Budnitz observed the Committee's remit is to conduct safety review and accordingly radioactive materials in the environment are within the Committee's purview but at this time the schedule and scope of any review in context of the matters raised by Mr. Greening is unknown.

The Members and Consultants then turned to rescheduling the October 2022 public meeting in order to avoid holding a public meeting during or close to the dates when the plant is scheduled to be in a refueling outage. The Members and Consultants

then agreed to change the date previously selected for the October 2022 public meeting hold that meeting instead on Wednesday and Thursday, September 28-29, 2022. [This change is found earlier in these Minutes under topic VI.A, "Public Outreach, Site Visits and Other Committee Activities."]

X COMMITTEE MEMBER COMMENTS

There were no comments from Members at this time.

XI PUBLIC COMMENTS AND COMMUNICATIONS

Dr. Lam invited members of the public to address the Committee on matters not on the agenda for this meeting. There were no comments from members of the public at this time.

XII INFORMATION ITEMS BEFORE THE COMMITTEE

The Chair requested PG&E Director of Generation Business Planning Mr. Thomas Baldwin to introduce the first of the informational presentations for this public meeting. Mr. Baldwin introduced the Generation organization's Director of Risk and Compliance Mr. Russell Prentice to make that presentation concerning the NRC's assessment of plant performance. Mr. Baldwin reported Mr. Prentice was licensed as a Senior Reactor Operator and has been employed at DCPD for more than ten years including as Maintenance and Instrumentation & Controls Manager. In his present assignment Mr. Prentice oversees the Generation organization's regulatory relations and risk programs including those for DCPD. Mr. Prentice holds a Master's Degree in Mechanical Engineering from California Polytechnic State University at San Luis Obispo (Cal Poly).

Update on the Status of NRC Performance Indicators, Licensee Event Reports, NRC Inspection Reports and Notices of Violation, Issues Raised by NRC Resident Inspectors, Open Compliance Issues and License Amendment Requests, Cross-Cutting Aspects of Performance, and Other Significant Regulatory Issues/Requests.

Mr. Prentice stated his presentation would provide an overview of DCPD's performance from a regulatory perspective and stated regulatory performance of a station is a reflection of its operational and safety performance as well. Mr. Prentice stated his report covered a period of approximately four months from March – June 2021 and would include approximately 2,000 hours of NRC inspection time. During this period DCPD met and remained in the highest performance category for the performance expectations for all NRC performance indicators and the plant continues to monitor margin with respect to each performance category. One violation, rated Green or of very low safety significance was issued since the last public meeting of the DCISC:

- Non-Cited Violation (Green) – associated with sequencing of testing associated with the carbon dioxide fire suppression system used to extinguish fires in certain locations. Mr. Prentice stated the testing procedure was revised in 2010 to test the manual actuation of the valve prior to testing the solenoid, that is, the remote actuation of the valve. The testing procedure has now been changed. (No cross-cutting aspect

assigned).

Mr. Prentice displayed the NRC Cross-Cutting Aspects summary of performance over a rolling four-month period which he stated utilizes a proactive approach to identifying trends in functional areas and he stated DCPD remains in Green status for all categories with only two cross-cutting aspects identified for H-1 (Resources) and H-12 (Avoid Complacency). No licensee event reports (LERs) were issued by PG&E since the last DCISC public meeting in February 2021. Mr. Prentice reported DCPD remains in the highest performance category, that is, in Green^[6] status for all 16 performance indicators:

- Unplanned Scrams per 7000 Critical Hrs.
- Unplanned Power Changes per 7000 Critical Hrs.
- Unplanned Scrams with Complications.
- Safety System Functional Failures.
- Mitigating Systems Performance Index, Emergency AC Power System .
- Mitigating Systems Performance Index, High Pressure Injection System.
- Mitigating Systems Performance Index, Heat Removal System.
- Mitigating Systems Performance Index, Residual Heat Removal System.
- Mitigating Systems Performance Index, Cooling Water Systems.
- Reactor Coolant System Activity.
- Reactor Coolant System Leakage.
- Drill/Exercise Performance.
- ERO Drill Participation.
- Alert & Notification System.
- Occupational Exposure Control Effectiveness.
- Radiological Effluent Occurrence.

Mr. Prentice stated three inspection reports have been issued since the last public meeting of the DCISC as follows:

- 2021 Triennial Fire Protection Inspection (2021-010, 03/11/2021).
- 2021 Cyber Security Inspection (2021-403,03/31/2021).
- 1st Quarter 2021 Integrated Inspection report (2021-001,05/07/2021).

Mr. Prentice reported no licensee amendment requests (LAR) were issued since the last public meeting of the DCISC in February 2021, and one LAR is currently pending.

In response to Dr. Budnitz' inquiry concerning the NRC's development of a new regulatory regime for advanced reactors under 10 CFR^[7] Part 53 Mr. Prentice replied he has not seen any resulting changes to the NRC's present reactor regulatory regime under 10 CFR Part 50 although the NRC is conducting an overall regulatory update including consideration of risk-informed approaches for its Reactor Oversight Process. In response to Consultant Wardell's inquiry Mr. Prentice stated DCPD is not initiating any licensing changes at this time under 10 CFR 50.69. In response to Dr. Budnitz' inquiry concerning regulations governing cyber security Mr. Prentice stated issues and events in the industry

are monitored and cyber security controls at DCPD are robust but an awareness is required as to threats and challenges so as to address them proactively. In response to Consultant McWhorter's question Mr. Prentice stated DCPD is cognizant of operating experience from the recent cyber intrusion into the Colonial Pipeline, an oil pipeline system, and has included that information in its vulnerability assessment process. Mr. Prentice reported the operating experience process used in the nuclear industry is employed to assess and review external as well as internal industry-related events.

The Members and Consultants thanked Mr. Prentice for his presentation.

Mr. Baldwin next introduced DCPD Decommissioning Environmental and Licensing Manager Mr. Philippe Soenen and stated Mr. Soenen holds a Bachelor's Degree in Mechanical Engineering from the University of California San Diego and has more than 19 years' experience in the nuclear industry having worked in a variety of licensing positions at PG&E including the Humboldt Bay Power Plant spent fuel storage installation and the relicensing process for the ISFSI at DCPD.

Update on Emergency Preparedness During Decommissioning.

Mr. Soenen reported in his discussion he would provide a general background on major transitions that will occur during decommissioning the power plant, an overview of emergency planning transitions, and a review of the development of the Post-shutdown Emergency Plan. He identified the major areas under the current Emergency Plan and identified what he described as a step-down transition which will occur at the time both reactors have stopped operating and when the fuel is offloaded for the final time from the reactor to the spent fuel pool. The next phase he identified occurs when some of the fuel is in the spent fuel pools and some is also in dry cask storage and he reported that the period of potential risk of a spent fuel zirconium fire is approximately 16 months following its placement in a spent fuel pool and accordingly operator action during that period is needed within ten hours. He reported this period constitutes the first window for application of the Post-shutdown Emergency Plan. Following the period of the risk of fire the fuel will be transitioning from wet to dry storage and for this period the Permanently De-fueled Emergency Plan will require NRC approval. Once all fuel is removed from the spent fuel pools and in dry cask storage at the ISFSI the Post-shutdown De-fueled Emergency Plan will transition to the ISFSI Only Emergency Plan which will require NRC approval. Finally, he stated the ultimate transfer of the fuel offsite will occur after which the decommissioning of the ISFSI will take place.

Mr. Soenen reported the major emergency plan transitions he described are standardized in the nuclear industry and are based upon the reduction in radiological risk but changes require NRC approval and are adjusted to assess site-specific considerations through consultation with state and local agencies. In response to Mr. McWhorter's inquiry Mr. Soenen confirmed that the Federal Emergency Management Agency (FEMA) is also involved through FEMA's consultation with the NRC. PG&E is also consulting with San Luis Obispo County's Office of Emergency Services concerning the Post-shutdown Emergency Plan. Mr. Soenen reported that, with its participation as a proponent of the Joint Proposal^[8] which was approved by the CPUC and provides for the retirements of

DCPP at the end of its current operating licenses, DCPP agreed to certain deviations from the NRC standards including continuing to provide funding for warning sirens and local emergency planning activities until termination of the 10 CFR Part 50 License for the power plant and he clarified that PG&E spending on personnel and the Emergency Response Organization (ERO) will be transitioned accordingly as allowed by the reduction in risk. Mr. Soenen reported that PG&E's filing in the 2018 NDCTP includes the costs associated with the transitions as well as for the emergency sirens and the County's emergency planning activities and a decision on the 2018 NDCTP is presently expected to be issued by the CPUC in December 2021.

Mr. Soenen reviewed some specifics of post-shutdown emergency planning including the use of the existing emergency response facilities through the first transition and for sixteen months following the final off-load of fuel from Unit 2 with no changes to the emergency classification levels. Mr. Soenen reported there will be changes in the proposed Post-shutdown Emergency Plan to ERO response times, to offsite equipment and to the emergency planning zones. In response to Consultant McWhorter's queries Mr. Soenen confirmed that in later stages of post-shutdown emergency planning there will be reductions in staffing of emergency response personnel but the transition from the reactor shut down to the initial transition of all fuel to the spent fuel pools represents the smallest transition of personnel and he confirmed in response to Mr. McWhorter's inquiry that during this period there is still a potential for a declaration of a general emergency to occur.

Mr. Soenen then described some of the changes planned in the post-shutdown emergency planning process including reduction in staffing for shift personnel and the onsite ERO, with personnel on shifts being reduced from 22 at present to 12 as proposed and reduced staffing at all emergency response facilities, while maintaining the ability for interfacing with the State and the County and their respective emergency response organizations to implement Radiological Emergency Plans. He reported DCPP would no longer be required to provide hardware for the Emergency Response Data System (ERDS) to interface that system with the NRC but will be required to maintain the capability for continuous communication with the NRC. There will be new standard industry commitments to conduct drills prior to the implementation of the Post-shutdown Emergency Plan to confirm the ERO's ability to implement the plan and the State of California and County of San Luis Obispo will participate with the NRC and FEMA to observe these drills.

Mr. Soenen reported PG&E has completed its consultation with the Governor's Office of Emergency Services, the County's Administrative Office and Office of Emergency Services and FEMA about a license amendment request that was provided to those parties for their review and comments and he reported that comments were received and resolved to the satisfaction of the commenters. He reported the Post-shutdown Emergency Plan was revised in response to comments received to retain ERO positions for the advisor to the County and the Dose Assessor in the Emergency Operations Facility. In response to Dr. Lam's inquiry Mr. Soenen stated DCPP conducts meetings with the County on a quarterly basis to review decommissioning activities. He reported there has been good collaboration with the County and DCPP intends for that to continue

into the decommissioning of the powerplant. In response to Dr. Budnitz' query Mr. Soenen confirmed that the Emergency Preparedness (EP) organization at DCPD is included as part of the regular updates and representatives of the Emergency Planning organization attend the quarterly meetings with the County. In response to Consultant McWhorter's inquiry Mr. Soenen stated the goal is to submit the Post-shutdown Emergency Plan during 2021 and then to submit the Permanently De-fueled Emergency Plan, which he described as a more significant stepdown, and Mr. Soenen confirmed that much of the information he provided during his presentation was concerning the Post-shutdown Emergency Plan which is required for the immediate transition to decommissioning.

Ms. Jane Swanson of Mothers for Peace was recognized. Ms. Swanson posed a question and two requests to the Committee and Mr. Soenen as follows: (1) how many dry storage casks will be required to contain all spent fuel after final closure in 2025 and are there 58 such casks at the ISFSI now, (2) for some examples of LARs related to decommissioning, and (3) for some examples of post-shutdown emergencies for which drills would be conducted. Mr. Soenen responded and he stated DCPD is pursuing the evaluation of a new dry cask storage system which would likely have a different storage capacity and configuration from the present system which provides for 32 fuel assemblies in each canister. Under the present system a total of 138 casks would be required to contain all the fuel produced by DCPD through 2025 and Mr. Soenen confirmed there are presently 58 casks stored at the ISFSI. In response to Dr. Lam's query as to the status of cask procurement efforts Mr. Soenen stated DCPD has received bids from qualified vendors and is evaluating those bids and expects now to have a proposal to management by the end of 2021 and to be in a position to execute a contract for new casks during the first quarter of 2022. Mr. Soenen gave as an example of a post-shutdown LAR the need to receive approval for permanently defueled technical specifications to remove activities no longer necessary after power generation operations cease. Emergency Plan changes will also require approval of a LAR by the NRC and he observed the 10 CFR 50.59 process still applies to planned modifications. In response to Ms. Swanson's inquiry Mr. Soenen confirmed a new cask design would require NRC approval either as a modification to the current site-specific license for dry cask storage through a LAR initiated by PG&E or if an option is selected under a general license issued to a vendor then the vendor would be responsible for obtaining NRC approval prior to use. In response to Ms. Swanson's third inquiry Mr. Soenen replied that a hypothesized scenario where the fuel in a spent fuel pool might become uncovered would result in the plant being required to demonstrate its emergency planning capacity for the capability to supply a make-up water inventory and for recovering and maintaining fuel integrity. Dr. Budnitz observed and Mr. Soenen agreed that transporting the fuel from the spent fuel pools to the ISFSI also presents scenarios which will continue to be required to be addressed in emergency planning. In response to Mr. McWhorter's question about use of a general license for new storage casks Mr. Soenen stated the general license would require modification for DCPD's site specific requirements and this responsibility would be undertaken by the vendor.

Mr. David Weisman of the Alliance for Nuclear Responsibility was recognized. Mr. Weisman inquired relative to the request for proposals for new casks whether it was a

requirement that the new casks be adapted to use the existing transporter or would the vendor be permitted to employ a new tractor/transporter. Mr. Soenen replied that the request for proposals requires that the selected vendor supply all required equipment but prospective vendors are permitted to propose designs which would use the existing equipment including the transporter but they were not required to do so. In response to Dr. Lam's comment Mr. Soenen confirmed the regulatory review of the equipment, including for a new transporter, would be part of the process and would be conducted under the 10 CFR 72.48 process for evaluation of change to the licensing basis.

The Chair thanked Mr. Soenen for a very informative presentation and a short break followed Mr. Soenen's presentation.

XIII TECHNICAL CONSULTANT REPORTS & RECEIVE, APPROVE, AND AUTHORIZE TRANSMITTAL OF FACT FINDING REPORTS TO PG&E

The Chair requested Consultant McWhorter to report on the April 27-28, 2021, fact-finding visit with Dr. Lam which was conducted remotely. He reviewed the topics discussed with PG&E during the April 27-28, 2021, as follows:

- Radiation Monitoring System – Consultant McWhorter reported the DCISC review of the Radiation Monitoring System was a routine review. The system consists of 101 channels of communication, a combination of analog and digital instrumentation from four different manufacturers and dates from the 1970s to the 1990s. The Radiation Monitoring System is used to measure radioactivity and is categorized as a Tier 2 system which category does not require formal health reporting. Mr. McWhorter reported the system is in White health status and rated per the NRC Maintenance Rule as (a)(1), i.e., as needing improvement due principally to reliability concerns related to its diversity and age. Corrective actions are in place and being monitored for effectiveness and the overall trend of failure has been downward over the past three years. Mr. McWhorter reported the system has experienced a number of one-off failures which place it in (a)(1) status under the Maintenance Rule but he stated this is somewhat contrary to the intent of the Maintenance Rule which is to prevent failure due to maintenance and one-off failure is not necessarily maintenance related. In response to Dr. Budnitz' question Mr. McWhorter reported operating experience has shown that, in general, other nuclear power plants have experienced issues with radiation monitoring systems but there are differences between plants. Prior to adoption of the Joint Proposal DCPD was intending to completely replace the Radiation Monitoring System but has now adopted a program of continuing updates and Mr. McWhorter stated with the redundancy in the system, the present availability of spare parts and DCPD's continuing efforts to address reliability issues the DCISC FFT did not find the system compromised and found the Radiation Monitoring System to be in acceptable health.
- Meet with DCPD Officer – Dr Lam met with DCPD Site Vice President Ms. Paula Gerfen. Dr. Lam reported inquiries during these meetings are frequently twofold including, on the part of the PG&E representative, as to whether DCPD has provided adequate support to the DCISC and, on Dr. Lam's part, what are the top priorities of the plant's most senior leadership. Dr. Lam stated these interactions are most beneficial.

- Auxiliary Building Ventilation System – Mr. McWhorter stated the Auxiliary Building Ventilation System review was in follow-up to a review conducted in May 2020. The system is in Maintenance Rule (a)(1) status due to a significant number of functional failures including of the system dampers in 2018 and two position indicator failures in 2020. Mr. McWhorter reported corrective actions have been completed and the system is expected to return to Maintenance Rule (a)(2) status by mid-2021. [Note: Later in this Fact Finding report, Mr. McWhorter explained the difference between (a)(1) and (a)(2) status.] He reported both charcoal filter banks received complete media replacement in 2020 which should sustain the system until cessation of operations in 2025. The FFT team found, with the continuance of monitoring by DCP, the Auxiliary Building Ventilation System to be in acceptable health.
- Meet with NRC Senior Resident Inspector – Mr. McWhorter stated the DCISC representatives met with the NRC Senior Resident Inspector for DCP Mr. Don Krause to review performance during the twenty-second refueling outage for Unit 2 (2R22), recent NRC inspection results and concerns, and the plant's continuing response to the COVID-19 pandemic.
- Human Performance Update – Consultant McWhorter reported this review by the DCISC representatives was conducted at a high level and included review of Station Level Events (SLEs) and Department Level Events (DLEs). He reported there has been an increase in SLEs with three occurring in 2018, after eight prior years with none, no SLEs in 2020 and one SLE so far in 2021. Mr. McWhorter stated the corrective actions taken by the station appear to be effective and are mostly centered on the Operations Department. He reported there was a significant increase in DLEs during the twenty-second refueling outage for Unit 1 (1R22) but a significant improvement during 2R22. The FFT also reviewed organizational learning opportunities which are trended by department and reviewed by the Performance Improvement Group across departments and also by the Quality Verification organization. Mr. McWhorter reported several trends were identified in organizational learning but the plant appears to be effective in tracking human performance and taking appropriate corrective action **but the DCISC should continue review the effectiveness of human performance monitoring in early 2022.**
- Maintenance Rule Program – Mr. McWhorter remarked this was the DCISC's first general review of the Maintenance Rule Program which was implemented about twenty-five years ago by the NRC to screen systems, structures and components for risk and provide a risk-based monitoring criterion for each and to identify and monitor maintenance-preventable functional failures. He reported the goal of the Maintenance Rule Program is to prove maintenance is effective by setting goals and if those goals are met a system is rated in (a)(2) status under the Maintenance Rule with normal monitoring in place. If the goals are not met the system is rated in (a)(1) status with corrective actions required and effectiveness monitoring in place. A system, structure or component will not return to (a)(2) status until actions taken are determined to have been effective. Concerning Maintenance Rule functional failure Mr. McWhorter observed some failures are related to design and some to external factors. The FFT reviewed

procedures and found the Maintenance Rule Program to be effectively implemented and Mr. McWhorter displayed a graph of the history of maintenance-preventable functional failures which demonstrates the average to be three such failures each quarter. He reported during 2018 there were 31 systems in (a)(1) status and in 2020 that number was reduced to 23 which he described as indicative of an effective program showing a good trend. In response to Consultant Wardell's inquiry Mr. McWhorter reported the Maintenance Rule Program is assessed every two years by self-assessment and the conclusion of the 2020 self-assessment was the program was trending in the right direction and having 23 systems in (a)(1) status was not an unusually high number in the industry. Dr. Budnitz observed the program metrics would be more meaningful if the program counted components rather than systems. Mr. McWhorter agreed and commented the program metrics are very much dependent upon how the system was analyzed during its initial assessment for inclusion in the Maintenance Rule and he gave the current placement of the Radiation Monitoring System in (a)(1) status due to diverse component failure mechanisms as an example. Mr. McWhorter confirmed Consultant Wardell's observation that placement of a system in (a)(1) status does not mean the system is inoperable and he offered the example of the Auxiliary Building Ventilation System as an example of a system in (a)(1) status and subject to monitoring under the Maintenance Rule for a set period of time but which remains fully operable. Dr. Budnitz observed and Mr. McWhorter agreed that the Maintenance Rule Program does not encompass design failures as they are not maintenance-preventable and he gave the example of fuel failure which can be caused by design issues or by the introduction of foreign material which could be prevented by maintenance. Mr. McWhorter reported the programmatic documents for the Maintenance Rule Program at DCPD include a list of criteria as to what constitutes a maintenance-preventable functional failure.

- Boric Acid Corrosion Control Program – Consultant McWhorter reported this was a routine programmatic review to assess the Boric Acid Corrosion Control Program which inspects and monitors for repair water leaks containing boric acid that can cause corrosion of carbon steel components. He remarked the leaks are generally indicated by white deposits and are usually found at threaded connections that are near a joint or a valve. Components fabricated with stainless steel or other corrosion resistant materials are not susceptible to corrosion from boric acid. The program is driven by industry guidelines and involves identification, monitoring and tracking leaks for repair. The Boric Acid Corrosion Control Program is presently in Green status and the program is being actively implemented and managed.
- Unit 2 Main Generator Issues and Root Cause Evaluation Update - Consultant McWhorter stated DCPD will provide a report on this topic later during this public meeting. He provided a history of the outages experienced by Unit 2 for the period from the fall 2019 to April 2021 and stated in his presentation he would focus on the events since the meeting of the DCISC in February 2021. On February 3, 2021, following testing and the placement of weights on the Unit 2 Main Generator to address vibration issues and restart in January 2021, the decision was made to again shut down Unit 2 due to vibration experienced at higher power levels as well as due to a slight increase in hydrogen consumption. Inspection led to the decision to do extensive repair and conduct

major modifications to the generator that required pulling the rotor out of the generator and accordingly to extend forced outage 2H22 into refueling outage 2R22. Mr. McWhorter reviewed the work conducted:

- New stator component cooling water (SCCW) end manifolds built and installed. Mr. McWhorter reported the manifolds at each end of the generator, mainly on the exciter end, were the primary source of the hydrogen leaks.
- New internal vibration tests performed on individual components inside the generator.
- Additional structural supports and epoxy fill installed.
- Major internal fasteners retightened with the reason for the loose fasteners to be reviewed in the root cause evaluation (RCE).
- Internal vibration monitors installed.

Mr. McWhorter reported that following restart on April 17, 2021, operators noticed uneven stator temperature indications and analysis by the vendor determined that internal cooling hoses had been improperly installed and a six-day shutdown was required to swap out the internal cooling hoses. Mr. McWhorter displayed a photo of the many SCCW hoses inside the Unit 2 Main Generator and stated that of these two hoses were improperly installed by the vendor. **Unit 2 restarted on April 25, 2021, and has continued to operate since then. Mr. McWhorter reported the RCE is continuing and is expected to be completed in July 2021 and he recommended the DCISC review the RCE during future fact-finding and at a future public meeting.** The FFT team concluded DCPD was continuing to properly manage the Unit 2 forced outages and the vibration and hydrogen leaks and the Committee should continue to follow up on the RCE.

Dr. Lam commented that reports in the local media have alleged the problems with the Unit 2 Main Generator were the results of willful gross negligence by DCPD management. Mr. McWhorter commented that the RCE is still not complete and the causes of the problems are still an open question. He reported several DCISC fact-finding teams have concluded the actions taken by DCPD appear to have been appropriate from the aspect of safety with no evidence of poor management or decision-making by DCPD. Dr. Lam stated his assessment of the issues with the Unit 2 Main Generator was that they did not pose an issue of safety significance and this was based on his examination of the equipment location, the volume of the Turbine Building, the inventory of hydrogen, the area for dilution of hydrogen involved, and the orientation of any potential turbine missile if the equipment was damaged by hydrogen flaming or an explosion. Dr. Budnitz observed that if the RCE indicated the presence of a safety culture issue the DCISC would review that in that context.

- Post-Shutdown Technical Specification License Amendment Request – Mr. McWhorter stated Mr. Soenen reviewed this item during his presentation earlier in this public meeting as to the modifications which will be required to the post-shutdown

technical specifications by license amendment requests (LARs) which process will be managed by the decommissioning team. He reported the first major licensing action will change the accidents that have to be considered in the technical specifications once the fuel is removed from the reactor. This has resulted in the first major licensing action which was the technical specification LAR submitted to the NRC on December 3, 2020, which is to become effective following certification of final fuel offload, with no fuel handling activities permitted for at least 45 days after shutdown, and completion of the fuel handler certification program. The key point of this LAR is to reduce the number of applicable design basis accidents and retain in the technical specifications those matters relative to spent fuel pool level, boron concentration, and fuel arrangement. Mr. McWhorter observed spent fuel pool cooling is not part of the current technical specification and need not be addressed in the LAR as allowing the spent fuel pools to boil if necessary is a part of heat removal and is addressed by the requirements to maintain spent fuel pool water levels. Mr. McWhorter reported staffing will be reduced to one shift manager with a fuel handling certificate and one operator for each unit and the General Design Criteria will be accordingly reduced as will requirements for the Quality Assurance and Fire Protection Programs.

Future LARs in decommissioning will address the Defueled Safety Analysis Report (DSAR) and changes to the Emergency Plan. **The FFT concluded DCP's approach to submitting LAR requests for decommissioning appears appropriate and the DCISC should continue to follow from a safety perspective all the regulatory activities which will define the reduction in requirements which will occur at shutdown.**

- Low Temperature Overpressurization Protection (LTOP) System Event – Consultant McWhorter stated this was a follow up item from January 2021. The event concerned actuation of the LTOP System on October 29, 2020, when a reactor coolant pump started during solid-water operation and the Reactor Coolant System (RCS) expanded and caused the LTOP System to actuate for a brief period. Mr. McWhorter reported there was never a significant pressure spike and the root cause evaluation for this event had not been completed at the time of the previous review. The conclusion of the vendor's analysis was that water in the RCS expanded upon the pump starting up due to an uneven temperature distribution caused by the mass of higher temperature metal in the Steam Generators (SGs) which resulted in higher temperature water being swept into and expanding the volume of the RCS and actuating the LTOP System. Corrective actions taken were to limit differential temperatures between the RCS and the SGs and to address other conditions for future solid-water pump starts. Mr. McWhorter reported the FFT found DCP's actions were appropriate. In response to Dr. Budnitz' query concerning operating experience Mr. McWhorter stated other plants have recognized the need to have a narrow differential temperature requirement. Dr. Budnitz remarked that depending on the differences in operating experience of other plants this could indicate a lapse in evaluation by the DCP Operating Experience group and he stated this was an unusual situation which should be avoided although there was considerable margin regarding a core damage accident. Mr. McWhorter agreed and confirmed that industry events in this general area have differences and DCP had not often been in this

situation as generally in the past when reactor coolant pumps start the SGs are cold.

- Spent Fuel Cask Procurement Update – Mr. McWhorter reported PG&E received proposals for new spent fuel casks in mid-2020 and has reviewed and identified qualified and responsive proposals, the results of which are proprietary. The next steps will be leadership review, negotiations, and execution of a contract with a vendor which is expected to occur early in 2022. Mr. McWhorter reported the execution of a contract must necessarily await issuance of a decision in the 2018 NDCTP. He reported the vendor is expected to provide casks with the ability to support spent fuel movement to dry storage within four years of shutdown, that is by 2029. Mr. McWhorter described this as a huge and challenging effort over a three-year period with a considerable amount of regulatory activity required, a considerable number of new casks to be produced which he estimated to be in the range of approximately 80 casks, a large amount of fuel to be moved, and a great deal of money at stake to be paid by the taxpayers. The FFT concluded the procurement efforts are making steady progress toward execution of a contract. Dr. Lam offered some reservations as to the schedule which he described as exceptionally ambitious and he commented that the Committee has not been briefed about any significant matters on the design or procurement of the casks.
- Observe Corrective Action Review Board (CARB) Meeting - The DCISC representatives observed the CARB's review of Corrective Action Program documents and concluded the meeting met its objectives.

Mr. David Weisman of the Alliance for Nuclear Responsibility was recognized. Mr. Weisman inquired as to the source of the local media report which Dr. Lam mentioned in connection with the Unit 2 Main Generator issue. Mr. Weisman described the issues with the Unit 2 Main Generator stator as an example of the effect of the bathtub curve^[9] the potential for which the Alliance for Nuclear Responsibility previously brought to the DCISC's attention but was assured by the Committee at that time it was not going to be a consideration. He stated at that time, October 2019, when the repair project was underway the Committee was supportive of PG&E replacing the stator which would typically have a service life of 20 years and the Committee observed that doing so before the stator failed was indicative of PG&E not being concerned with the budget and that failure of the Unit 2 Main Generator could be catastrophic. Mr. Weisman stated the discussion did not include the volume of hydrogen, size of the room or its venting capacity which Dr. Lam had earlier described as *de minimis* considerations. However, when PG&E was in the middle of the project and requesting funds the Committee at that time saw a grave danger and threat and a need to get this work done. Mr. Weisman observed that a review of the project will demonstrate the project was beset with problems and that it was a mistake to dismiss concerns about the bathtub curve's effect. Mr. Weisman stated the Committee professed two different opinions as to the severity of the project, separated by six months in time which appeared to Mr. Weisman to be linked to PG&E's decisions. Dr. Lam stated that his past statements regarding *de minimis* safety implications were in context of what he described as the first principle, which is based upon a lethal dose of radiation to 50% of the population, and concerning the stator replacement project for the Unit 2 Main Generator the thickness of the reactor vessel

afforded the project and personnel protection from radioactive damage. Mr. Weisman replied that assessment of the stator replacement was always understood to be in context of non-radiological considerations and he remarked the Committee has consistently expressed a concern about the safety of DCPD personnel and it was in that context that he understood the Committee's assurances regarding safety.

Mr. John Geesman, Legal Counsel to the Alliance for Nuclear Responsibility was recognized. Mr. Geesman observed the Alliance for Nuclear Responsibility's remit is substantially broader than that of the DCISC and he observed Mr. McWhorter had described PG&E's response to the Unit 2 outages as appropriate and Drs. Lam and Budnitz have both affirmed the Committee's principal focus is on operational safety. Mr. Geesman stated from his client's perspective the question of prudent asset management is substantially broader than safety and he inquired whether what he described as laudatory remarks about PG&E's response extend beyond the subject of safety. Mr. McWhorter responded by stating that it was his opinion the manner in which DCPD responded to the problems experienced with the Unit 2 Main Generator was appropriate given the conditions, what was observed at each stage of the project, and the actions taken. He stated that from what he has seen of the investigation and efforts to make the repairs he has no broader safety concern in those areas as they were properly identified and followed up on but Mr. McWhorter stated he is not passing judgment on how DCPD came to find itself in this situation. Dr. Lam stated he had no intention in the fact finding report to praise or reprimand DCPD or PG&E and his intention was that the report state the facts as he and Mr. McWhorter found them to be. Dr. Budnitz remarked given the circumstances, DCPD responded effectively and competently and those actions were worthy of praise. He observed that, to date, the question of whether the event will reveal broader safety culture concerns has not been answered and will need to await completion of the RCE which the Committee will review and this represents an important distinction concerning the safety implications of these events. Mr. McWhorter gave the example of DCPD's actions in addressing the incorrect installation of the two hoses in the generator's SCCW system and he observed concerning that issue the FFT concluded the actions taken by DCPD to identify and fix the problem were appropriate and gave no indication of concern for nuclear safety but the question of how the vendor managed to install those hoses incorrectly and what other safety concerns there might be remain open.

Following a motion by Dr. Peterson seconded by Dr. Budnitz the April 27-28, 2021 Fact Finding Report was accepted by the Committee.

Dr. Lam commented Mr. McWhorter and Mr. Wardell's fact-finding reports for April and May were prepared for fact findings conducted less than two months prior to this public meeting and these reports were expeditiously and efficiently written. He then requested Consultant Wardell to report on the May 18-19, 2021, fact-finding with Dr. Peterson which was conducted remotely. Mr. Wardell reviewed the topics discussed with PG&E during the May 18-19, 2021, as follows:

- Reactivity Management Update – Consultant Wardell observed reactivity is the potential of a nuclear core to increase or decrease its chain reaction rate and accordingly the reactor's power level and it is very important for nuclear safety to control reactivity

which is affected by and can involve inserting or withdrawing control rods, the boron concentration in reactor make-up water, main turbine controls, and core unload and reload among other actions. The FFT reviewed reactivity management procedures and found them to be satisfactory with improvement noted. These procedures make the Operations Manager primarily responsible for reactivity management with oversight provided by the Reactivity Management Leadership Team. Mr. Wardell reported the Reactivity Management Program for both units is in Green health status and the FFT found the program to be effective.

- Meet with NRC Senior Resident Inspector - Mr. Wardell reported the DCISC representatives discussed with Mr. Krause the agenda for the fact finding, the Unit 2 Main Generator hydrogen leak and a condenser leak which occurred on Unit 2, the NRC's requalification of operators, the plant's COVID-19 response, spent fuel storage, the adequacy of DCP's plans to ensure that adequate staffing remains available, and a situation where chains were found installed on certain fire doors which held those doors open. Mr. Wardell reported the meetings with the NRC inspectors are beneficial for the DCISC and he believed the NRC resident inspectors also find them useful.
- Wildfire Risk – Mr. Wardell stated the FFT inquiry was with reference to the risk posed by external fires during high winds and as in previous years the DCISC representatives determined there was a very low risk of a wildfire affecting DCP due to actions taken to clear vegetation and to implement the Vegetation Management Program as well as the robust nature and fire resistance of the plant's facilities and structures including the ISFSI and the spent fuel storage casks located at the ISFSI. Mr. Wardell reported the power transmission lines are vulnerable to loss of power due to wildfire damage but the plant has multiple electrical and emergency electrical power sources available including the emergency diesel generators.
- ISFSI Update – Mr. Wardell observed this topic had been well covered by Mr. McWhorter and Mr. Soenen's reports earlier in this public meeting. Mr. McWhorter stated he was surprised to see the license extension for the ISFSI will be for a 40-year period and may represent a recent change to go from 20- to 40-year extensions.
- COVID-19 Update - Consultant Wardell reported DCP has taken an active role concerning precautions from COVID-19 with the recent vaccination of 900 DCP employees and 400 other local PG&E employees. Employees have been effective in working from home but are now beginning to return to work at the site. **Mr. Wardell observed training activities are best conducted in person, especially training on the Simulator Facility, and training activities will be brought back to the station and he recommended the DCISC schedule observation of onsite training at a future fact-finding.** Mr. Wardell reported both of the NRC resident inspectors now have PG&E computers which allow them to access needed data and information remotely. **Mr. Wardell reported the DCP system engineers are resuming their regular activities and will be conducting periodic walkdowns of their systems and he recommended that the DCISC once again schedule during fact-finding accompanying system engineers on their walkdowns.** He reported the FFT concluded DCP is managing the COVID-19 pandemic appropriately.

- Reactor Vessel Specimen Testing Program - Mr. Wardell stated this program is important because the reactor vessel steel is bombarded by a heavy fluence of neutrons which has a potential to cause the vessel to become brittle and susceptible to cracking due to low temperature pressurized thermal shock (PTS). He reported each reactor vessel contains metal specimen coupons which experience the same or a higher neutron field than the vessel and these coupons are periodically removed and tested to provide assurance that the vessel remains sufficiently strong to withstand PTS. He reported test results for both reactor vessels at DCPD indicate that the vessels are sufficiently strong to support the full 40 years of license operation through 2025. In response to Dr. Budnitz' observation Mr. Wardell confirmed that weld material is also susceptible to PTS and Mr. Wardell confirmed samples are provided and tested of vessel weld material.
- Emergency Preparedness Virtual Capacities – Consultant Wardell reported DCPD is using Microsoft Teams remote technology to train and qualify Emergency Response Organization personnel and to meet with NRC and Nuclear Energy Institute personnel. He reported some emergency drills have been held virtually and the next scheduled drill is a five-day virtual drill to be held in conjunction with PG&E corporate offices in the San Francisco Bay area. Mr. Wardell reported the next evaluated exercise at DCPD will take place on September 15, 2021, and will employ both virtual and in-person activities and the DCISC plans to have Consultant McWhorter present as its representative to observe the exercise. Mr. Wardell stated the FFT concluded DCPD emergency preparedness has been appropriately implemented during the COVID-19 pandemic.
- Meeting with DCPD Site Vice President – Mr. Wardell and Dr. Peterson met with DCPD Site Vice President Ms. Paula Gerfen to discuss the fact-finding agenda and other items of mutual interest. Dr. Peterson reported this was a good meeting.
- Quality Verification (QV) Audits – Consultant Wardell stated the FFT met with QV to review QV audits which are performed periodically in accordance with procedures which the DCISC representatives reviewed and found to be satisfactory. The QV audits are required by NRC regulation and the QV Department is an independent department which reports directly to the Chief Nuclear Officer. Mr. Wardell reported that for 2021 QV audits have made the following findings concerning:
 - Fire Protection – errors in drawings;
 - Problems with calibration of measuring and test equipment;
 - Fire Protection procurement outside standard DCPD processes;
 - Chemistry records problems; and
 - San Ramon Technical Services activities.

He reported none of these findings were considered significant and all are being resolved. The FFT found the QV audits to be effective.

- Operator Concerns/Issues – Mr. Wardell observed although in the past there have been some union issues amongst DCPD's operators at this time there are no significant union issues and the Operations Department is appropriately staffed for safe operation through and beyond 2025. He reported that DCPD is no longer seeking to hire new

operators and the last initial licensing class achieved a 100% pass rate. Mr. Wardell stated the Simulator Facility continues to perform effectively and clearance and tagging performance is now rated as in Green health status. Mr. Wardell reported the plant has an active placement process for personnel and the FFT found the Operations Department to be appropriately staffed and without significant issues.

Ms. Sherry Lewis of Mothers for Peace was recognized. In response to Ms. Lewis' inquiry as to the prior status of the clearance and tagging process Mr. Wardell reported the program was previously in White health status.

Ms. Jane Swanson of Mothers for Peace was recognized. In response to Ms. Swanson's inquiry as to whether the public will receive information on a new design and the inspection capabilities for the dry cask storage system Drs. Lam and Budnitz assured Ms. Swanson that this information will become part of the public record and will need to be assessed by the federal regulators either through a license amendment request or a new license and at that time all the technical details will be in the public domain. Dr. Budnitz explained that PG&E's assertion that the proposals and information it has received in response to a request for proposals issued for a dry cask storage system must at this time remain proprietary is appropriate given that the proposers do not want details of their proposals shared with other proposers as they may be at this time also bidding on fuel storage facilities at other locations. Mr. McWhorter observed the proprietary designation is also appropriate for the purpose of avoiding litigation which would delay the process of implementing dry cask storage of spent nuclear fuel at DCPD.

Mr. Eric Greening was recognized. Mr. Greening inquired whether information regarding the dry cask storage proposals referred to by Ms. Swanson would become public in time for it to be useful in the process now being conducted by the County of San Luis Obispo under the California Environmental Quality Act (CEQA) relative to characterization of the hazards in decommissioning and developing necessary mitigations. Dr. Budnitz responded that Mr. Soenen would be the most knowledgeable individual to respond to Mr. Greening's inquiry but at this time Mr. Soenen has indicated that it is simply not known when the information referred to by Mr. Greening and Ms. Swanson might be in the public domain.

Following a motion by Dr. Budnitz seconded by Dr. Lam the May 18-19, 2021 Fact Finding Report was accepted by the Committee.

Dr. Lam returned to the matter of Mr. Weisman's inquiry earlier in the day concerning the source for media information cited by Dr. Lam and reported the citation was to a November 10, 2020 news report by KCBX entitled "Plan and Unplanned Shutdown at Diablo Canyon Halts All Electricity Generation" by Ms. Greta Mart.

XIV ADJOURN AFTERNOON MEETING

Dr. Peterson observed the Committee Members, Consultants and Counsel need to remain cognizant of microphone discipline in order that a proper transcript and minutes of this meeting can be produced. Dr. Lam then observed the evening meeting of the Committee would be convened at 5:30 P.M. and he adjourned the afternoon meeting

of the Committee at 4:50 P.M.

XVI RECONVENE FOR EVENING MEETING

Dr. Lam reconvened the evening meeting of the DCISC at 5:30 P.M.

XVI COMMITTEE MEMBER COMMENTS

There were no comments by Committee Members at this time.

XVII PUBLIC COMMENTS AND COMMUNICATIONS

Dr. Lam invited members of the public to address the Committee on matters not on the agenda for this meeting.

Assistant Legal Counsel Rathie reported a public comment was received by email earlier this afternoon from Mr. Tom Marrè. Mr. Marrè enumerated the following ten issues for the Committee's consideration regarding PG&E and DCPD: (1) control rod clusters and electric circuit boards have failed and shorted-out for Unit 1; (2) a leak rust hole was found in the auxiliary cooling system for Unit 1; (3) liquid hydrogen has been found at Unit 2; (4) a leak persists for Unit 2; (5) unscheduled outage to fix and repair the Unit 2 leak have been required; (6) weld cracking has been found next to the hydrogen leak source; (7) vibration detected for Unit 2 which was run at 80%; (8) unable to fix leak so jury rigged counterweights; (9) fix at next outage; and (10) Unit 2 temporary shutdown. Mr. Marrè's message stated he believes Unit 2 is now at full power and he requested more detail on how the phantom vibration and the hydrogen leak were rectified and where new vibration monitoring was installed.

Mr. Rathie reported a message was received from Dr. Justin Cochran, Senior Nuclear Policy Advisor and Emergency Coordinator for the California Energy Commission. Dr. Cochran stated he was watching the public meeting via Zoom and he hoped to have the opportunity to attend the next public meeting of the DCISC in person.

The Chair requested Mr. Baldwin continue with the informational presentations requested by the DCISC of PG&E for this public meeting.

XVIII INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

Mr. Baldwin introduced DCPD Station Director Mr. Cary Harbor who has given many presentations to the Committee in the past. Mr. Harbor has more than 30 years' experience in the nuclear industry including holding leadership positions at DCPD in Engineering, Performance Improvement, Operations, Maintenance, Quality Services and in the Generation Compliance Risk and Business Planning organizations. Mr. Baldwin reported Mr. Harbor held a Senior Reactor Operator License and holds a Bachelor of Science Degree in Nuclear Engineering from the University of California at Santa Barbara as well as a Certificate from Stanford's Certificated Program in Executive Business Administration. Dr. Peterson remarked he has known Mr. Harbor for many years and he complimented Mr. Harbor on the great work he has been doing at DCPD.

Update on Unit 2 Main Generator Outages and Repairs.

Mr. Harbor stated in his first presentation this evening to the Committee he would provide an update on the status of the Unit 2 Main Generator. He reported Unit 2 is operating safely and producing electricity for PG&E's customers. The Main Generator is located on the non-nuclear side of the plant and the outages which took place recently were focused on restoring reliable energy generation. Mr. Harbor stated a generator such as the Unit 2 Main Generator might be found in any very large conventional power plant which is not fueled by nuclear power. He reported the issues with the Unit 2 Main Generator were not nuclear safety issues and had no impact on the health and safety of DCPD employees or the public as the plant went through the activities to address these issues which represented and required a significant amount of work. Mr. Harbor discussed and provided the following as a summary of the events involving the Unit 2 Main Generator:

- Unit 2 Main Generator has been online for approximately two months;
- Significant additional instrumentation with enhanced monitoring has been installed and the results are very positive;
- Root Cause Evaluation is in process, to identify any additional corrective actions and all immediate corrective actions are complete;
- PG&E leveraged industry experts and extensive vendor support to resolve unique technical challenges; and
- DCPD staff including the Operations, Maintenance and Chemistry organizations executed safe and error-free shutdown and restart of Unit 2 during multiple outages as well as clearing the generator and restoring it to service in each outage.

Mr. Harbor provided a timeline and remarked the Unit 2 Main Generator was approaching or slightly beyond its expected operational life when the decision was made in September 2019 to use the original manufacturer to rewind and rebuild the generator stator. An issue with a weld failure at the stator component cooling water header inlet water box with resulting hydrogen leakage was discovered in July 2020 and Unit 2 was shut down to address this issue. Mr. Harbor reported the generator is cooled by hydrogen gas inside the generator and by the Stator Core Cooling Water (SCCW) System a closed loop water cooling system with an external heat exchanger which removes heat from the hydrogen and cools the stator components. Dr. Peterson observed and Mr. Harbor agreed the hydrogen gas has a higher pressure than the cooling water and accordingly if there is a hydrogen leak the water serves as an indicator of the leak but the leaking hydrogen does not substantively affect the capability of the water to continue to provide cooling and the capability exists to remove the very small volume of hydrogen from the SCCW System by venting it outside the plant and therefore this type of problem does not fundamentally challenge the ability of the SCCW System to provide cooling to the generator. Mr. Harbor displayed a photo showing the location of the fillet weld failure on the inlet water box to the SCCW System ring manifold where water comes into the stator cooling water header. Dr. Peterson remarked and Mr. Harbor agreed that the location of the weld was unfortunate as it was located in an area of stress.

Mr. Harbor reported the weld was repaired and the plant ran until October 2020

when another hydrogen leak was detected and Unit 2 was shut down and the area inspected which revealed another small crack in a fillet weld in the SCCW System parallel ring. Mr. Harbor displayed a photo of the area where the crack occurred in the weld. He reported that working with the vendor DCPD brought in experts to assess the problem from the standpoints of structural integrity and vibration and at that time the support frames were capped and redesigned.

Mr. Harbor stated in December 2020 another weld failure occurred and caused a crack and DCPD undertook a finite element analysis of the water inlet box, which he described as an extremely technical modeling of the stresses at a location within a fixed amount of material which requires high powered computation to identify the areas of the highest level of stress in the material. He displayed a photo showing and indicating the location of the failed fillet weld and the location and degree of the stresses on the inlet box. He reported the vendor developed a completely different design to eliminate the stress point which involved replacing the water inlet box with a standard "T" connection which facilitates the smooth flow of water into the stator cooling water ring. Mr. Harbor and Dr. Peterson briefly discussed the inadvisability of putting welds in high stress locations.

Mr. Harbor reported DCPD was aware there was also a vibration element driving the failure mechanism and sophisticated modeling was performed of the entire Main Generator frame showing precisely how the frame moves with the rotation movement of the rotor inside the stator and with the magnetic forces produced through operation of the generator which showed the frame was contorting. Mr. Harbor reported this modeling allowed DCPD to assess the affect the frame was having on the entire system. The decision was made to install weights on the Unit 2 Main Generator to dampen the vibration and the modeling produced suggested locations for six counter-weights with three placed on each side of the generator to balance the generator and to move it away from its natural frequency or resonance which was producing a higher level of vibration. Mr. Harbor described this effort as akin to installing of weights on a wheel rim of an automobile to balance the wheel following installation of a new tire. He reported a great number of accelerometers were installed to measure and assess internal and external vibration which determined the counter-weighting produced a reduction in the generator's vibration which resulted in a very good range of performance for the stator.

In response to Dr. Lam's inquiry Mr. Harbor stated the failure mechanisms which affected the Unit 2 Main Generator were unexpected. Other nuclear power plants have replaced their entire stators through a process which removed the component entirely. Mr. Harbor reported the Arkansas Nuclear One power plant near Russellville, Arkansas, experienced an accident which resulted in a fatality for a worker when the stator which was being replaced was dropped due to the failure of a crane. Mr. Harbor remarked that the replacement of the stator internals by DCPD was intended to be in the nature of a like-for-like replacement and not an upgrade although it is now known that there were significant differences but there was no assurance that replacing the old stator with a completely new stator would not have produced issues similar to those DCPD has experienced. Dr. Budnitz observed there is some variability inherent in the manufacture of large components like a main generator. Dr. Peterson stated and Mr. Harbor agreed

that vibration in complex mechanical systems is commonplace and is applicable to a wide variety of applications. Mr. Harbor provided an example of the addition of a sixth emergency diesel generator at DCPD where the exact same diesel generator was installed but upon startup was found to vibrate more than the other five emergency diesels which had been installed before the sixth. He remarked the base of the generator was altered and counterweights were required to achieve performance within specifications. In response to Dr. Lam's query Mr. Harbor stated he was not aware of another nuclear power plant experiencing the same issues as DCPD but the Callaway Nuclear Generating Station in Missouri conducted a generator stator overhaul together with a rotor replacement and experienced significant issues which required the plant be shut down for approximately 130 days. In response to Dr. Lam's question Mr. Harbor stated DCPD in total was shut down and restarted to deal with the issues with the stator replace over a period of approximately 160-170 days. Dr. Budnitz observed that in his opinion this was an unfortunate piece of bad luck as there is always variability involved in an equipment replacement of this magnitude.

Mr. Harbor stated Unit 2 was returned to power operations after the December 2020 shutdown and internal and external vibration were monitored which indicated the frame vibrations decreased significantly as did vibration on the stator cooling water header. However, at 80% power the plant began to experience higher vibration of conductors located inside the stator parallel ring which again produced a small hydrogen leak although it was well below the threshold at which DCPD would normally have taken action. Mr. Harbor observed that as Unit 2 was approaching a planned refueling outage (2R22) the decision was made to shut down Unit 2 and take it offline and commence the refueling outage early. During 2R22 a full replacement of the parallel rings was conducted during which a crack was identified at a location which Mr. Harbor displayed in a photo and 37 new braces and blocks were added as additional supports for the conductors and the parallel ring. Mr. Harbor displayed a photo of the old and new support blocks and the location and appearance of what he described as a hairline crack on the parallel ring. He reported radiography was performed at various locations on the parallel ring which did not identify any other flaws or issues that could result in a crack. **In response to Dr. Peterson's query Mr. Harbor offered to follow up during a future DCISC fact finding as to whether radiography was performed with or without the coating material in place.** Mr. Harbor reported that when the repair was made and the additional supports installed on the parallel ring a bump test was then performed to assess the efficacy of the repair.

Mr. Harbor observed that the results achieved, using the operational characteristics of the old stator as the baseline, indicate vibrations were initially higher than the baseline returning to close to the baseline with the addition of the counterweights and with the repairs made to the parallel ring the Unit 2 Main Generator is now vibrating at a level below the baseline and monitoring is continuing on a 24/7 basis to ensure performance continues operating within normal operating parameters. Mr. Harbor stated the DCPD team together with the vendor and the experts engaged for the effort are continuing to work on a root cause evaluation for the Unit 2 Main Generator issues and he remains reasonably confident that the solution is adequate. Dr. Budnitz stated the DCISC will await the completion of the root cause evaluation but the

Committee generally concurs that DCP's response to the issues described by Mr. Harbor was competent and executed well given the initiating events. Dr. Lam observed his recent fact-finding with Consultant McWhorter found DCP's response to be adequate but a member of the public has described the FFT's conclusion as laudatory and Dr. Lam stated his view that the DCISC is neutral with its Charter focused on safety review. Dr. Budnitz stated characterizing the response as laudatory is in his view correct as to the manner in which these issues were handled by DCP while he reserves his judgment as to the root cause. Mr. Harbor thanked the Committee and he observed the Unit 2 Main Generator challenges represented a tremendous technical effort as great or greater than any challenges experienced by the plant in the past.

Mr. McWhorter remarked there was an additional outage required to address changing out incorrectly installed hoses in the SCCW System and Mr. Harbor reported this occurred after the modification was made to the parallel ring and while Unit 2 was being returned to power following 2R22. When the unit reached 30% power the temperature of one or two of the thermocouples was found to be deviating from the others and power ascension was stopped and analysis was undertaken which indicated this was likely due to a lack of cooling issue. The vendor indicated there could be an issue with the connection of the hoses and a flow test verified this assessment. Unit 2 was shut down and two hoses in the SCCW System were found to have been incorrectly connected and were then restored to their proper configuration without any damage to the stator.

Ms. Jane Swanson of Mothers for Peace was recognized. Ms. Swanson inquired whether the Committee or DCP considered that a dangerous situation resulted from Unit 2 having to be repeatedly shut down and restarted. Dr. Budnitz responded and he stated that a slow, orderly shutdown occurred in each case and this type of shutdown is less concerning than if the reactor is scrammed. He observed the operators are well trained on how to shut down the reactor in a planned manner. Dr. Lam commented these shutdowns while not ideal were necessary. Consultant Wardell remarked that nuclear reactors are designed to startup and shut down in a controlled, orderly fashion. Ms. Swanson inquired whether in hindsight it might have been better to acquire a new stator rather than rebuild the present stator which was approaching the end of its operational life. Dr. Lam stated he had made that same inquiry of PG&E and he commented that hindsight is always 20/20.

Dr. Gene Nelson of Californians for Green Nuclear Power was recognized. Dr. Nelson observed that the electricity generated by Unit 2 represents 5% of the electric power generated within California and he inquired as to the voltages and current involved and expressed his view that as a technically educated individual he was quite impressed with PG&E's response. He inquired if the initial issue with vibration was identified by the existing instrumentation located on the Turbine Deck. Mr. Harbor replied that the Unit 2 Main Generator produces approximately 25,000 volts which is stepped-up by a transformer to 500,000 volts as it goes out to the electric grid. He reported each DCP unit produced approximately 1,150 megawatts of output serving PG&E's service areas. Mr. Harbor reported the vibration monitoring instruments on the Turbine Deck monitor the rotating elements of the generator including the generator bearings which he

reported always remained within acceptable parameters during the events he described. The vibration monitoring equipment installed for these events provided supplementary and more specific information needed to address the stator's problems.

Mr. John Geesman, representing the Alliance for Nuclear Responsibility, was recognized. Mr. Geesman inquired of Mr. Harbor, in context of the metaphor to an automobile, if one had purchased a car which experienced this level of trouble would it not be appropriate to stop expressing admiration for the mechanic and tell the car dealer this was not the car one intended to purchase and demand a new car or financial redress. Mr. Geesman observed California will soon be entering the summer months when the electric grid takes on a higher level of importance and he suggested a better strategy than congratulating oneself on repair strategies would be to focus on whether replacement of the stator was as good idea in the first place. Dr. Budnitz remarked Mr. Geesman's comments go to the root cause evaluation that is now underway and which the DCISC will review. Dr. Budnitz, in response to Mr. Geesman's inquiry as to Dr. Budnitz' reaction to the faulty hose installation issue, stated that the auto analogy was not valid as DCPD could not simply procure and install a new stator as it takes years to obtain a replacement stator and Unit 2 would be shut down and not producing electricity for a considerable period of time. Dr. Budnitz observed he would be very concerned if the stator problems represented a nuclear safety issue but in the Committee's judgment it did not. He stated that the DCISC will await completion of the root cause evaluation to see if a safety culture lapse might have been part of the underlying cause.

Dr. Nelson commented that with the current vibration of the Unit 2 Main Generator being below the baseline of its former performance with the addition of the supports and bracing this suggests the generator is now better tuned than it was prior to the repair and provides confidence that the plant can continue to produce electricity although rolling blackouts will likely continue in California due to other issues.

Mr. David Weisman of the Alliance for Nuclear Responsibility was recognized. Mr. Weisman questioned whether the DCISC's assessment of financial considerations not being within its remit is belied by the Committee's statements in October 2019 about the expected service life of a refurbished stator being beyond the plant's operational lifetime and Dr. Lam's comment at that time that this demonstrates that budget concerns are not a factor and Dr. Budnitz' remark that without a functioning stator power cannot be produced and millions of dollars are lost. Mr. Weisman observed although the Committee has stated financial considerations are not within its remit they do factor into its discussions and Dr. Budnitz confirmed that financial considerations do sometimes factor in the Committee's discussion. Mr. Weisman remarked that financial considerations were a factor in the creation of the DCISC by the CPUC.

Mr. Tom Marrè was recognized. Mr. Marrè questioned whether the speed at which DCPD addressed the issues with the Unit 2 Generator might be related to the presence at the February 2021 DCISC public meeting of a representative from the CPUC concerned with energy supply issues. Mr. Marrè observed PG&E and its holding company have both gone through bankruptcy within the last ten years and PG&E has admitted to responsibility for the deaths of 90 persons in connection with the San Bruno gas pipeline

explosion and the wildfire in Paradise, California. Mr. Marrè stated he suspects PG&E's intentions and he commented the company needs to be watched. He stated his opinion that PG&E is only protecting its license from the CPUC.

Mr. Baldwin reported Mr. Harbor would make the next presentation to the Committee.

Presentation on the State of the Plant including Key Events, Outages, Highlights, Organizational Changes, COVID-19 Pandemic Response, and Other Station Activities since the DCISC's February 2021 Public Meeting.

Mr. Harbor stated he would be presenting on the overall state of the plant since the DCISC's last meeting in February 2021. He reported Unit 1 and Unit 2 are currently safely operating at 100% power with a probabilistic risk assessment (PRA) of Green, meaning all items are within acceptable risk parameters and there are no threats to generation or safety. He reported all NRC Performance Indicators are Green. Mr. Harbor displayed graphs showing the daily load profiles for calendar years 2020-2021 for both units. He reported Unit 1 has been operating without a shutdown since its last refueling outage in November 2020 and is in the midst of what would be its fourth consecutive breaker-to-breaker run. Unit 1 generation has been curtailed for condenser cleaning and repair of condenser tubes. Since coming out of its last outage related to the Main Generator Unit 2 has continued to operate well at 100% power with no issues.

Mr. Harbor reported Unit 2 completed 2R22 with industry leading radiological safety performance and completed routine maintenance and testing. The Main Generator continues to operate reliably.

Mr. Harbor stated DCPD is focused on the Tier 2 of the Employee Retention Program staff retention efforts and has completed the Tier 1 of that program and at this time no threats are imminent for retaining the knowledge and skills needed to operate the power plant. He reported a large class of senior reactor operator license candidates completed their NRC licensing exams and achieved a 100% pass rate and the operators are now assigned to Operations Department watches.

Mr. Harbor observed the COVID-19 pandemic has not impacted safe and reliable operation of DCPD and the plant will be reviewing and assessing efficiencies which may be achieved through continuance of some remote work by employees. He reported in response to Consultant Wardell's inquiry that certain employees will be recalled for work at the station in the next month or so. In response to Dr. Peterson's query about the California's Division of Occupational and Safety and Health (Cal-OSHA) regulations Mr. Harbor reported the plant's Human Resources Department continues to track and assist the station in complying with Cal-OSHA guidance.

Mr. Harbor reported the next refueling outage for Unit 1 is now scheduled for March 2022 and an NRC-evaluated emergency planning exercise and inspection is scheduled for September 15, 2021. He remarked that during the COVID-19 pandemic preparations and tabletop emergency planning drills and rehearsals were conducted remotely and the plant has very recently transitioned to in-facility onsite emergency

planning exercises.

Dr. Gene Nelson of Californians for Green Nuclear Power (CGNP) was recognized. Dr. Nelson commented the daily load profile displayed by Mr. Harbor demonstrates that unlike the daily occurrence for solar and wind power generation facilities it is very unusual for DCPD to have no daily power output which capacity he described as core interest of CGNP.

Ms. Sherry Lewis was recognized. Ms. Lewis remarked that batteries are being developed to store solar and wind power and some day there will be ways to store the terrible waste produced by nuclear power and time will help in this. Dr. Nelson responded that the claim that nuclear waste will be dangerous for extremely long periods of time is not supported by facts and a group in Canada has shown a comparison that most nuclear waste will decay to the level of a good grade of uranium ore within 300-500 years. He observed that the idea that batteries can fix the issue mentioned by Ms. Lewis is not supported by sound engineering analysis or financial considerations as it would require in excess of one trillion dollars to supply battery power to support California and the batteries would need to be replaced every seven to ten years. The Chair thanked Ms. Lewis and Dr. Nelson for their comments.

XIX ADJOURN EVENING MEETING

The Chair adjourned the evening meeting of the Committee at 7:00 P.M.

XX RECONVENE FOR MORNING MEETING

The June 24, 2021, public meeting of the Diablo Canyon Independent Safety Committee was called to order by its Chair, Dr. Peter Lam at 8:30 A.M. Dr. Lam welcomed those persons attending in person and by Zoom Webinar and watching the proceedings on live streaming video.

XXI COMMITTEE MEMBER COMMENTS

There were no comments by Members of the Committee at this time.

XXII PUBLIC COMMENTS AND COMMUNICATION

The Chair reviewed the invitation to address remarks to the Committee on matters not on the agenda for this public meeting and invited any comments from members of the public who wished to address the Committee to do so now.

Mr. Eric Greening was recognized. Mr. Greening stated that as it is presently uncertain whether the DCISC would participate in San Luis Obispo County's CEQA environmental scoping process or in review of the draft environmental reports related to decommissioning he remarked that none of the Committee Members or Technical Consultants should feel constrained to participate as individuals on the basis that they were not participating on behalf of the Committee. Mr. Greening expressed his opinion that the depth of knowledge by the Members and Consultants would be very helpful to this process. Dr. Budnitz responded and confirmed the Committee Members and

Consultants were aware of their ability to individually participate in the process. He remarked that there is no bright line between environmental and safety issues and the Committee would not be constrained to comment on any issues within its purview in the review of operational safety. Dr. Lam remarked he has participated in numerous reviews and adjudications of environmental impact issues and the process is generally beneficial and he thanked Mr. Greening for his remarks. Consultant McWhorter observed that assuming the Committee's safety review mandate extends at least through the time the spent fuel is in the spent fuel pools the Committee will need to make many decisions in the future as to what documents it will review. He remarked there will be a plethora of documents concerning which the Committee will need to make a decision. Dr. Budnitz agreed and commented that it will be necessary for the Committee to do at least a scope review of many documents.

XXIII PRESENTATION TO THE COMMITTEE

The Chair introduced the NRC Senior Resident Inspector for DCPD Mr. Don Krause who has accepted the DCISC's invitation to the address some remarks to the Committee and the public. Dr. Lam observed Mr. Krause has an enormous responsibility for oversight and enforcement as the NRC resident inspectors act as the eyes and ears of the NRC and the federal government. He welcomed Mr. Krause to the meeting.

Remarks by the NRC Senior Resident Inspector for Diablo Canyon Power Plant.

Mr. Krause stated he would provide an overview of the NRC's role and the Resident Inspector Program and of the regulatory inspection process and the impact of the COVID-19 pandemic. Mr. Krause reviewed the mission of the NRC is to regulate the nation's civilian use of radioactive materials, to provide reasonable assurance of adequate protection of public health and safety, and to promote the common defense and security and to protect the environment. He remarked that the reference to "civilian" in the NRC's mission statement was an important aspect of its role. Mr. Krause reported the NRC is governed by and consists of five commissioners and at present four commissioners are serving in their appointed positions and another commissioner will reach the end of his term on the NRC this month. He reported the commissioners are appointed by the President and require Senate confirmation but there is a limit of three commissioners who can be from one political party. The NRC's Executive Director for Operations functions akin to the CEO of a corporation and is in charge of the NRC's day-to-day administrative business. Dr. Peterson observed the formation of the NRC retained the independent agency aspects of the former Atomic Energy Commission in that it is an agency independent from the executive branch of the federal government and he contrasted this aspect of the NRC's independence with the Environmental Protection Agency, an agency of the executive branch of government which is subject to a change in policy direction provided by whoever occupies the office of President. Dr. Peterson opined the independence of the NRC in this regard is conducive to supporting a strong safety culture. Mr. Krause observed when the roles and responsibilities of the NRC were split from the AEC the NRC accepted a regulatory role but the NRC does not promote the use of nuclear technology and the NRC reports to the Congress not the President. Dr. Lam agreed and remarked that while the President can appoint, remove and replace the

NRC chair, that person although replaced as the chair continues to serve as a commissioner.

Dr. Budnitz reported when he served on the executive staff at the NRC the Resident Inspector Program was not yet in existence and the inspection activity was initiated from and by the NRC's regional offices which would dispatch inspectors to the various sites. The idea for having a resident inspector at each nuclear plant came about after the accident in 1979 at the Three Mile Island Nuclear Generating Station in Pennsylvania. Dr. Budnitz observed the resident inspector system is one of the anchors of reactor regulation and provides a much more thorough understanding than was possible previously.

Mr. Krause reported the NRC divides the U.S. into four regions with Region IV having responsibility for plants west of the Mississippi River to include the Callaway Nuclear Generating Station in Missouri. Region IV currently includes twelve sites and eighteen operating nuclear units. He reported the NRC's Technical Training Center is located in Chattanooga, Tennessee and training for resident inspectors, including training on boiling water reactors as well as on pressurized water reactors, is conducted and includes classroom training and the use of simulators. Mr. Krause described the Technical Training Center as a very important aspect of the Resident Inspector Program and the NRC's basic overall training on fundamentals.

Mr. Krause reported that to qualify as a resident inspector a person must have a Bachelor's Degree in a technical discipline and pass a two-year formal qualification program including seven weeks at the Technical Training Center. He stated each inspector spends two to four weeks each year in refresher training and participates in quarterly and annual objectivity reviews. This includes participating in various inspection activities at other power plants and is intended to expose the inspectors to new and possibly better inspection methods. During these objectivity reviews the inspectors spend at least 40 days every year going about their normal duties but doing so at a different plant than that to which they are assigned including attending meetings, conducting inspections and reviewing corrective action programs. While one of the resident inspectors is on training the other resident remains on duty at their assigned plant and the offsite visits are not scheduled during times when the assigned power plant is scheduled to be undertaking major activities. Mr. Krause stated that the COVID-19 pandemic has prevented visits by other resident inspectors to DCPD so far during his tenure. He reported a resident inspector is allowed to spend no more than seven years at one facility which he described as another method of maintaining objectivity.

Mr. Krause stated he holds a Bachelor of Science Degree from Virginia Tech and a Master's of Nuclear Engineering from the University of Virginia and he previously served for five years as the resident inspector at the Monticello Nuclear Generating Plant in Minnesota. Mr. Krause reported he has more than 30 years of industrial experience having worked in operations, radiological protection, decommissioning and emergency preparedness organizations and prior to that he served in the U.S. Navy nuclear surface fleet program. The current NRC Resident Inspector for DCPD Ms. Ayesha Athar holds a Bachelor of Science Degree from University of Illinois and a Master's Degree in Nuclear

Engineering from the University of Michigan. Prior to being assigned to DCPD Ms. Athar previously served as acting resident at the Grand Gulf, Comanche Peak, Clinton and Palo Verde nuclear generating stations. Prior to joining the Resident Inspector Program Ms. Athar served in the NRC as the performance lead for the Performance Indicator Program in the Office of Nuclear Reactor Regulation and the Division of Reactor Oversight.

Mr. Krause stated the role of the resident inspectors is regulation verification. They do this by conducting in-depth baseline inspection programs and have broad operational experience to assess the various plant programs. He stated the resident inspectors have multiple resources they can call upon for particular expertise to assess trends and can obtain additional assistance as needed from Region IV or from NRC Headquarters. He stated the resident inspectors also provide communication and serve as the eyes and ears of the NRC by using their operational and detailed facility knowledge and their perspective to communicate with Region IV and with NRC Headquarters to provide an independent assessment and flow of information. The residents visit the regional offices at least twice each year although during the COVID-19 pandemic those visits were conducted remotely.

Mr. Krause described the baseline inspection activities as keyed to a cross-section of the licensee's activities including maintenance, surveillances, any corrective action issues and the Corrective Action Program. The residents tour the plant and assess its general condition and have unlimited access to any areas within the facility while following plant procedures to maintain industrial and radiological safety awareness. In response to Dr. Peterson's query Mr. Krause stated the required inspections are posted on the NRC's website and are the same for every nuclear power plant and these inspection activities are divided quarterly. In response to Dr. Budnitz comment Mr. Krause confirmed every resident inspector is required to have security clearance and the inspectors are authorized to review all security documents and typically review various security matters on a daily basis and security inspections are conducted by Region IV. He confirmed in response to Dr. Lam's query that while both resident inspectors have PG&E computers which allow them access to plant data they do not have unlimited access through those computers to all plant systems or software and there are a number of security protocols that the NRC, PG&E and DCPD have for their respective computer systems.

Mr. Krause reported that through the end of 2020 there were approximately 1,900 hours of direct NRC inspection activities at DCPD out of a total of 6,200 hours of total inspections. Inspections which originate from Region IV include those for emergency preparedness, fire programs, licensed operator examinations, in-service examinations, radiation safety, and security. Mr. Krause confirmed Dr. Peterson's understanding that certain plants that experience more issues than others receive a greater number of inspections and he stated the inspection activity is essentially the same whether a plant has one or more than one operating reactor. He stated all inspection reports are publicly available and findings are evaluated for safety, risk significance, periodic performance indicators and assessments, as well as for enforcement purposes. Performance areas are divided amongst reactor safety, radiological safety and security safeguards and seven cornerstones have been

established in the Reactor Oversight Program. The NRC also conducts supplemental inspections and event responses and generic safety inspections which feed either into the enforcement or the assessment process of the Reactor Oversight Program. Different colors are used to indicate performance on the cornerstones with Green indicating nominal risk and deviation from expected performance, White indicating an increased regulatory response with cornerstones minimally met, Yellow indicates a required regulatory response with cornerstone objectives that have a significant reduction in safety margin, and Red which is extensive regulatory response required and an unacceptable loss of cornerstone safety margin. Each level other than Green triggers increased inspection and baseline inspection requirements. Mr. Krause described the five response columns used to assess licensee operation on the NRC Action Matrix and stated with each there is an increasing safety significance and requirements for dialogue with different levels of the NRC and increased regulatory actions.

Mr. Krause observed the COVID-19 pandemic has required changes to the resident inspectors' activities but typically the NRC inspectors were onsite four to five days each week, including Saturdays and Sundays, and remained available to respond 24/7. He reported as many of DCP's plant personnel worked remotely, the number of activities at the station was reduced. The resident inspectors developed a protocol whereby one inspector would generally be onsite or in the office at the plant at any one time to create social distancing as required by COVID-19 protocols. During refueling or other outage activities generally both inspectors were onsite to provide oversight but they each maintained separation from the other. Mr. Krause observed some of the methods employed during the pandemic will likely be continued including but not limited to the use of video meetings and the resident's use of a PG&E computer to access plant data. **Dr. Peterson state his belief in the value of the NRC resident inspectors continuing to have access to PG&E computers and he stated the Committee should consider endorsing this to PG&E and follow up to confirm including, if necessary adopting a formal recommendation to that effect.** Dr. Peterson observed PG&E was one of the nuclear utilities that early on recognized the benefits of transparency with the NRC and he observed the adversarial attitude adopted by some nuclear operators was enormously counterproductive. Dr. Peterson observed a culture of open transparency with the regulator is conducive and fundamental to safety culture and is enabled by the NRC as an independent executive agency. In response to Consultant McWhorter's inquiry Mr. Krause stated he found DCP to be very transparent in its relationship with the resident inspection team and the communication between the plant and the inspection team is good. He stated his biggest challenge so far has been getting accustomed to knowing where to look for certain things and plant personnel have been helpful in this regard.

Mr. Krause remarked that due to the COVID-19 pandemic the inspection team has not been able to visit Region IV in person and the inspection activity by and interface with Region IV has principally been conducted remotely with the resident inspectors in the plant to conduct the reviews. He stated some types of inspection activity can be conducted through access to and review of documents and that remains easily accomplished by Region IV. He mentioned that the use of cameras for still photos and video monitoring also provide access to information from the field and he remarked a

camera can sometimes be used in proximity to high radiation environments. Mr. Krause stated that during the pandemic licensees were allowed in some select cases to delay activities such as for emergency planning or security force-on-force drills in order to reduce potential exposure of personnel to COVID-19. Dr. Peterson commented that it is his hypothesis that emergency response is improved if it is feasible to communicate remotely as more personnel are able to join from remote locations immediately providing instant access to expertise as opposed to having to travel to the site of the emergency and the internet affords this opportunity. Dr. Peterson noted the performance of the internet during the pandemic has been amazingly capable and stable and is actually improving and this gives rise to fundamentally rethinking about how emergencies are managed. Mr. Krause stated the NRC is evaluating putting new protocols in place concerning how telecommunications can fit together and with reference to remote work. He remarked concerning emergency preparedness each plant and the NRC will need to assess and develop an understanding of how to proceed in the future. **Dr. Peterson stated the Committee should follow up in future discussion with the NRC resident inspectors and continue the discussion about plans the NRC may have to leverage electronic communication capabilities with respect to such things as emergency response.**

Assistant Legal Counsel Rathie reported he had received an inquiry from Mr. Greg Haas, District Representative for U.S. Representative Hon. Salud Carbajal, as to whether there were alternative engineering standards or practices for which might qualify for a waiver from the NRC in context of the plant approaching the end of its operational life. **Dr. Peterson directed that this question be investigated during a future fact-finding and a response be provided to Mr. Haas.**

XXIV INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

The Chair requested Mr. Baldwin to continue with the informational presentations for this public meeting requested by the Committee. Mr. Baldwin introduced the Director of Generation Training Mr. Justin Rogers to make that presentation. Mr. Baldwin reported Mr. Rogers has twenty years' experience in the nuclear industry including eleven years in the U.S. Navy as an electronics technician and has served as an instructor in the DCPD electrical maintenance training organization, earned a Senior Reactor Operator License and worked in the Operations Department and as Operations Training Manager. Mr. Rogers holds a Bachelor of Science Degree in Nuclear Engineering from Thomas Edison State University.

Update on Efforts to Retain Qualified Staff Including those with Critical Skills (such as Licensed Operations, Senior Maintenance Technicians, etc.)

Mr. Rogers stated he would provide an update on progress in maintaining critical and highly qualified staffing at DCPD and he observed nuclear qualifications are specialized and often require years of training to acquire and maintain those qualifications.

Mr. Rogers stated the Joint Proposal Agreement which provided for the

retirement of DCPD by 2025 included a provision for a 25% retention payment for each year for seven years through a two-tiered program offered to all station personnel which number approximately 1,200 at this time. This program was structured to allow individuals to leave employment at DCPD after four years under Tier 1. He reported Tier 1 saw a high retention rate with a 98% of the participants staying through the entire four-year period. Tier 1 has now been completed and Mr. Rogers reported the enrollment in Tier 2 is currently approximately 93%. Tier 2 will complete at the end of 2023. He commented the plant is currently between the two retention periods with the Tier 2 retention period payment expected to commence in November 2021. During this period individuals can terminate employment without penalty of pay-back commitment. Mr. Rogers reported that during this period 79 employees have left DCPD with 50 of those persons choosing to retire and 16 having left PG&E employment. Mr. Rogers stated the Tier 1 incentive resulted in persons who might have departed earlier remaining at the plant and this facilitated the transfer of knowledge to other personnel and permitted further planning for hiring and future staffing needs. Mr. Rogers reported DCPD continues to track the attrition rate and the results and with the exception of retirements which were postponed for Tier 1, that rate is very similar to the attrition rate experience before the announcement that the plant would be closing in 2025.

Mr. Rogers reported DCPD hired its largest reactor-operator license class in 2019 in anticipation of the expected attrition and to ensure sufficient staffing levels through the end of operations. During 2021 the NRC issued four senior reactor operator and 16 reactor operator licenses to DCPD personnel. He stated the class was timed to allow those individuals to be assigned to shifts and gain experience prior to the overlap period between Tier 1 and Tier 2. Mr. Rogers stated that DCPD as a two-unit site has the most active senior reactor operator and reactor operator licenses of any two-unit plant in the U.S. and has almost the same number of operators as the Palo Verde Generating Station in Arizona which is a three-unit site. Mr. Rogers reported in December 2020 DCPD completed an initial non-licensed operator class with ten graduates all of whom have been placed on shifts and are expected to be fully qualified by September 2021. A second non-licensed operator class is scheduled to commence by the end of 2021 and Mr. Rogers reported there is no shortage of applicants both from within the local community and from other areas of the country. He stated that August 2021 will see radiation protection and chemistry technician classes commencing for four to five technicians which will likely be one of the final classes to be administered at DCPD.

Mr. Rogers stated Generation leadership reviews hiring requests, staffing needs and assessments and staffing adequacy with each department director on a weekly basis. This review includes rotational opportunities for personnel in other parts of the Generation organization. In response to Consultant McWhorter's inquiry about a statement in the Quality Performance Assessment Report regarding a concern about management turnover Mr. Rogers replied that much of the turnover in management positions that is occurring is due to individuals taking new positions and he used himself as an example as in his current role he supervises the person in his former position and he provided another example of the retirement of a Maintenance manager with 30 years' experience for which an additional manager was assigned to fill the position and stated

that accordingly individuals remain available to provide mentorship. He reported as positions are filled the plan continues to look at mitigating efforts to assure the group as a whole can maintain proficiency.

Mr. Rogers stated DCPD has partnered with the International Brotherhood of Electrical Workers (IBEW) Union in Letters of Agreement to provide for workforce flexibility during outages for decontamination specialists, electrical maintenance technicians, instrument and control technicians and administrative specialists. He stated this will allow DCPD to bring in workers and to hire expeditiously persons who have qualifications already in place whether from within or outside the local community and DCPD continues to explore opportunities to work with the IBEW.

Mr. Rogers reported on DCPD's retraining programs for which \$113 million has been made available for the period 2021-2025 to provide for:

- Enhanced Education – including up to \$10,000 in tuition assistance per employee per year and he reported DCPD is working with Cal Poly to develop a master's program in business administration that is coordinated with outage timelines so as to permit an employee to take an advanced degree while remaining available during outage periods.
- Employee Retraining Certificates – the DCPD Human Resources organization is identifying job availability within PG&E prior to and after 2025 and creating a certificate program to support employees in applying for jobs within PG&E, for example, in areas of safety, compliance, risk management, and cyber security.
- IBEW Apprenticeships – to create advanced placement and transfer opportunities within PG&E for IBEW-rated personnel including for non-licensed operators. Mr. Rogers observed many of the skills acquired by a non-licensed nuclear operator are transferable to a hydrogeneration facility.
- Employee Support Program – consisting of programs and services to support career change by DCPD employees including career counselors, skilled development workshops, and resume and interview techniques and training.

In closing Mr. Rogers reported DCPD's retention efforts are going well and went better than expected during the period 2016-2020. He reported the Joint Proposal has been successful and advanced hiring and monitoring by the leadership team has provided the ability for mitigation and intervention at an early stage as challenges are identified. The Members discussed with Mr. Rogers the concerns previously expressed by Committee members regarding recruiting and retaining personnel as the plant approaches closure and stated that generally those concerns have been resolved to the Committee's satisfaction. **Dr. Peterson observed November 1, 2021, should provide some important emerging statistics for Tier 2 and the Committee should follow up on retention efforts at its November 2021 fact-finding.** Dr. Budnitz reported fact findings conducted with one member and one technical consultant generally involve meeting with ten or more DCPD personnel and during those meetings the DCISC representatives have informal conversations with employees about morale at the station and the DCISC representatives try to come to some judgment on morale. Dr. Budnitz

stated that although he was initially pessimistic and morale can be a difficult aspect to measure, to date, in his experience there has not been an important effect on morale at the station and as outsiders the DCISC's judgment on this issue should provide a level of credible assurance to the public.

The Chair thanked Mr. Rogers for his report and a short break followed.

Mr. Baldwin introduced Senior Director, Generation Organizational Excellence, Mr. Matt Hayes to make the next presentation. Mr. Baldwin reported Mr. Hayes has been employed with PG&E since 2016 and started his career as the DCPD Radiation Protection Manager and has also served as Director of Performance Improvement Organizational Effectiveness Training. Mr. Baldwin reported Mr. Hayes has experience working at four other nuclear power stations.

Update on Performance Improvement Programs

Mr. Hayes stated in his position he has oversight of the Generation Performance Improvement Group which includes the Generation training organization. He stated his organization reviews and assesses change management, safety culture and leadership development among other aspects of organizational performance. In response to Dr. Budnitz' comment Mr. Hayes confirmed that while his organization has responsibility for monitoring safety culture the Employee Concerns Program at DCPD is a separate program and the Employee Concerns Program reports directly to the Chief Nuclear Officer.

Mr. Hayes described the DCPD performance improvement model as consisting of performance monitoring and identification of challenges, concerns, and issues and documenting any gaps to performance in the plant's Corrective Action Program where analysis, identification and planning takes place for a solution with actions to implement the solutions and further monitoring to assess the results. Mr. Hayes identified and briefly discussed the elements of performance improvement including:

- Corrective Action Program (CAP) – for improving and maintaining a positive safety culture the CAP provides the opportunity for employees to identify and document issues using what are termed CAP Notifications which allow for the initiator to follow-up and monitor issues identified. DCPD uses the CAP to track, analyze the causes or drivers to performance gaps and to plan actions in response. Employees can participate in CAP processes they initiate and see the results and are encouraged to raise issues. Each notification is assigned an owner and causal analysis is performed depending upon the significance level. When a notification is closed the employee who initiated the notification receives an email and is asked to rate his or her satisfaction with the resolution and the results of these ratings are monitored by the DCPD leadership team to reopen the issue if necessary. Mr. Hayes reported through industry efforts statistics from the DCPD CAP can be compared with those from other nuclear power plants and this requires a common set of risk and significance level screenings. Mr. Hayes reported management retains discretion to elevate an issue's significance based upon its application to DCPD. In response to Dr. Peterson's inquiry Mr. Hayes stated a notification might be reopened if feedback was received from the initiating party that the concern

was not correctly understood and accordingly was not addressed appropriately. He reported the Corrective Action Review Board (CARB), chaired by the Plant Manager, is made up of senior leadership and the Maintenance, Operations and Engineering Directors and the CARB reviews several metrics concerning the overall program health of the CAP. He confirmed Dr. Budnitz' observation that intervening events or receipt of new information may also require reopening of a CAP notification and a common cause analysis would be performed. Every weekday the Notification Review Team which includes experts from the Chemistry, Radiation Protection, Training, Engineering and Maintenance organizations reviews the notifications generated the previous day and each notification is immediately referred to the shift manager for an initial assessment of any impact on operations. The Notification Review Team assigns a significance level to the notification and a proposed due date for a resolution. Each day the senior leadership team reviews the previous day's actions of the Notification Review Team to identify any cognitive trends and to raise awareness of any safety or human performance events.

Mr. Hayes reviewed the significance levels which are assigned by the CARB based upon the risk to nuclear safety or a regulatory aspect and the responses, subject to management discretion, as follows:

- High – assigned a root cause evaluation
- Medium – assigned a cause evaluation
- Low – assigned a work group evaluation

In response to Dr. Lam's inquiry as to outside oversight of the CAP processes Mr. Hayes reported the CAP is overseen by the Nuclear Safety Oversight Committee (NSOC) an outside peer review group, by the Institute of Nuclear Power Operations (INPO) an industry organization as part of the INPO's biannual performance evaluations and assessments, and also by the DCISC.

- Self-Assessment – Mr. Hayes reported 47 self-assessments were performed in 2021. He described self-assessment methods as structured for reviewing the activities and performance of an organization and as a way to identify performance gaps compared to internal and external standards. Informal self-assessments are also performed. Self-assessments are performed prior to every major NRC inspection.
- Benchmarking ^[10] – both formal and informal benchmarking occurs dependent upon the level of formality and whether there is a charter approved for the activity by the CARB. During 2020 DCPP performed 31 formal benchmarking activities and the results are documented in the CAP. Mr. Hayes reported DCPP reaches out to INPO or the NSOC or to the Strategic Teaming and Resource Sharing (STARS) coalition of nuclear power plants of which DCPP is a member to receive information on which plants currently have the best practices or procedures in specific areas.
- Use of Incoming and Outgoing Operating Experience – Mr. Hayes stated during 2020 DCPP reviewed 697 evaluations of industry operating experience consisting of events, issues, and lesson learned from other stations to enhance DCPP safety and reliability. DCPP also shares experience, lessons learned and information with other

plants through INPO and STARS. He reported INPO flags operating experience with significance tier levels for evaluation and in some cases INPO requires that a formal response be provided. In response to Dr. Lam's question Mr. Hayes replied DCPD reviews information from NRC licensee event reports regarding violations at other stations but this represents a quarter or less of the information received by the Operating Experience Program. Dr. Budnitz observed data from the 300 light water reactors operating worldwide outside the U.S. is compiled and made available through the World Association of Nuclear Power Operations (WANO) and data is also provided by the International Atomic Energy Agency (IAEA) and through INPO and the NRC and this data is reviewed. Mr. Hayes agreed and stated the Nuclear Energy Institute (NEI) also shares information as does the Electric Power Research Institute (EPRI). He reported DCPD is recognized as a leader in the industry and receives frequent requests from other plants seeking copies of its procedures and processes.

- Performance Monitoring and Trending – Mr. Hayes reported performance improvement coordinators are assigned responsibilities for various departments to review CAP data, make observations, review safety events and provide quality verification and safety culture findings and to identify cognitive trends. The performance improvement coordinators attend departmental morning meetings to provide information on events which may have occurred in other departments and to heighten awareness and provide information on identified or potential trends.
- Use of Human Performance Tools – Mr. Hayes stated the plant has human performance tools which are used as part of the Human Performance Program. These include robust pre-job briefings and pre-job checklists which provide identification of higher risk activities and employees are trained to employ a questioning attitude. Procedure use and adherence is stressed with the use of correct component verification and the two-minute rule and is documented in the plant's Site Standards Handbook which he described as a quick reference to the correct procedures. In response to Consultant Wardell's inquiry Mr. Hayes stated that pre-job briefings are typically led by the foreman or a supervisor but also include discussion and identification of responsibilities for assignment of activities and for safety and the two-minute rule is used to ensure that nothing in the field has changed from the information received during the pre-job briefing.

In response to Dr. Peterson's question Mr. Hayes stated the human factor techniques employed at DCPD are now being employed outside of DCPD within the Generation organization. His organization now has oversight responsibilities for implementing procedures developed over a period of decades for the nuclear industry within PG&E's Electric Operations and Gas Operations organizations, and a site standards handbook similar to those used at DCPD is being developed for those organizations. In response to Dr. Peterson's comment about the transition to using electronic procedures and the improvements in not just reducing human error but also in an enhanced ability to collect information that results from the use of electronic procedures including the ability to do improved cause evaluations. Mr. Hayes agreed and he reported his organization has employed a business technology analyst to bring more automation to reporting, and electronic procedures have been implemented this year for work packages in the

Maintenance organization. Dr. Peterson observed he believes the DCISC would endorse the efforts and investments described by Mr. Hayes. While recognizing that the plant is scheduled to close in a few years, Dr. Peterson observed these efforts would be broadly beneficial to PG&E and represent a professional development opportunity and safety benefit for the DCPD workforce. Dr. Peterson remarked the COVID-19 pandemic has had an effect and impact on training and everyone who works at DCPD is now adept at using remote meeting technologies and he expressed his conviction that if a transition can be made to electronic procedures there will be great benefit from that initiative in the future.

In response to Dr. Lam's inquiry about the predictability, manageability and preventability of error Mr. Hayes stated this can be accomplished through the use of human performance tools and this gives Mr. Hayes a high degree of confidence that while all errors cannot be eliminated the number of activities completed and hours worked during the recent refueling outages which were completed with no significant injuries and no challenges to nuclear safety support his confidence in the use of human performance tools. Dr. Budnitz commented that while no person believes a goal of zero is always achievable it is valid as an aspiration goal while recognizing the fallibility inherent in human performance. Dr. Lam commented on the lack of predictability in human error analysis and the difficulty of achieving prevention at a 100% level. Mr. Hayes agreed and stated that an organization such as DCPD must strive for perfection while realizing that it may never be achieved and therefore it is the journey to the goal not the goal that is important and organizational culture and leadership play key roles concerning performance and the use of human performance tools is intended to mitigate and where possible eliminate challenges that lead to error.

Mr. Hayes reported in 2020 the CAP inventory decreased while a steady inventory of new notifications to the CAP continued as it did in 2019 and in 2018 and he stated the reason the CAP inventory is decreasing is because DCPD is getting more efficient in addressing challenges. He stated DCPD continues to look to simplify its processes and to use self-assessment, benchmarking, and human performance tools to enhance and to remain aware of the DCPD organization's performance, and continues to review and use operating experience to learn from others and share DCPD's operating experience and to trend performance and ensure supervisors are in the field to engage with employees.

Mr. Hayes continued and made the next presentation to the DCISC.

Station Excellence Plan and Station Oversight Committee.

Mr. Hayes stated in 2020 an assessment of station performance against the Institute of Nuclear Power Operations' (INPO) Principles for Excellence in Corporate Performance found an area for enhancement in Generation regarding committee oversight. The plant performs an evaluation and assessment of this area every two years and every six years INPO conducts a corporate evaluation for every utility that owns a nuclear asset. The self-assessment conducted by DCPD in April 2020, prior to the INPO assessment in October 2020, identified an enhancement in that there was room for

improvement in cross-functional review of corporate leadership's oversight concerning the review of topical action plans that are reviewed in various meetings of senior plant leadership. The Station Oversight Committee (SOC) was created to address this enhancement with the goal of sustaining exemplary performance by applying intrusive oversight that aligns behaviors, reinforces high standards, drives accountability, and ensures organizational alignment. Mr. Hayes explained the SOC is intended to allow and afford PG&E corporate leaders an opportunity, in addition to the role of DCPD senior leadership, to engage and review important plant initiatives and action plans and to challenge DCPD to improve performance.

Mr. Hayes described the scope of the SOC's oversight of station and department excellence plans as including monthly review of station safety performance, together with a quarterly performance meeting, internal and external audit findings, and the status of corporate and station initiatives. Initiatives to develop specific actions to align with industry practices are also brought to the SOC for review and to assign an owner and a due date. He stated the SOC allows corporate and station leaders to share accountability for building trust and gaining alignment. **In response to Dr. Budnitz' request, Mr. Hayes agreed to provide the schedule for future SOC meetings so as to possibly coordinate the observation of a meeting by the DCISC during a future fact-finding visit.**

Mr. Hayes reported the Station Excellence Plan (SEP) is one input to the SOC meeting, it is intended to be a living document with SMART actions (i.e., specific, measurable, achievable, reasonable and timely) that drive improved performance. All action plans include the designation of an owner and a due date and if the plan addresses a gap to performance it is put into a GDAR format [i.e., gap, driver to the gap, actions, and results]. The SEP focuses on initiatives and issues important to the station and includes a cross-functional aspect and Department Excellence Plans which Mr. Hayes reported provide greater visibility in this new forum on functional problem solving of department level issues.

In response to Consultant Wardell's observation that the Quality Performance Assessment Report (QPAR) and the Quality Digest reviewed by the DCISC during a recent fact finding rated Performance Improvement as being in Yellow health status. Mr. Hayes reported the Yellow window has now changed to White. The Yellow status was the result of shortfalls identified in guidance criteria used in the CAP which were identified by benchmarking and self-assessment and challenges during 2020 in connection with some workgroup evaluations which failed to address tacit assumptions which the Quality Verification organization recognized as a possible cognitive trend. He reported a robust cause evaluation was conducted and the issue was closed out and Performance Improvement health is expected to return to Green by the third or fourth quarter of 2021. In response to Dr. Budnitz' inquiry Mr. Hayes reported DCPD benchmarked the SOC and Station Excellence Plan concept with other utilities and engaged corporate leaders from other utilities in the development process.

Dr. Gene Nelson of Californians for Green Nuclear Power was recognized. In response to Dr. Nelson's inquiry as to how DCPD interfaces with INPO, Mr. Hayes stated

that INPO assigns a performance monitoring liaison to every U.S. nuclear power plant and site visits and meetings are conducted with a formal contact taking place each month. In addition to the performance monitoring lead, each department has a single point of contact at INPO who may have responsibilities for that discipline at two or three power plants and the department leaders at DCPD engage with those individuals monthly. Mr. Hayes described this as part of the continuous monitoring that occurs in two-year cycles and approximately six months prior to a plant evaluation by INPO a team lead is selected by INPO and an engagement process is opened with the Plant Manager and Site Vice President to develop an evaluation assessment plan.

In response to the Chair's inquiry Assistant Legal Counsel Rathie confirmed that due to a present scheduling conflict the October 19-20, 2021, public meeting is not expected to take place at the Avila Lighthouse Suites. [Note: Later, in August, the scheduling conflict was resolved and the October public meeting was re-scheduled as before to take place at the Avila Lighthouse Suites.]

XXV ADJOURN MORNING MEETING

The Chair adjourned the morning meeting of the Committee at 11:35 A.M.

XXVI RECONVENE FOR AFTERNOON MEETING

The June 24, 2021, afternoon session of the Diablo Canyon Independent Safety Committee was called to order by its Chair, Dr. Peter Lam at 1:00 P.M.

XXVII COMMITTEE MEMBER COMMENTS

Dr. Lam requested any of the Members who wished to make remarks to do so at this time. There were no comments or remarks by Committee Members at this time.

XXVIII PUBLIC COMMENTS AND COMMUNICATION

The Chair reviewed the invitation to address the Committee on matters not on the agenda for this public meeting and invited any comments from members of the public who wished to address the Committee to do so now.

Dr. Gene Nelson of Californians for Green Nuclear Power was recognized. Dr. Nelson offered to email to any person so requesting the comments he made yesterday morning to the DCISC and he encouraged the Committee to consider the Sycamore Mineral Hot Springs meeting as a location for its October 2021 public meeting.

XXIX INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

Dr. Lam requested Mr. Baldwin to introduce the next presentation. Mr. Baldwin introduced DCPD Outage Manager Mr. Mike Quitter and reported Mr. Quitter spent six years in the U.S. Navy before joining PG&E in 1986. Mr. Quitter holds licenses from the NRC as a Reactor Operator and as a Senior Reactor Operator and has held positions of responsibility in the Operations organization prior to assuming his present role as Refueling Outage Manager.

Performance During 22nd Refueling Outage for Unit 2 Including Key Activities, Main Generator Repairs and Modification, Performance Indicators, Results Achieved, Unexpected Equipment Issues, and Open Items.

Mr. Quitter stated the twenty-second refueling outage for Unit 2 (2R22) was an overall success by any measure and he reported he would discuss with the Committee outage key activities, performance indicators and the results of the inspection of the fuel. Refueling outage 2R22 commenced on February 23 and concluded on April 17, 2021. He reviewed and briefly discussed with the Committee the key activities during 2R22 which included:

- Refueling the reactor.
- Reactor Coolant Pump seal replacement – all four Westinghouse low leakage reactor coolant pump seals were replaced during 2R22 and as Unit 1 had three such seals replaced during 1R22 this will be the last time reactor coolant pump seals will be replaced.
- Reactor Vessel Hot Leg ^[11] In-service Inspection – successful robotic inspection performed inside the reactor vessel including the hot leg welds and lines.
- Inspection of Main Turbines – Low Pressure Turbines A & B.
- Repairs to the Main Generator – discussed previously during this public meeting by Mr. Harbor.

Mr. Quitter stated that during 2R22 outage safety and defense-in-depth were maintained at all times to ensure operability of key safety functions. He reviewed the high risk and infrequently performed tests and evolutions performed during 2R22 including:

- Initial reactor coolant system drain to flange level for lowered reactor coolant inventory for reactor disassembly and reassembly.
- Refueling cavity drain to lowered reactor coolant inventory following core reload.
- Vital bus transfer and integrated safeguards testing.
- Initial criticality of the new reactor core.
- Performance of heavy lifts including the reactor vessel head and the upper internals over the reactor core.

In response to Dr. Peterson's inquiry Mr. Quitter reported the set-up for the initial criticality evolution takes approximately 12-15 hours and involves getting the reactor system slowly diluted to the correct estimated critical condition. All control and shutdown rods are pulled out and the system is slowly diluted to criticality which takes about one hour. Mr. Quitter reported this evolution is a change which was begun three

outages prior and is favored by the operators as it is easier to monitor than the process previously used.

Mr. Quitter reviewed the performance metrics for 2R22 as follows:

<u>Performance Measure</u>	<u>Goal</u>	<u>Actual</u>
Serious Near Hit Events	0	0
Nuclear Safety Events	0	0
Site Clock Resets	0	1
Outage Duration (Days)	<57 days	52 days 3 hours
ALARA (As Low As Reasonably Achievable (person-rem).)	<13.276	10.758

Regarding ALARA performance Mr. Quitter stated the <13.276 person-rem goal was a secondary goal with <19 person-rem having been established as the initial outage goal for 2R22. He reported after the reactor is shut down and forced oxygenation has taken place during a refueling outage, the Radiation Protection organization performs calculations to establish a revised new ALARA goal. He reported that achieving 10.758 person-rem for 2R22 represents an outstanding achievement for DCPD and the best ever for Unit 2 and he stated only the Palo Verde Nuclear Generating Station in Arizona has bettered this performance, having achieved performance at around 9 person-rem.

Mr. Quitter reviewed and discussed other results achieved during 2R22 including Main Turbine Low Pressure B and C removal and inspections and Main Generator vibration issues investigated, analyzed and repaired with the unit running very smoothly at present within operational vibration limits and instrumentation installed to monitor vibration. Mr. Quitter reported line ownership of ALARA continues to be a strength and this drove the excellent performance achieved during 2R22. Consultant McWhorter observed and Mr. Quitter agreed that the turbine overhauls and Main Generator repairs were separate activities and involved separate components of the Main Generator and accordingly any discussion earlier at this public meeting about the threat of missiles due to vibration of the Main Generator's stator would have nothing to do with the possibility of missiles being generated by the repair of the turbines as the turbines were overhauled separately from the Main Generator and had no major issues. Mr. Quitter further observed that the part of the Main Generator which was the subject of the extensive repair efforts both before and during 2R22 was the stator which is a non-moving part.

Mr. Quitter discussed the results of the fuel inspection and reported the core was removed to the Spent Fuel Pool and inspected using fast speed cameras. No fuel defects or concerns were identified in any of the 190 fuel elements.

Mr. Quitter reported DCPD brought in 780 temporary workers to assist in the 2R22 outage related work activities. COVID-19 impacts were mitigated by communicating COVID-19 prevention expectations prior to arrival of the temporary

workers which expectations adhered to PG&E, local, state and Center for Disease Control recommendations. All incoming badged personnel were tested and badge issuance and access were tied to negative results. He reported daily in-processing capacity was limited in order to adhere to six-foot social distancing requirements. An enhanced disinfection plan was implemented and disinfection of areas was performed at least three times each day and thermal temperature check monitors were strategically located for in-processing activities and entry into the protected area. In response to Consultant McWhorter's questions Mr. Quitter stated isolated cases of COVID-19 were identified during 2R22 all of which originated from off the site. Contact tracing and isolation was employed and no one was allowed onsite without a negative test. He stated that to his knowledge there was no transmission of COVID-19 from person to person within the plant. In response to Dr. Lam's query Mr. Quitter stated he expects DCPD will soon begin to validate vaccination status for DCPD employees and those not vaccinated will need to wear a mask at all times while on the site. He commented he expects that social distancing protocols will be maintained for the foreseeable future.

In response to Dr. Budnitz' inquiry Mr. Quitter stated during a refueling outage typically approximately one-half of the temporary workforce is hired from within the local area with other personnel with particular skill sets such as radiation protection technicians coming from outside the local area. In response to Consultant Wardell's inquiry Mr. Quitter stated that other than basic maintenance such as power factor testing on the plant's main transformers, the PG&E Transmission organization did not perform major work during 2R22. In response to Consultant Wardell's query Mr. Quitter stated the scope of the work which was the subject of ALARA was not altered during 2R22 and it is standard practice when developing a goal to build-in approximately 10% for scope growth during a refueling outage. Mr. Quitter confirmed in response to the Committee Members' inquiries that he has now assumed the position held previously by Mr. Matt Coward who has a new role in the larger PG&E organization.

Dr. Gene Nelson was recognized and conveyed to Mr. Quitter his view that 2R22 had been well done.

Assistant Legal Counsel Rathie reported an email was received from Dr. Justin Cochran, California Energy Commission Senior Nuclear Policy Advisor and Emergency Coordinator. Dr. Cochran reported he was watching the meeting on livestream video and reviewing the PowerPoint presentations and Dr. Cochran stated the Committee was doing an excellent job and he hopes to join the public meeting in October 2021 in person. At the direction of the Chair a response was sent to Dr. Cochran acknowledging and thanking him for his message.

Mr. Baldwin introduced DCPD Quality Verification (QV) Director Mr. Ken Johnson and reported Mr. Johnson began his career with the NRC, has served as a senior resident inspector at a number of sites including DCPD and has more than 25 years' experience in the nuclear industry including leadership roles at DCPD as the Operations Services Director, Nuclear Industry Relations, and now as Director of QV. Mr. Johnston held a Senior Reactor Operator License and he holds a Bachelor of Science Degree in Nuclear Engineering from the University of California at Berkeley.

Quality Verification's Perspective on Plant Performance, Top Issues, Quality Performance Assessment Report.

Mr. Johnston reported the QV team at DCPD performs audits and assessments of plant performance. These audits are compliance-based reviews of programs to assure the plant is implementing the requirements of the license from the NRC and also to assure the station is pursuing excellence in performance. He stated he would review the functional audit assessments and reported the organization maintains a low threshold for identifying issues. Mr. Johnston stated the QV team is independent from the line and production functions and as QV Director he reports directly to the Chief Nuclear Officer. The Quality Control Inspection and Supplier Quality Programs report directly to Mr. Johnston. He provided a summary of the triennial assessment of station performance as of May 2021 which he described as a particularly challenging period for the station due to the successful completion of a Unit 1 refueling outage (1R22) and the need to address the issues with the Unit 2 Main Generator which required the 2R22 refueling outage to commence early to allow for maintenance of the generator. This period also required the QV organization to assess the impacts on the workforce from the transition from Tier 1 to Tier 2 for the Employee Retention Program and Mr. Johnston stated that this transition while not as significant as expected has had an impact on the remaining workforce.

Mr. Johnston provided a color-coded summary of the various functional areas and stated Green represents industry leading performance, White represents performance that is consistently meeting expectations with some minor gaps, Yellow is satisfactory performance with gaps that need leadership attention to arrest performance shortfalls, and Red represents performance that is not meeting expectation or has chronic performance shortfalls. He used arrows in his discussion to represent the trajectory for the individual functional areas [? stable/? improving/? declining]. In response to Consultant Wardell's question Mr. Johnston reported the overall station color in the 2020 year-end Quality Performance Assessment Report (QPAR) was White and stable. Mr. Wardell observed the rating in the 2020 QPAR for Maintenance was Green and for Performance Improvement it was Yellow and the summary provided by Mr. Johnston shows movement in those aspects. Mr. Johnston confirmed Consultant Wardell's observation and reported the various performance windows are assessed on a monthly basis. He then reviewed and summarized each of the functional areas as follows.

- Operations/Operational Focus - [Green ?] Overall performance is considered excellent with no significant issues identified. Prompt and appropriate responses by the operating crews to emergent equipment challenges with the Unit 2 Main Generator and the need to take Unit 2 offline and set up for a refueling outage. Strong leadership engagement, good alignment between crews including the use of a weekly crew management review process to evaluate the performance of each operating crew and improving low-level event reviews. Improvement opportunities identified for procedure use. Minor opportunities identified in the audit and assessment process for procedure use and for improvement in protected equipment posting issues with no equipment challenges.

- Maintenance – [Yellow ?] Overall performance is adequate with improvement opportunities. Contract worker performance associated with the generator and the stator core cooling water hose misalignment issue resulting in an emergent shutdown. Some minor maintenance worker shortfalls in human performance tools use throughout the period contributed to events. Missed opportunity to review maintenance rework for lessons learned. Mr. Johnston reported the Maintenance Director has presented a comprehensive plan for improvement. Consultant McWhorter inquired about the comment in turn-over of leadership in Maintenance which was made in reference to organizational effectiveness and Mr. Johnston remarked that comment could have been included within either the organizational effectiveness or the maintenance functional areas but it represents an overall station issue not unique to the Maintenance organization. In response to Consultant McWhorter's inquiry Mr. Johnston stated he believes DCPD is overall effective in assessing future attrition and turn-over of its personnel and part of this effort is strategic for the long term while another part is tactical to address issues as they occur and he reported these efforts are taking place on a daily basis.
- Engineering/ Equipment Reliability – [White ? Engineering/?Equipment Reliability] Overall performance is consistently meeting expectations. Mr. Johnston reported that previously Equipment Reliability was rated Yellow and Engineering leadership has improved station focus on improving equipment reliability. Engineering support of the resolution of the Unit 2 Main Generator issues and some issues with the Rod Control System and corrosion found under insulation. The Engineering Work Product Review Team was not being effectively used. The transition from Yellow to White reflects that the organization has developed a plan. Consultant McWhorter observed the Committee has reviewed the work on the Unit 2 Main Generator and while it found the work was appropriately performed the Committee was withholding its judgment as to why that event occurred. Mr. Johnston replied that QV has not reviewed the issue of why the problem with the Unit 2 Main Generator occurred and like the DCISC is awaiting completion of the root cause evaluation.
- Radiation Protection – [Green ?] Overall performance is considered exemplary. Excellent organizational support managing radiation dose with industry lowest ever outage dose in 2R22. Improvements in responsiveness to Confined Space Program challenges.
- Chemistry – [Green ?] Overall performance is considered excellent with continued focus on the INPO chemistry effectiveness index and on asset protection with Chemistry Effectiveness Indicator of 0.0 and 0.2 for the units respectively. Addressed a trend in low-level human performance issues. Mr. Johnston remarked it is relatively easy to maintain the chemistry indicators at zero when the plant is online at full power but it is challenging to do so when the units experience transients such as has been the case for Unit 2.
- Emergency Planning (EP) - [Green ?] Overall performance is considered excellent. Drill and exercise performance is improving, however, with limited opportunities due to COVID-19 these remain below industry top quartile. Continued focus

on Emergency Response Organization staffing and proficiency is necessary.

- Work Management - [White ?] Overall performance is consistently meeting expectations. Adjusted to a significant challenge of moving the Unit 2 outage up by ten weeks. The plant was able to enter that refueling outage and exit it timely while accomplishing significant goals. Missed an opportunity to learn from a component cooling water maintenance window that significantly exceeded its target completion and resulted in an INPO Red window.
- Training - [Green ?] Overall performance is considered excellent. Completed the largest initial license class in history with 100% pass rate on the NRC exam. Strong alignment between the line and training.
- Performance Improvement – [White ?] Overall performance is consistently meeting expectations. Station has improved the thoroughness of the Corrective Action Program's products and has developed processes to improve the review of human performance errors. Room to improve in identifying the behaviors that lead to errors and Mr. Johnston reported a number of actions have been taken to drive that understanding.
- Organizational Effectiveness – [White ?] Overall performance is consistently meeting expectations. Response to several significant challenges including COVID-19. Unit 2 refueling outage and the complexity of the Unit 2 Main Generator issues.

Mr. Johnston provided a summary of QV's activities including issuing a QPAR for the period December 2020 to May 2021 during which 5 audits, 5 assessments and 28 observations were conducted. Internal audits were performed for the Chemistry, Emergency Preparedness, Fire Protection, Special Processes, Applied Technology Services, Access Authorization and Fitness for Duty functions. These audits resulted in 8 findings, 21 deficiencies, 14 recommendations. The assessments performed resulted in 1 finding, 3 areas requiring management attention, 1 deficiency, and 3 recommendations. In response to Consultant Wardell's question Mr. Johnston reported that for the areas requiring management's attention there are currently no areas in escalation to the Station Director or Site Vice President level.

In concluding his presentation Mr. Johnston reported QV's activities have found overall plant performance remains strong and on a stable trajectory and the QV organization will continue to monitor and challenge the organization. In response to Dr. Budnitz' inquiry Mr. Johnston reported his organization consists of 22 persons including those assigned to the Quality Control and Supplier Quality Assurance functions and represents a cross-section of various disciplines and QV endeavors to select those persons who are identified as being future leaders at the station. Dr. Lam remarked 22 fulltime staff translates to more than 40,000 hours effort every year and he commented that significant resources are being devoted to Mr. Johnston's tasks. In response to Consultant Wardell's inquiry Mr. Johnston stated nuclear quality inspection is independent of the line organization and for non-nuclear activities QV may utilize personnel qualified in other organizations.

Dr. Lam thanked Mr. Johnston for his presentation.

XXX CONCLUDING REMARKS & DISCUSSION BY COMMITTEE MEMBERS OF FUTURE DCISC ACTIVITIES

Dr. Peterson observed that as this is the 99th public meeting of the DCISC the October 2021 public meeting will be the 100th meeting of this Committee. Dr. Peterson and the other Members addressed commemorating that event in some manner and suggested extending an invitation to the original founding chairman of the DCISC Dr. William E. Kastenberg and to ask Dr. Kastenberg to provide a retrospective on the founding of the Committee and any thoughts Dr. Kastenberg may have as to the Committee's future. Dr. Lam requested the Committee's Assistant Legal Counsel to review the propriety of issuing an invitation to Dr. Kastenberg.

Dr. Budnitz made a request that an item be included on the October 19-20, 2021, public meeting agenda to again review the Station Excellence Plan and its potential to affect overall safety culture.

Dr. Lam reported that all matters on the Committee's agenda for this public meeting have now been addressed and he expressed the thanks of the Committee to Mr. Baldwin and Mr. Garcia and to the DCPM management team for their assistance and participation in this public meeting, to the members of the public who participated in person or by Zoom or livestream broadcast and to the AGP Video team for supporting this Zoom webinar and livestream internet format.

XXXI ADJOURNMENT OF NINETY-NINTH PUBLIC MEETING

There being no further business the ninety-ninth public meeting of the Diablo Canyon Independent Safety Committee was then adjourned by its Chair, Dr. Peter Lam at 2:10 P.M.

[1] Key to abbreviations used: Area for Improvement (AFI), Fact-finding (FF), Institute for Nuclear Power Operations (INPO), Low Temperature Overpressurization System (LTOP), PG&E Nuclear Safety Oversight Committee (NSOC), Probabilistic Risk Assessment (PRA), Public Meeting (PM), Quarter (Q), Root Cause Evaluation (RCE), Safety Conscious Work environment (SCWE).

[2] Robert J. Budnitz (RJB), Peter Lam (PL), Richard D. McWhorter Jr. (RDM), Per F. Peterson (PFP), R. Ferman Wardell (RFW).

[3] On a scale of Green indicating a healthy performance and White indicating that achievable actionplans are in place to return performance to healthy status. A Yellow rating would indicate the indicator shows deficient performance and needs improvement and Red would indicate unsatisfactory performance.

[4] Primary and secondary side refer, respectively, to the Reactor Coolant System

which is used to remove heat from the nuclear reactor and to the Main Steam and Feedwater Systems which provide cooling to the steam generators and generate and provide steam to the turbines.

[5] Cross-Cutting Aspect is the performance characteristic of a violation that is either the primary cause of the performance deficiency or the most significant contributing cause.

[6] The safety significance characterizations used for the performance indicators as either Green (very low), White (low to moderate) Yellow (substantial) or Red (high). A Green non-cited violation indicates very low safety significance, with no impact to public health and safety.

[7] Code of Federal Regulations (CFR).

[8] The Joint Proposal was entered into by PG&E, together with Friends of the Earth, the Natural Resources Defense Council, Environment California, the International Brotherhood of Electrical Workers Local 1245, Coalition of California Utility Employees and the Alliance for Nuclear Responsibility in June 2016 to retire DCPD at the expiration of the current operating licenses for each unit, November 2024 for Unit-1 and August 2025 for Unit-2 and was subsequently approved by the CPUC in its Decision (D) 18-01-022.

[9] The bathtub curve is widely used in reliability engineering. It describes a particular form of the hazard function which comprises three parts: a decreasing failure rate, known as early failures, a constant failure rate, known as random failures, and an increasing failure rate, known as wear-out failures. The name is derived from the cross-sectional shape of a bathtub: steep sides and a flat bottom.

[10] Benchmarking is the practice of comparing business processes and performance metrics to industry bests and best practices from other companies.

[11] For pressurized water reactors such as those operated by DCPD the reactor vessel is a cylindrical vessel with a hemispherical bottom head and a removable hemispherical top head. There is one inlet (or cold leg) nozzle and one outlet (or hot leg) nozzle for each reactor coolant system (RCS) loop. Each of DCPD's reactors have four RCS loops.

[31st Annual Report, Volume I](#), Section 4.1 Conduct of Operations

4.0 Summary of Major DCISC Review Topics

4.1 Conduct of Operations

4.1.1 Overview and Previous Activities

During the previous reporting period, the DCISC reviewed the following topics related to the Conduct of Operations at five Fact-finding Meetings and one Public Meeting:

- Operational Decision Making
- Operations Shift Turnover Briefing
- Reactivity Management
- Control Room Observation During Startup
- Operations Department Update
- Operations Human Performance Issues

The DCISC concluded the following during the previous reporting period:

DCPP appeared to have a satisfactory Operational Decision Making procedure and implemented the procedure appropriately in the matter of main generator stator coil insulation degradation. An Operations Shift Turnover Briefing regarding plant status and planned activities was well structured and informative. DCPP's Reactivity Management performance was rated as Green (Healthy) for both units and the program appeared to be managed well. Control Room Operations during startup following Refueling Outage 2R21 were observed to be well directed using formal procedures and in an orderly and professional manner. DCPP Operations overall performance was rated as Yellow (performance was not meeting expectations) by Quality Verification due primarily to status control (component mispositioning) events. This issue was escalated to management in mid-2019, and an Operations Plant Status Control Action Plan was initiated.

4.1.2 Current Period Activities

During the current period, the DCISC received presentations on the conduct of operations at seven Fact-finding Meetings. The following topics were reviewed:

- Operations Misposition Issues (Equipment Status Control)
- Slight Rise in Unit 1 Power Operation Prior to a Curtailment
- Operational Decision-Making Program
- Low Temperature Overpressurization Protection System Event
- Winter Storm Response
- Reactivity Management Update
- Operator Concerns and Issues

Operations Misposition Issues (Equipment Status Control) (Volume II, [Exhibit D.1](#), Section 3.7, and [Exhibit D.5](#), Section 3.6)

Weaknesses detracting from overall Operations performance effectiveness included challenges with plant status control performance. Plant status control performance was escalated to the Station Director on July 16, 2019. Despite multiple action plans to improve plant status control performance, events continued to occur. Operations developed a Plant Status Control Action Plan to address this performance decline which included a common cause evaluation, increased observations and communications, and a site-wide video to demonstrate strong component positioning behaviors. The failure to effectively address these challenges, including two Station Level Events (SLEs) that occurred the remainder of 2019, contributed to a yellow window for operations.

DCPP Operations developed a Status Control Action Plan and was beginning to implement it and would initiate an effectiveness review later.

Operations completed its Action Plan and the Effectiveness Review satisfactorily. Action Plan items included training of operators on component misposition events and management expectations of no misposition events, observations of procedure use and adherence, placekeeping and human performance tools, and tracking and trending misposition events. Importantly, there were no Operations mispositions during the first three quarters of 2020, nor any Operations fundamental events. The evaluation concluded that "Tasks on this Notification document the effectiveness measures selected in advance to demonstrate the effectiveness of Operations actions in addressing the behaviors leading to the OP1 AFI (misposition Area For Improvement)." The DCISC reviewed this document and discussed it with the Operations Manager and was satisfied with the conclusion that actions were effective in addressing the mispositioning issue.

DCPP's Operations Department determined that its Action Plan implementation on the escalated Area For Improvement on component mispositioning errors was effective. The DCISC Fact-finding Team concluded that the effectiveness evaluation was satisfactory.

Slight Rise in Unit 1 Power Operation Prior to a Curtailment (Volume II, [Exhibit D.1](#), Section 3.10)

The DCISC met with DCPD to review a slight rise in Unit 1 power just prior to a curtailment to 89% power to address an issue with the Supplemental Grid Protection system. DCPD reported that the slight rise was an instrumentation error and not an actual rise in power; therefore, the DCISC did not further review the item.

Operational Decision-Making Program (Volume II, [Exhibit D.3](#), Section 3.11)

The DCISC reviewed DCPD's Operational Decision-Making (ODM) Program. The ODM procedure had not changed significantly since a DCISC earlier review in April 2015. The ODM program was used to review degraded conditions which may involve reductions in operating/safety margins or encroachment on system/component reliability that occur over days or weeks. Examples included:

- Increased primary system or containment leakage that remains below operational or licensed limits
- Step changes in vibrations that remain at alert levels
- Numerous or long-term valve or pump leaks
- Fuel defects or increased corrosion rates
- Chronic or aggregate equipment material deficiencies
- Degraded conditions requiring a Prompt Operability Assessment
- Potential challenges to equipment covered by Technical Specifications

The Station Director was the Decision Maker (or assigns a Decision Maker) for decisions that involve outage extensions of greater than 24 hours, potential NRC Notice of Enforcement Discretion, decisions that involve changes in mode or power level, short duration action statements, or changing curtailment schedules. The Decision Maker typically assigned a Decision Team, which was composed of individuals with expertise in diverse areas applicable to the decision at hand. For evolutions that involve a significant reduction in reactor safety, an individual with a Senior Reactor Operating License would be designated to lead the Decision Team.

The Decision Team meets and follows a prescribed process to collect and analyze data and formulate a decision using/considering the following:

1. Gathering validated information from diverse sources including key stakeholders
2. Defining full scope of the degraded conditions considering operational effects, safety margins, personnel safety, and business impacts
3. Defining the timeliness of solution implementation considering the rate of degradation and consequences of exceeding margins or limits
4. Using risk evaluation and appropriate problem analysis tools
5. Considering the operational impact of options with the rigorous application of operating experience, Probabilistic Risk Assessment, licensing and design bases, and engineering and operational judgment

The Decision Team obtains final approval of any decision from the Station Director who reports the decision to the Site Vice-President. The decision would be communicated to plant personnel and then implemented. An effectiveness review would be performed about six months after completion of the ODM.

The DCISC reviewed the following five ODMs:

1. Establish Vibration Limits for Main Feedwater Pump 1-1 - This ODM was not addressing a problem, per se, but setting high level vibration limits for startup and shutdown of the pump. Limits had been exceeded on startup and were resolved satisfactorily.
2. Southwest Quadrant Unit 1 Condenser Elevated Pressure Drop - the indicated value was higher than the one for the northwest quadrant. The instrument was flushed, vented, and calibrated, returning to its normal reading.
3. Special Protection System (SPS) Place in Service/Monitoring - This ODM was not addressing a problem, per se, but determining its place in a service strategy and monitoring plan. The SPS had the potential to open Unit 2 output breakers above 1700MW and disabling SPS would challenge the WECC requirements for grid stability. The SPS was modified in a manner that provided more margin to the station.
4. ODM Requested for Ocean Conditions - This ODM was not addressing a problem per se but determining a course of action for anticipated high ocean swells. It was decided to ramp Unit 1 down to 50% power for the duration of the swell. It was also decided to perform partial cleaning of the Unit 1 condenser.
5. ODM for Unit 2 Rod Control - This ODM was used to justify remaining online at 100% power while troubleshooting, but not repairing, a rod control and indication issue.

The ODM process was found to be a useful tool in reviewing and making decisions for operational problems, and the ODM procedure appeared satisfactory. The five ODMs reviewed appeared satisfactory.

The DCPD Operational Decision-Making (ODM) Program procedure and five ODMs reviewed appeared appropriate to the DCISC.

Low Temperature Overpressurization Protection System Event (Volume II, [Exhibit D.6](#), Section 3.8, and [Exhibit D.8](#), Section 3.10)

The DCISC reviewed an event that occurred during Refueling Outage 1R22 on October 29, 2020, when the Low Temperature Overpressurization Protection (LTOP) System was unexpectedly actuated. The LTOP system protects the Reactor Coolant System (RCS) from overpressure transients that could occur at low operating temperatures during startup and shutdown operations. At low temperatures, the Reactor Vessel is more vulnerable to brittle fracture and the LTOP system, in the event of an RCS pressure transient, maintains RCS pressure below a predetermined pressure-temperature limit curve. The LTOP system

consists of two mutually redundant and independent systems, and each system receives RCS pressure and temperature signals as inputs. Whenever the system is enabled and RCS temperature is below the low temperature setpoint, a high-pressure signal will automatically open a Pressurizer Power Operated Relief Valve (PORV) until the pressure drops below the reset value. During normal operations at higher temperatures, the system is off because the Reactor Vessel material is less vulnerable to brittle fracture.

As a part of plant startup following Refueling Outage 1R22, Operators completed RCS Vacuum Refill which placed the RCS in water solid conditions and brought the RCS pressure up to 350 psig. These conditions were maintained while Operators started bringing Reactor Coolant Pumps (RCPs) online. RCPs 1-2 and 1-4 were started successfully. However, RCP 1-1 tripped on overcurrent, and RCP 1-3 was secured due to elevated vibration and a lack of indication on seal return flow.

While these issues related to RCP 1-1 and 1-3 were being investigated, Operators commenced drawing a bubble in the Pressurizer. It was later determined that a 'slow roll' of RCP 1-3 would be necessary for restart, and that evolution would require securing all of the running RCPs. Operators then secured drawing a bubble in the Pressurizer and placed the RCS back in water solid conditions with no RCPs running. Approximately seven hours later, Operators restarted RCP 1-3 after verifying proper RCS temperature and pressure conditions. Operators then noted a sudden rise in RCS pressure and maximized RCS Letdown flow in an attempt to reduce the rise in RCS pressure. The increase in RCS Letdown flow was insufficient to mitigate the pressure rise, and the LTOP System actuated about one minute after RCP 1-3 was started and opened both PORVs for approximately two seconds. Operators then successfully stabilized RCS pressure, and plant startup activities were later continued.

DCPP's actions taken in response to an unexpected actuation of the Low Temperature Overpressure Protection System appeared appropriate.

Typically, such an RCS pressure increase while solid would be caused by either an injection of mass into the RCS or by the addition of heat to the RCS. Staff believed that flow from starting the RCS likely caused heat to be introduced from an unknown source in the system. DCPP obtained assistance from the Reactor/RCS vendor in order to understand how and why heat may have been introduced into the RCS during the RCP start.

The information requested from the Reactor/RCS vendor was received in early February, and the Apparent Cause Evaluation was completed shortly thereafter.

The DCISC was provided with a copy of the Apparent Cause Evaluation which included the vendor report. The vendor analysis showed that the interrupted plant heatup sequence described above resulted in a situation where the masses of metal and water in the SGs were at a higher temperature than the RCS loops with the RCS in a solid-water condition. When RCP 1-3 was started for the second time, there was a 10-12 °F difference in temperature between the SGs (higher temperature) and the rest of the RCS (lower temperature). The vendor analysis

confirmed that under solid-water conditions, this 10 12 °F difference in temperature was sufficient to heat up the RCS overall when the pump started, which resulted in volumetric expansion and LTOP actuation.

The two major corrective actions for the event involved initiating changes to DCPD procedure, OP A-6:1, "Reactor Coolant Pumps - Place in Service." The first change was to reduce the allowable differential temperature between the SGs and RCS from 50 °F to zero. (RCS temperature must be equal or above SG temperature.)

The second change was to add a requirement that if all RCPs are stopped during an RCS heatup, a bubble must be drawn in the pressurizer before restarting an RCP. These corrective actions appeared appropriate. The event was very low risk because the LTOP system performed as designed and actual RCS pressure was maintained well below brittle fracture limits.

DCPD's Apparent Cause Evaluation and corrective actions performed in response to an unexpected actuation of the Low Temperature Overpressure Protection System appeared appropriate.

Winter Storm Response (Volume II, [Exhibit D.7](#), Section 3.6)

Severe winter storm swells can loosen kelp and force it into the DCPD water intake bay and structure, which is the cooling water supply for both normal operation and emergency operation. If cooling water flow is significantly reduced or blocked by kelp, power must be temporarily reduced. The intake structure pumps draw water through bar racks designed to keep out large objects and through fine mesh (3/8 inch) traveling screens (similar to large vertical conveyer belts) to keep out kelp fragments. The traveling screens collect kelp and transport it away from the pumps' suctions to another area of the ocean. Station Procedure OP O-28, "Intake Management," provides direction with respect to mitigating the effects of short-term debris loading on the intake traveling screens and condensers. The procedure defines and addresses high swell forecasting, high swell warning, and Operations response to high swell warnings.

There were no big storms and no equipment issues during the winter of 2020-2021. A three-year design review completed in 2020 confirmed the effectiveness of the more robust debris grinding added in 2017; that there were no intake ocean debris issues; and that the improvement to the traveling screens was an effective upgrade

Although there were no big winter Pacific Ocean storms during the winter of 2020-2021, DCPD had available procedures and equipment, which had proved effective in the past when dealing with the storm surge and kelp debris.

Reactivity Management Update (Volume II, [Exhibit D.9](#), Section 3.1)

The DCISC reviewed DCPD's Reactivity Management Program (RMP). Reactivity is defined in DCPD's controlling Procedure OP1.ID3, "Reactivity Management

Program," as "the fractional change in neutron population from one neutron generation cycle to the next, or the measure of departure from criticality." In general, it is a measure of the potential for a nuclear core to increase or decrease in its chain reaction rate or power level. It is important to control reactivity in order to maintain safe control of the nuclear reactor itself. The procedure also defines the roles, responsibilities and actions associated with the control of reactivity to ensure safe and reliable operation. It provides the guidance to ensure that all plant evolutions affecting reactivity will be controlled, safe, and conservative.

The Operations Manager is responsible for plant reactivity management, including the direct control of reactivity, and for ensuring conservative actions with regard to nuclear fuel integrity during operations, fuel handling, and storage. He/she has the single-point accountability for operational decision-making associated with reactivity management and is responsible for the overall management and implementation of the RMP in consultation with the Reactivity Management Leadership Team (RMLT). The RMLT is a team of individuals representing Operations Services, Maintenance Services, Engineering Services, Learning Services, and the Corrective Action Program. The team reviews reactivity events and adverse trends to identify needed corrective actions and recommend additional training or qualification for groups that can affect reactivity. Reactor Operators (ROs) and Senior Reactor Operators (SROs) are responsible for fulfilling the requirements of the RMP, including: (1) ensuring that expected responses to a reactivity change are identified and fully understood prior to initiating any action that affects reactivity, (2) closely monitoring appropriate indications for reactivity changes to verify the expected magnitude, direction, and effects, (3) remaining alert for situations that could affect reactivity, and initiating appropriate conservative corrective actions, (4) reducing reactor power or tripping the reactor without the need for concurrence of the unit Shift Foreman or reactivity SRO when the RO deems that the action is immediately necessary to protect the reactor core, and (5) maintaining the reactor core parameters within established limits. Reactor Engineering provides technical support for the RMP and also provides a Reactor Engineering representative to the RMLT. Reactor Engineering is responsible for providing reactivity management recommendations to Operations with emphasis on reactor safety, based on the most accurate core information available.

DCPP's performance indicators for Reactivity Management for both units were Green (Healthy). This was good performance.

DCPP has an effective Reactivity Management Program, which ensures conservative reactivity management by promoting a reactivity-conscious culture. The proper control of core reactivity and spent fuel continues to be a long-standing fundamental principle in maintaining nuclear plant safety and reliability.

Operator Concerns and Issues (Volume II, [Exhibit D.9](#), Section 3.10)

The DCISC requested an update on operator concerns and issues. The industry has minimum physical condition requirements for operators. Operators at DCPD are tested and certified as meeting the industry standard by the plant Medical Officer and reviewed by NRC physicians. Operator "no solos" are operations personnel whose health (e.g., high blood pressure, heart condition, obesity, diabetes, etc.), as determined by the plant Medical Officer, prevents them from being allowed to work alone in the plant. The number of "no solos" has been reduced from past years and remains steady at less than 10% of the total operations staff. Also, the DCISC inquired regarding the status of the union relationship and was informed that it was satisfactory overall.

The DCISC inquired regarding the effect on the Operations Department of PG&E's decision that it will not pursue license renewal for DCPD. The plant must remain fully staffed with licensed control room operators until the day it ceases operation in 2025. To achieve that goal, PG&E has developed a Retention Plan which offers 25% annual salary bonuses for each employee who commits to continue working at the station for a set number of years.

DCPD reported the following status:

- There were no union issues and a good relationship between represented operators and plant management.
- Operations was appropriately staffed for safe operation through 2025.
- The Retention Plan was working to keep qualified operators.
- DCPD was not hiring new operators, and the Initial License Training classes has stopped.
- The last Initial License Training class operators passed their NRC exam with a 100% pass rate.
- Licensed Operator Continuing Training continued.
- The simulator continued to perform effectively for operator training.
- DCPD has an active process for the placement of DCPD personnel in other parts of the company, with educational benefits, and in other parts of the nuclear industry.

DCPD operators are performing well with no significant issues or concerns. With the Retention Plan, DCPD anticipates having enough operators to operate safely until operations cease in 2025.

4.1.3 Conclusions and Recommendations

Conclusions: DCPD Operations developed and effectively implemented a Status Control Action Plan for improvement on component mispositioning errors. DCPD's Operational Decision-Making (ODM) Program procedure and five ODMs reviewed appeared appropriate. DCPD's actions taken in response to an unexpected actuation of the Low Temperature Overpressure Protection System as well as the Apparent

Cause Evaluation and corrective actions appeared appropriate. Although there were no big winter Pacific Ocean storms during the winter of 2020-2021, DCPD had available procedures and equipment, which had proved effective in the past when dealing with storm surge and kelp debris.

DCPD has an effective Reactivity Management Program, which ensures conservative reactivity management by promoting a reactivity-conscious culture. With its Retention Plan, DCPD anticipated having enough operators to safely operate until power operations cease in 2025.

Recommendations: None

[31st Annual Report, Volume I, Section 4.2 Conduct of Maintenance](#)

4.2 Conduct of Maintenance

4.2.1 Overview and Previous Activities

The following are maintenance-related items the DCISC reviewed in the previous reporting period:

- T+1 Critique Meetings
- Maintenance Department Update
- Troubleshooting
- Maintenance Work Packages
- Online Maintenance
- Integrated Risk Assessment

The DCISC concluded the following during the previous reporting period:

DCPP Maintenance performance is generally satisfactory with extensive provisions for determining and managing risk of performing work.

4.2.2 Current Period Activities

During the current period, the DCISC reviewed the following topics:

- Electronic Work Packages
- Maintenance Department Update
- Maintenance Rule Program

Electronic Work Packages (Volume II, [Exhibit D.5](#) Section 3.3)

In general work management at DCP is controlled by Procedure AD7.DC9, "Maintenance Work Procedure Use," Revision 18. This procedure appeared comprehensive and detailed for its purpose. Most work packages consist of paper instructions, procedures, drawings, manuals, etc. bound into a package which is taken out in the plant where the work is to be performed. Electronic work packages contain the same information and look like paper packages but are in an electronic format on an electronic pad.

The Electronic Work Management process at DCP was begun in early 2014 in

response to similar initiatives elsewhere in the industry. DCPD purchased hardware and created software to manage work packages electronically. The software created has been titled "eWM" and is unique to DCPD. Much of the industry uses another software product, but that product does not integrate with SAP, DCPD's business information management system. In early 2017, the program was piloted and implementation began across the Maintenance Department. As of the end of 2017, implementation was not as far along as desired, with usage of the eWM system by most groups standing at less than 10% of work packages, except for the T-COM group for which usage of the eWM system was 56% of its work packages. Initially, DCPD's goal was for 75% of work packages to utilize the eWM process, but no target date had been set for achievement.

The eWM system uses Windows-based tablets and is primarily a tool to index and manage multiple pdf documents that form a maintenance work package. The system also provides layers that can be used to record data into the pdf files to document completion of tasks in the work document or to record numerical values from the maintenance activity. One of the major advantages of the eWM process is the reduction in work for planners who assemble the work packages. The use of eWM allows planners to skip the steps of printing and assembling work packages as well as to skip the steps of manually scanning and entering completed records into the station Records Management System.

One other advantage is that the use of eWM avoids the need to carry large amounts of paper into and out of the Radiologically Controlled Areas of the plant. Currently, the eWM system does not automatically transfer numerical data into the SAP system for use in trending equipment performance. Instead, the system still relies on reviewers of a completed package, such as System Engineers, to pull the desired data from the maintenance package and place it elsewhere in SAP or other analytical programs for trending.

The current goal for employing eWM is 50% for departments choosing to use eWM, down substantially from the original 75% plant-wide goal of 2017. This reduction is due to eWM appearing not to save the time and effort originally desired. EWPs are used primarily for routine, simple processes such as scaffold building, coating, insulation and equipment lubrication.

The DCISC FFT received and reviewed a training package providing potential users an "eWM Walkthrough." The training package provided a sample work package with step-by-step instructions for completing the work, including important alerts, prerequisites, approvals, applicable documents such as procedures and drawings, equipment clearances, and space for annotations and recording of test or work results.

DCPD's plans to modestly employ electronic work packages compared to the industry appear appropriate due to their less than desired experience with the process and their plans to end electricity generation in 2025, thus not expending

additional resources on EWP for the short-term period of plant operation remaining.

DCPP had begun to utilize Electronic Work Packages in 2014 following industry best practices but has slowed its usage due to less than successful experience and plans to cease electricity generation in 2025. Not expending additional resources for this short remaining term of plant operation appears justified.

Maintenance Department Update (Volume II, [Exhibit D.7](#), Section 3.8)

The Key Maintenance Performance Indicator is Green (good) for March 2021, as is the Quality Performance Assessment Report (QPAR), and an industry evaluation. The DCPP Maintenance Index is Yellow (needs improvement) and Maintenance Current Events is White (good) as is Limiting Conditions of Operation. The QPAR summary states the following:

Maintenance Services (MA) continues GREEN and STABLE performance. During this period MA reached the top 12 in the US nuclear industry per INPO and is leading STARS performance. MA has exhibited overall strong performance this period as evidenced by completing a large amount of work including two Unit 2 emergent outages and a successful Unit 1 refueling outage with no consequential errors or significant challenges to continued strong performance.

Nuclear Work Management (NWM) improved to GREEN with a STABLE trajectory. Maintenance Outage Window (MOW) performance has improved with only a single MOW deviating from the industry standard of being completed predictably within 10 percent of the scheduled duration. QV identified a Finding related to incomplete reviews of Operability Verification Testing (OVT) for which corrective actions have been implemented.

The key performance indicators for the DCPP Maintenance Department all show strong (Green) performance for the period June 2020 to March 2021.

Maintenance Rule Program (Volume II, [Exhibit D.8](#), Section 3.6)

DCPP's Maintenance Rule Program is governed by procedure MA1.ID17, "Maintenance Rule Monitoring Program," Revision 33. This procedure describes how the plant program complies with 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," (referred to as the NRC's "Maintenance Rule") using the guidance provided in industry document NUMARC 93-01, "Industry Guidelines for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." The major areas of implementing the program are aligned with NRC Regulatory Guide 1.160, "Monitoring the

Effectiveness of Maintenance at Nuclear Power Plants," which endorses NUMARC 93-01 and provides additional provisions and clarifications for complying with the 10 CFR 50.65.

DCPP's MR Program follows the industry guidance closely and defines major parts of the rule as follows:

- (a)(1) - Defines when a Structure, System or Component (SSC) requires the establishment of additional goals and monitoring to assess that preventative maintenance performance is adequate.
- (a)(2) - Defines when an SSC is performance or condition is being effectively controlled through the performance of appropriate preventative maintenance.
- (a)(3) - Requires that performance and condition monitoring activities and associated goals and preventive maintenance activities shall be evaluated at least every refueling cycle.
- (a)(4) - Establishes the requirements for plants to assess and manage the potential increase in risk resulting from online maintenance activities. (Not covered in this meeting; risk-based scheduling of online maintenance is regularly reviewed by the DCISC as a separate topic.)

The chief elements of the MR Program are as follows:

1. SSCs are evaluated according to risk significance determination for incorporation into the program using the guidance of NUMARC 93-01.
2. Risk-informed performance criteria are established to discern whether or not preventative maintenance activities are being effectively implemented for the SSC. Performance criteria typically consider both SSC reliability and availability. There are additional performance criteria that are also established at the plant level.
3. According to part (a)(3), SSCs are routinely monitored against the established performance criteria, primarily by System/Strategic Engineers working within the CAP. If the SSC meets all performance criteria, it maintains a normal or "(a)(2) status" under the rule/program. If a problem occurs that results in the performance criteria for an SSC not being met, the problem is reviewed to determine if a Maintenance Preventable Functional Failure (MPFF) has occurred. An MPFF is defined as, "a failure that could have been prevented by the performance of appropriate maintenance."
4. If an SSC exceeds its performance criteria for unavailability, the numbers or types of MPFFs, or a repeat MPFF, then the system is elevated for additional

action under section (a)(1) of the rule/program, also referred to as being in "(a)(1) status."

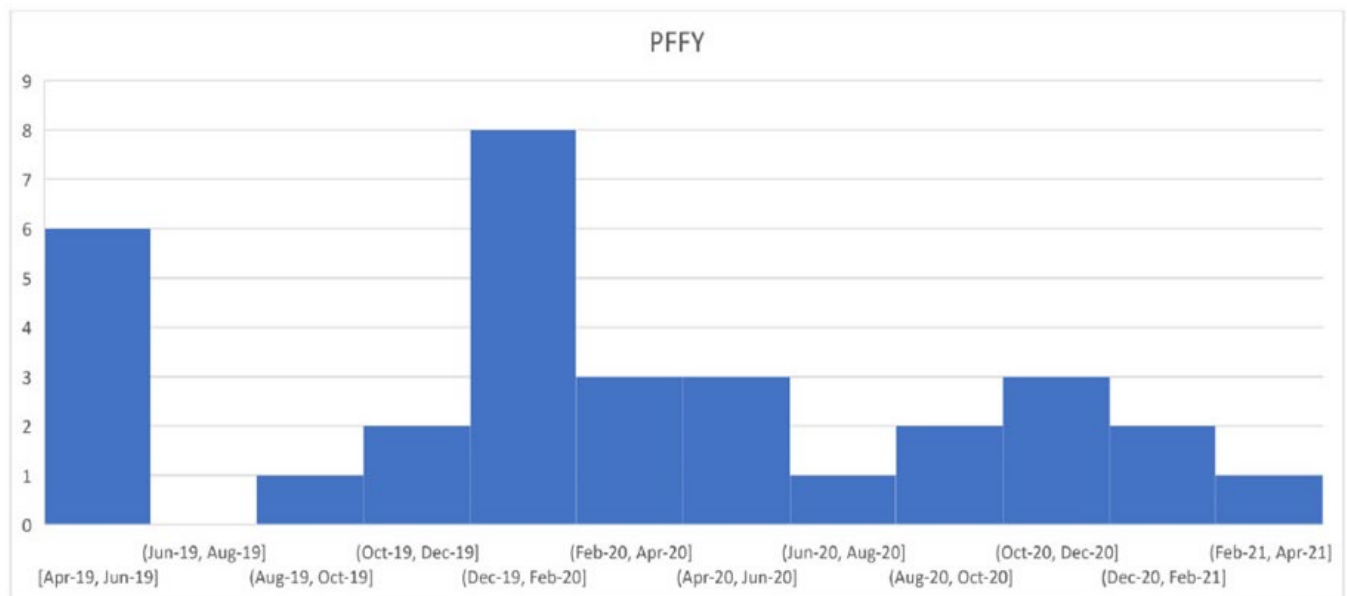
5. SSCs placed in (a)(1) status are further reviewed for additional corrective actions to improve maintenance, and goals are established to monitor the effectiveness of the additional maintenance actions. Once the additional actions are complete and monitoring goals are met, the system may be returned to (a)(2) status.

In addition to the role that System/Strategic Engineers play in implementing the MR Program, DCPD has a Maintenance Rule Expert Panel made up of representatives from operations, engineering, maintenance, and the probabilistic risk assessment group. The Expert Panel reviews any changes to the program, changes to performance criteria, transfers of SSCs between (a)(2) and (a)(1) status and ensuring a periodic assessment of the program is performed at least every two years.

The DCISC was provided copies of and reviewed the implementing procedure discussed above along with the most recent MR Program Self-Assessment covering the period from October 2018 to October 2020. The implementing procedure was well written and appeared to clearly define the program in a way that met the applicable regulations and industry guidance. The MR Program Self-Assessment concluded overall that DCPD had a strong and well documented MR Program which was effective in addressing system performance issues. The self-assessment reviewed numerous aspects of the program including 1) goals established for systems in (a)(1) status, 2) monitoring conducted for systems in (a)(2) status, 3) effectiveness of corrective actions, 4) optimizing the availability and reliability of SSCs, 5) review of program adequacy measured against guidelines, and 6) implementation for civil SSCs. The self-assessment identified three gaps, one enhancement, and four recommendations. The DCISC found that the MR Program Self-Assessment was thorough and well documented.

The DCISC inquired regarding current trends in the number of systems in (a)(1) status and the rate of MPFFs occurrences. The above self-assessment documented that overall, the number of systems in (a)(1) status declined from 31 in 2018 to 23 in 2020. Additionally, there were 22 systems in (a)(1) status for more than one assessment period (two years) in 2018. The number of systems in (a)(1) status for more than one assessment period declined to 10 in 2020. Systems currently in (a)(1) status included Radiation Monitoring (see Section 3.1 above), Auxiliary Building Ventilation (see Section 3.3 above), Diesel Generator Fuel Oil Transfer, Unit 2 Spent Fuel Pool Cooling, and the Unit 2 Generator.

MPFF data were trended quarterly, and the graph below showed that the number of MPFFs per quarter was trending downward slightly as follows:



Maintenance Preventable Functional Failures by Quarter

DCPP's Maintenance Rule Program was being effectively implemented in accordance with the applicable regulations and industry guidelines. The number of systems in (a)(1) status and the number of Maintenance Preventable Functional Failures was being monitored and showed downward (good) trends.

4.2.3 Conclusions and Recommendations

Conclusions: DCPP Maintenance performance is generally satisfactory with high performance indicators.

Recommendations: None

[31st Annual Report, Volume I, Section 4.3, Engineering Programs](#)

4.3 Engineering Programs

4.3.1 Overview and Previous Activities

The following are engineering-related items the DCISC reviewed in the previous reporting period:

- Buried Piping and Tanks Program
- System Engineering Department
- Engineering Excellence Plan
- Margin Management Process

The DCISC concluded the following during the previous reporting period:

The DCPPE Engineering organization has undergone an extensive revision in that engineers are focused more specifically on systems, components, programs and support. This appears to be a positive move to more efficiently and specifically concentrate efforts on these aspects of the plant. The DCPPE Engineering Excellence Plan has been shown to be effective in bringing "technical conscience" to DCPPE, not only in Engineering, but also Operations and other technical groups in the plant.

4.3.2 Current Period Activities

During the current period, the DCISC had presentations on engineering programs at six Fact-finding meetings. The following topics were reviewed:

1. Buried Piping and Tanks Program
2. Postponed/Canceled Projects
3. Seismically Induced Seismic Interaction Program
4. Engineering Reorganization and Excellence Plan
5. Vibration Monitoring Program
6. Boric Acid Corrosion Control Program

Buried Piping and Tanks Program (Volume II, [Exhibit D.1](#), 3.9)

In 2009 the US nuclear industry committed to implement an industry initiative to manage buried piping integrity contained in document Nuclear Energy Institute

(NEI) 09-14, "Guideline for the Management of Underground Piping and Tank Integrity." DCP's program is based on NEI 09-14 and described in Procedure TS5.ID3, "Buried Piping and Tanks Program," a copy of which was provided to the Fact-Finding Team. As described in the procedure, the scope of this program is "to provide a reasonable assurance of structural and leakage integrity of all piping and tanks located outside of buildings and below grade elevation (whether or not they are in direct contact with the soil)." DCP has a relatively small amount of buried piping on site compared to most other nuclear power plants.

NEI 09-14 requires the following types of systems to be included:

- Safety related
- Contain licensed material or are known to be contaminated with licensed material
- Contain environmentally hazardous material

For DCP these systems are as follows:

- Condensate Polishing
- Auxiliary Saltwater
- Liquid Radwaste
- Diesel Fuel Oil
- Oily Water and Turbine Sump

Additionally, the program also monitored and opportunistically inspected other systems, including:

- Spent Fuel Pool Cooling and Cleanup
- Service Cooling Water
- Makeup Water
- Fire Protection
- Compressed Air
- Nitrogen/Hydrogen

The Buried Piping and Tanks Program is a program that prioritizes inspections based on risk. An industry-standard software program and database (referred to as MapPro) contains all buried piping and tanks parameters (i.e. material, coatings, external environment, internal fluid, consequence of failure, and inspection results) and is used to determine the likelihood of degradation and the consequences of its failure. The combination of the likelihood and consequences is then used to form the priority ranking of the piping and allows inspection efforts to be focused on the most significant sections of piping. The overall plan for inspections is documented in an Asset Management Plan (AMP) which is maintained as an engineering calculation and controlled by administrative procedures applicable to engineering calculations.

Each buried system is described in detail, including location drawings and inspection plans and results. The following excerpt from the AMP of the Auxiliary Saltwater System buried piping is one example:

The Auxiliary Saltwater (ASW) System is a safety-related system that supplies cooling water from the ultimate heat sink, the Pacific Ocean, to the component cooling water (CCW) heat exchangers. The buried piping is composed of 24" Carbon Steel with a non-safety related coal-tar epoxy external coating and a safety-related internal PVC-like paroliner. The piping from the intake structure to about 30 feet before entering the turbine building is protected by an induced current cathodic protection (ICCP) system. The discharge portion, turbine building to ocean was not cathodically protected but a project was funded and cathodic protection installed in a portion of the Unit 1 discharge line following pipe external inspections in 1R20. A majority of the system is risk rated to be medium risk. However, the ASW discharge piping contains high risk piping segments because it is the licensed discharge path for radiological waste material delivered by the Liquid Radwaste System.

Every sixth refueling outage, each unit's ASW system piping (intake and discharge) is visually inspected. This inspection utilizes a robotic crawler equipped with a High Definition camera to inspect nearly 100% of the piping internally. A report is generated which compares any findings to previous inspections to monitor for new anomalies or changes in anomalies for trending. Together with an engineering evaluation of the data, recommendations are made for future inspections or repairs. These inspections provide a reasonable assurance of no leakage. The most recent Unit 1 internal and external ASW inspections were completed in 1R20 with the Unit 2 inspection coming up in 2R22. The ASW system as a whole will continue to be monitored and inspected to maintain reasonable assurance that the safety related system will retain its pressure boundary function. The total intake piping length is approximately 3,000-ft for Unit 1 and 2,800-ft for Unit 2. Each unit's discharge piping is approximately 400-ft long.

At this time, the ASW system is the highest priority for the Buried Piping and Tanks Program. The in-soil discharge portion of the ASW piping has developed small blisters on the internal liner. This portion of pipe is considered high risk primarily because it contains licensed material, is buried in soil and has a safety-related function. Hence the detailed inspections performed in 1R20 and the installation of Cathodic protection installed in portions of the ASW discharge piping in the Unit 1. The previous Unit 2 internal inspection was performed in 2R16. The next Unit 2 inspection will be performed in 2R22 after the frequency to perform this inspection was extended by the PMCR process.

Similarly, all of the other following buried systems and components have been tested, inspected, or have leak detection systems, all of which show no leakage or structural degradation, but some minor corrosion or coating degradation. None of the corrosion or degradation was deemed to warrant correction to maintain

reasonable assurance of leak tightness.

The DCPD Asset Management Plan for Buried Piping and Tanks appears to meet all requirements and to be implemented properly with satisfactory results assuring the leak tightness and structural integrity of buried components.

Postponed/Canceled Projects (Volume II, [Exhibit D.3](#), Section 3.8)

Following completion of the Joint Proposal, which requires DCPD to cease operations in 2025 at the end of its initial NRC license, a DCPD Project Review Working Group (PRWG) had been formed in 2017 using experienced staff from Operations, Engineering, and Work Control to review future capital projects to determine which would no longer be needed for the short remainder of operation. The PRWG had completed its review of the entire portfolio for future capital projects, which was subject to further review by the Executive Oversight Board of the Excellence Plan.

Each project was reviewed for importance using the following screening questions:

- Regulatory
- Reliability
- Bridging Strategy
- Corrective Maintenance
- Core Damage Frequency
- Plant transient (Reactor Trip, Safeguards Initiation)
- Enterprise Risk
- Financial impact due to extended down power
- Unmitigated Single Point Vulnerability
- Plant vulnerability we cannot monitor or detect
- Reduction of Regulatory Margin
- Impact to Station/Industry/Regulatory Metrics
- Enhancing the Decommissioning Project

The resulting project portfolio was then divided into three categories:

1. Required by Regulatory Commitments (must-do projects)
2. Recommended and Prioritized (should-do projects according to priority)
3. Not Recommended (projects that should not be completed)

Category 1 (Required) included a total of 14 projects such as those related to spent fuel storage, Generic Safety Issue 191 (recirculation sump debris clogging), and the License Basis Verification Project. Category 3 (Not Recommended) included projects such as Containment Cooling Coil replacements and a new road for the 500kV switchyard. Regarding Category 2 (Recommended and Prioritized) projects, all projects currently are funded, and the list was envisioned to be used

as a tool in decision-making should funding become limited in the future. Examples of projects in Category 2 and with low priorities included upgrades to the Radioactive Effluent Management System, 230kV bushing replacements, and Diesel Fuel Oil Transfer Pump replacements.

There were two major projects of particular interest to the DCISC: the Unit 2 Main Generator Stator replacement and the Eagle 21 Plant Protection System upgrade. The Generator Stator replacement occurred successfully in Refueling Outage 2R21 in 2019. The Eagle 21 upgrade, which was cancelled, is a very expensive project and one that could not be completed for several years. The proposed change was intended to improve reliability and was not intended to improve nuclear safety. Replacement parts for the existing system are expected to remain available from the original vendor for the remaining period of the DCPD operating licenses.

There were 45 capital projects cancelled using the above process. Some significant examples were as follows:

- Replace Control Room Condenser
- Replace Eagle 21 Plant Protection System
- Upgrade Radiation Monitoring System
- Replace 12kV Bus D, E, F, and U Relays
- Upgrade Fuel Handling System
- Replace Main Generator Output Breaker
- Replace Pressurizer Heaters
- Replace Containment Fan Cooler Unit Cooling Coils

The DCISC reviewed each cancelled project to ascertain its importance in maintaining nuclear safety and plant reliability. None had a significant impact on these attributes.

DCPD validated the list of postponed/cancelled projects, cancelling additional projects. Among these were the following significant cancellations:

- Main Annunciator upgrade was cancelled because of having adequate spare parts to keep the existing system functioning normally.
- Emergency Diesel Generator governor replacement was performed on all but two machines, because of then having adequate spare parts to keep the two devices functioning normally.

The DCISC received and reviewed the validated list and project selection procedure, concluding both were satisfactory to maintain plant safety.

The DCPD process for postponing/cancelling proposed projects due to the Joint Proposal agreement to shut down the plant in 2025 appeared satisfactory. The DCISC Fact-finding Team concluded that the selections made using this process would not compromise plant operational safety.

Seismically Induced Systems Interactions (SISI) Program (Volume II, [Exhibit D.4](#), Section 3.8)

Routine station operations with respect to the SISI Program were governed by procedures AD4.ID3, Revision 16, "SISI Housekeeping Activities," dated October 8, 2019, and AD4.ID1, Revision 17, "Housekeeping," dated April 2, 2020, copies of which were provided to and reviewed by the DCISC. These procedures appeared adequate and addressed application of the SISI Program to daily housekeeping activities within the plant such as the following:

- Transient equipment being brought into the plant
- Component parts of systems, structures, or components being brought into the plant
- Non-design change alterations of systems, structures, or components

The objective of the SISI Program was to ensure that safe-shutdown systems, structures, and components, as well as certain accident-mitigating systems, would properly function during and following an earthquake. The procedure's intent was to ensure that needed components and equipment would not be impacted during an earthquake by improperly positioned or restrained transient equipment or alterations made to systems, structures, or components. DCPD explained that although the SISI Program focused on protecting plant equipment in specific locations, the program's housekeeping standards are applied throughout the plant at all times. The procedure provided lists of examples of temporary equipment and components that could damage plant equipment if stored unrestrained in unacceptable areas of the plant, and/or inadequately secured, were an earthquake to occur. Some examples were tools, ladders, gas bottles, workbenches, rigging equipment, test equipment, temporary power load centers, and parts resulting from operations, maintenance, modifications, or testing activities.

One method to help prevent an undesirable seismic impact on plant systems has involved the designation of "SISI Safe Areas," which were evaluated by Engineering and pre-designated throughout the plant. These areas were intended for repeated use and did not require a SISI evaluation by Engineering when the need occurred to store items temporarily in those areas. Such areas were identified by signs located throughout the Turbine Building, Auxiliary Building, and Fuel Handling Building.

The DCISC reviewed copies of engineering documents that provide the bases for the program including Design Control Manual T-14, Revision 6, "Seismically Induced Systems Interactions," dated August 20, 2019, and the "Seismically Induced Systems Interaction Manual," Revision 12, dated December 2017. Those documents as well as supporting plant drawings provided the detailed information for the identification of the SISI Safe Areas and identified potential "Targets," which were defined as systems, structures, and components that are required to "safely shutdown the plant, maintain the plant in a safe shutdown condition, and/or maintain the function of accident mitigating systems." Targets also

included related tubing, instrumentation, electrical circuitry, and component supports that were necessary to ensure that the associated systems, structures and components could perform their design functions. Thus, the SISI Safe Areas were locations where stored equipment, tools, or components could not negatively affect Targets and therefore could not have a negative impact on nuclear safety in the event of an earthquake. Separately, the same engineering documents were used during the design change process to ensure that any permanent station modifications could not impact any of the same Targets during a seismic event.

DCPP's Seismically Induced Systems Interaction Program appeared effective in ensuring that systems important to safety would not be impacted by material or equipment temporarily stored within the plant during a seismic event.

Engineering Reorganization and Excellence Plan (Volume II, [Exhibit D.4](#), Section 3.11)

At the time of the DCISC's previous review in 2019, the Engineering Department organizational changes had been partially completed primarily in response to NEI Efficiency Bulletin (EB) 17-18, "Optimizing Strategic Engineering, Engineering Response Team, and Component Maintenance Support." In response to the EB 17-18 recommendations, a significant re-organization had begun in 2018 and was expected to continue into 2020. One of the core objectives of the change was to transform System Engineering into a more strategic organization and move tactical activities (such as troubleshooting support and emergent plant issues) to a Component Engineering group. The Component Engineering group was paired with the Engineering Fix-It Now (EFIN) Team under a new group called "Support Engineering." Once the final organizational changes were in place, it was planned that the EFIN Team would handle all "tactical" or daily plant issues and the Systems Engineering group would focus solely on "strategic" or longer-range plant issues. Additionally, a Program Engineering group would be created to include specialty programs such as Inservice Testing, Fire Protection, and Reactor Engineering. Lastly, engineers from the Projects Group were combined into the Design Engineering group.

The final changes to the Engineering Department organization were completed in August 2020. Overall, the department leadership believed that the changes had been successful in accomplishing the objectives (primarily the separation of tactical and strategic engineering) with minimal actual disruption to the employees. Effectiveness reviews of the implementation had not identified any gaps to excellence. Outside of the Systems Engineering group, most engineers' roles were not directly affected although a significant number of engineers were assigned to new supervisors. He also noted that during the COVID-19 pandemic period, only approximately 15% of the department's staff were regularly on site, and most of that usually consisted of the EFIN team.

The 2020 Engineering Goals and Excellence Plan encompassed performance

improvement initiatives in the six following broad areas:

- Safety
- People
- Reliability
- Affordability
- Risk, Compliance and Ethics
- Regulatory and External Strategy

In the area of safety, Engineering had been generally successful in minimizing safety issues within the department. Additionally, in response to the COVID-19 pandemic and the resulting emphasis on working from home, DCPD had initiated ergonomic assessments for employee home working arrangements and provided advice or additional office equipment (monitors, chairs, desks, etc.) as necessary to ensure employee wellness while working from home.

With regards to the area of people, the department completed its reorganization as discussed above. Additionally, the department established a "People Committee" which was using the results of employee surveys to identify opportunities for development of employee skill sets to assist with their future transitions to other company jobs after the cessation of operations at DCPD. Recently, several engineers had left DCPD for planned rotational assignments within non-nuclear areas of PG&E and a few engineers had left unexpectedly for opportunities elsewhere in the industry. The committee was tracking the departure of employees to ensure that knowledge transfer plans were in place to ensure that performance did not decline due to the departures.

In the area of reliability, the station and the department were finding their largest challenges. The major 2020 plant reliability issues were the Unit 2 rod control system failures and generator hydrogen leaks. The equipment reliability index for Unit 1 was 100% but Unit 2 was unacceptably low at less than 80%. The issue had been identified as an area for improvement by multiple organizations, including the NSOC, Quality Verification, and INPO. The identification of causes for the reduced equipment reliability and corrective actions was underway but proving difficult as indicators other than unit shutdowns were generally satisfactory.

In affordability, the department had gained insights during recent outages during the pandemic about how engineers could successfully support outages from offsite. The reduction in engineering hours on site had resulted in some cost savings which was hoped could also be captured in the future. Also, the department was on track in slowly reducing staffing through attrition as planned as work volumes will naturally decrease as the date approaches for the planned cessation of operations.

DCPD's Engineering Department continues to perform effectively and has managed work well during the disruptions caused by the COVID-19

pandemic. Significant organizational changes which began in 2018 are now complete and appear to have been successfully implemented.

Vibration Monitoring Program (Volume II, [Exhibit D.7](#), Section 3.4)

As part of its Reliability Centered Maintenance program, DCPD has a Predictive Maintenance Program (PMP) controlled by Procedure TS5.ID8, "Predictive Maintenance." This procedure describes the plant's predictive maintenance process for monitoring and trending of equipment performance utilizing vibration monitoring, lubrication control, and infrared thermography inspection. The stated purpose is "... to enhance plant safety and reliability through early detection and diagnosis of equipment degradation prior to equipment failure. The predictive maintenance charter is 'No unanticipated equipment failures.'" This procedure appeared satisfactory.

A second procedure, Procedure AWP E-048, "Predictive Maintenance - Vibration" describes the procedure for vibration monitoring "... to enhance plant safety and reliability through early detection and diagnosis of equipment degradation prior to equipment failure. The predictive maintenance charter is 'No unanticipated equipment failures.'" This procedure appeared satisfactory.

The Predictive Maintenance Organization does this through use of installed and portable diagnostic tools, which monitor selected equipment parameters. The organization maintains a database of identified equipment and parameters for which they establish base lines, set alert points and coordinate predictive maintenance activities. The Engineering Director has overall responsibility for the PMP.

DCPD has permanent vibration sensors with remote Control Room readouts on its Reactor Coolant Pumps, Turbine Generators, and Main Feedwater Pumps. Another approximately 300 components are monitored typically monthly with portable vibration detecting equipment. The latest acquired data are compared with previous data for trends, and if significant degradation is observed, a Corrective Action Program Notification is initiated, and components considered "degraded" are placed on a "Watch List." Not only does the Vibration Analyst identify the fault but is also expected to provide a corrective action Recommendation. Following corrective action by Maintenance, a confirmatory vibration survey is performed to assure the correction was effective.

DCPD has experienced high vibration on some Containment Fan Cooler Units (CFCUs) and Main Feedwater Pump (MFP) 1-1. The CFCU vibrations have been resolved with damper and louver setting changes. MFP 1-1's vibration has been accepted analytically, and the vibration alarm setpoint was increased. MFP 1-1's vibration monitoring continues.

In addition to its routine monitoring of large rotating equipment, the Group is acting in an advisory role on the Unit 2 Generator vibration and hydrogen leak issue.

Reactor Coolant Pump Vibration Monitoring System

The Reactor Coolant Pump (RCP) Vibration Monitoring System provides alerts/alarms to operators in the Control Room, providing real-time RCP vibration data, providing historical RCP vibration data, and providing diagnostic tools for the data. Issues with reliability and data retention limitations led DCPD to initiate a modification to upgrade the system to a state-of-the-art vibration monitoring system provided by General Electric Bently-Nevada, which has been used successfully elsewhere throughout the industry. The new system would provide vast improvements in the capability to retain and analyze historical RCP vibration data.

Installation of the new system was planned for three phases. The first phase consisted of installing a new network and new workstations for collecting and storing data. That phase was successfully completed in the fall of 2018, and no problems have been encountered with that portion of the system. The second phase consisted of replacing the equipment racks inside the Unit 1 Reactor Containment. The equipment racks housed various modules and cards that collected information from multiple X-Y movement sensors, seismic sensors, and speed sensors located on the four RCPs and transmitted those data via network cabling to the workstations and alarm monitoring systems outside of the Reactor Containment. The second phase was completed on Unit 1 during its 1R21 Refueling Outage in early 2019. The third phase of the project was to install similar equipment racks on Unit 2 during its Refueling Outage in the fall of 2019. The actual sensors on the RCPs and their associated cabling to the rack were not planned for replacement.

Following the restart of Unit 1 after its Refueling Outage, intermittent problems occurred with the newly installed racks which were located inside of Reactor Containment. Periodically, the racks would stop communicating with the network outside of Reactor Containment and would require a reset. The communications failures also initiated alarms in the Control Room which placed an unnecessary burden on the operators to investigate and defeat the erroneous alarms and also to monitor alternate indications (RCP temperatures and seal leakoff). Station engineers were working with the vendor to identify and correct the cause of the problem, which at this time appeared to be related to high levels of electrical noise on the system and how the rack cards were programmed to respond to high levels of electrical noise. An additional data acquisition system had been temporarily installed on the system to assist with troubleshooting, but that system had failed shortly after installation.

The decision was made to accept the current performance of the installed system with the mitigations in place and to continue the actions to cancel the Unit 2 design, continue to monitor boot rate, replace frame probes in 1R22, enable PK 05-05 alarms for stator frame vibration, and investigate a method to identify/flag invalid data during input card reboots. The primary considerations were as

follows:

- Minimal operational risk related to needing immediate operator action due to a changed bearing condition during the cumulative time the system would be re-booting
- Increased reliability risk on both Units due to unavailability of spare parts
- Essentially no operational risk related to vibration alarms alone.

It was also recognized that the communication of this decision will need to be effectively managed, with particular attention applied to Operations, and a communications plan was designed.

The DCPD Vibration Monitoring Program appeared satisfactory to monitor equipment vibration and to prevent vibration-induced equipment failures.

Boric Acid Corrosion Control Program (Volume II, [Exhibit D.8](#), Section 3.7)

DCPD, like other nuclear power plants, uses boric acid in the Reactor Coolant System for long-term, slow reactivity control along with the fast-acting control rods. Boron absorbs neutrons, and as the reactivity in the nuclear fuel drops due to burnup, the concentration of boron in the coolant is reduced. The use of boric acid makes the coolant more corrosive to carbon steel components, and this potential for corrosion must be properly managed to avoid equipment damage. The DCPD BACC Program is controlled by Procedure ER1.ID2, "Boric Acid Corrosion Control Program," Revision 7, a copy of which was provided to and reviewed by the DCISC. The DCPD In-Service Inspection (ISI) Group has overall responsibility for the BACC Program.

The procedure provides instructions for documenting and evaluating boric acid leaks and any resulting material damage. DCPD reported that accessible areas are typically inspected every six months, and inaccessible areas (primarily inside Reactor Containment) are typically inspected once every refueling cycle.

Additionally, Operations staff are trained specifically on how to identify and report boric acid leaks during their routine area inspections. Leaks are typically identified visually by the white coating of boric acid crystals on the leak area.

Any identified leaks are recorded via Notification into the Corrective Action System and included on the DCPD Boric Acid Leaker List. A Boric Acid Review Team, which is made up of representatives from many station functions, reviews items on the Boric Acid Leaker List and determines the required corrective actions and schedule for completion. Minor leaks may be corrected by tightening or re-torquing fasteners, adjusting valve packing, repairing gaskets, or repacking leaking valves.

Long-term corrective actions include upgrading valve packing materials and loading configurations, gasket replacement, protective coatings and cladding to impede boric acid attack, material changes to replace low carbon steel with corrosion-resistant materials, or other design modifications. Additionally, qualified inspectors from the ISI Group inspect the leak area to determine if the boric acid

has caused any damage to equipment. If damage is found, it is reviewed by qualified engineers to evaluate the extent of the damage and determine any impact on the functionality of the component. If a leak cannot be promptly repaired, a reinspection interval is established to ensure the continued functionality of the component.

BACC Program status is reflected in part by the significance and number of boric acid leaks being tracked on the Boric Acid Leaker List and the number of leaks is regularly included as a performance indicator in the monthly Plant Performance Improvement Report.

DCPP's Boric Acid Corrosion Control Program was being effectively implemented in accordance with the applicable industry guidelines. The number of identified leaks was at an acceptable level, and leaks were being properly monitored and tracked for repairs.

4.3.3 Conclusions and Recommendations

Conclusions: The DCPP Engineering organization has undergone an extensive revision in that engineers are focused more specifically on systems, components, programs and support. This appears to be a positive move to more efficiently and specifically concentrate efforts on these aspects of the plant. The DCPP Engineering Excellence Plan has been shown to be effective in bringing "technical conscience" to DCPP, not only in Engineering, but also Operations and other technical groups in the plant.

Recommendations: None

[31st Annual Report](#), [Volume I](#), Section 4.4, Human Performance: Human Errors and Improving Safety and Efficiency of Plant Performance

4.4 Human Performance: Human Errors and Improving Safety and Efficiency of Plant Performance

4.4.1 Overview and Previous Activities

Human Performance is usually used to refer to "human errors" and the term is used herein in that manner. The issues around plant safety and plant efficiency having to do with human error reduction are also included in this section. The goal of the human performance program is to reduce the number of human errors to improve plant safety and plant efficiency by improving human performance.

During the previous reporting period, the DCISC reviewed the following topics related to Human Performance at two Fact-finding Meetings and two Public Meetings:

- Safety Fair Observation
- Programs that Monitor Human Performance, Human Performance Indicators, and Trends in Human Performance
- Operations Department Human Performance

The DCISC concluded the following during the previous reporting period:

DCPP's Safety Fair was an excellent activity that encouraged employee awareness and knowledge of various important work safety topics in preparation for the upcoming outage. DCPP identified significant negative trends in Operations Department human performance during 2019.

Corrective actions were initiated, and the corrective actions appeared appropriate.

4.4.2 Current Period Activities

During the current period, the DCISC had presentations on human performance at one Fact-finding Meeting. The following topic was reviewed:

- Human Performance Update

Human Performance Update (Volume II, [Exhibit D.8](#), Section 3.5)

The DCISC received an update on DCP's trends in Human Performance. DCP continuously tracks human error events to detect trends and to serve as a basis for making changes for human performance improvement. Events are categorized as to their severity as follows (most severe to least severe):

- Site Level Events (SLE)
- Department Level Events (DLE)
- Organizational Learning Opportunities (OLOs)

During a March 2020 review, the DCISC noted that DCP incurred a significant increase in the occurrence rate of SLEs. Specifically, prior to 2019, the last SLE at the station was recorded in August of 2014, but during the last six months of 2019, three SLEs occurred. Investigations were initiated to determine the possible causes and initiate corrective actions. The DCISC reviewed and evaluated as satisfactory the effectiveness of corrective actions during other intervening meetings. On April 18, 2021, operators and maintenance personnel identified that two cooling water hoses inside the Unit 2 Main Generator had been incorrectly installed by a contractor. This error led to a higher-than-expected temperature in the generator and could have led to damage due to the restricted flow of cooling water to one coil and one ring segment in the generator. The unit was taken offline to effect repairs. This was evaluated as an SLE due to the failure to achieve performance standards in maintaining the plant configuration during maintenance which resulted in a power reduction greater than 10%. This was the only SLE that occurred since December of 2019.

The DCISC reviewed trends in DLE performance. Trends through February 2021 captured five DLEs occurring within the year ending in February which resulted in the 12-month rolling average being above the goal set by DCP. The primary driver for the high 12-month rolling indicator were three DLEs that occurred during the Unit 1 Refueling Outage 1R22 in October of 2021. Two of the October DLEs involved clearance and work management issues, and the third DLE involved a violation of confined space entry procedures. Corrective actions were initiated, primarily within the Operations Department, and close monitoring of issues prior to and during Refueling Outage 2R22 in the spring of 2021 found that the corrective actions were generally effective. One DLE occurred since the Refueling Outage 1R22 which was a recordable personnel injury in March 2021. While working on a failed roll-up door in the Main Warehouse, a chain drive shifted and pinched a technician's finger which required stitches by the onsite medical staff.

OLOs are collected and monitored primarily by the Performance Improvement Coordinators (PICOs) for each major department at the station. The PICOs facilitated continuous performance monitoring meetings within each department, typically held monthly, during which the OLOs were reviewed to identify any possible trends and initiate corrective actions through the station's Corrective Action Program. Additionally, the PICOs from all departments reviewed the OLOs

as needed to identify any station-wide trends requiring broader corrective actions. The results of these efforts were summarized monthly in Performance Improvement Dashboards for each of the five major departments - Operations, Maintenance, Engineering, Learning Services, and Security and Emergency Services. Lastly, the results of all of the Performance Improvement programs were rolled together for management review and assessment via a station-level Performance Review Meeting which was typically held quarterly. The DCISC regularly reviewed the Performance Improvement Dashboards and found them effective in tracking lower-level human performance events and trends.

The DCISC also reviewed a Performance Improvement Dashboard prepared using data and events that occurred during Refueling Outage 2R22. The roll-up showed that there were no SLEs, 1 DLE, and 21 OLOs during the outage. (One SLE occurred following the refueling outage as noted above.) Based primarily on the OLOs, six human performance-related trends were identified and entered into the CAP as follows:

- Dropped Object Events
- Confined Space Equipment Deficiencies
- Maintenance Services Events
- Station Safety Events
- Engineering Challenges
- Contractor Injuries

The DCISC found that human performance events at DCPD were being effectively captured and trended with appropriate corrective actions being initiated when needed. The station improved its performance in reducing Station Level Events but recorded an undesirably high number of Department Level Events during Refueling Outage 1R22. The number of Department Level Events was reduced during Refueling Outage 2R22.

4.4.3 Conclusions and Recommendations

Conclusion: The DCISC found that human performance events at DCPD were being effectively captured and trended with appropriate corrective actions being initiated when needed. The station improved its performance in reducing Station Level Events but recorded an undesirably high number of Department Level Events during Refueling Outage 1R22. The number of Department Level Events was reduced during Refueling Outage 2R22.

Recommendations: None

[31st Annual Report](#), [Volume I](#), Section 4.5, Health, Nuclear Safety Culture, and Safety Conscious Work Environment

4.5 Nuclear Safety Culture, and Safety Conscious Work Environment

4.5.1 Overview and Previous Activities

The purpose of Nuclear Safety Culture, and Safety Conscious Work Environment (SCWE) is twofold: 1) the health of the individual employee, and 2) nuclear and personnel safety as the context and requirement for all DCPD employees. Included in the area are all health related issues. This section also focuses on Safety as a contextual, cultural requirement.

In the previous reviewing period (2017-2018) the DCISC reviewed the following:

- Nuclear Safety Culture

The DCISC concluded the following:

The DCPD Nuclear Safety Culture Monitoring Panel and the Safety Culture Leadership Team identified an Improvement Opportunity that employee perception of the station's ability to maintain a proficient workforce is causing distraction. This matches the DCISC concern about retention of qualified, experienced personnel necessary to operate DCPD at an appropriate level of safety. The DCISC will continue to monitor this area closely.

4.5.2 Current Period Activities

During the current period, the DCISC reviewed the following topics that focused specifically on Health, Nuclear Safety Culture, or Safety Conscious Work Environment:

- Employee Concerns Program

Employee Concerns Program (Volume II, [Exhibit D.2](#), 3.9)

The purpose of the Employee Concerns Program (ECP) is to be an independent and impartial investigator of concerns raised by employees. This is avenue for employees who for any reason did not wish to report concerns directly to supervisors or managers. A specific purpose of the program is to provide such employees with a method for investigation and resolution of concerns that falls

outside of the station's Corrective Action Program. The group reported directly to the CNO and met periodically with the CNO or when warranted by the results of a formal investigation. Two station procedures governed the ECP (OM3.ID3, "Employee Concerns Program," Revision 17, dated April 17, 2017, and OM3.NQ1, "Employee Concerns Investigations and Reporting," Revision 12, dated April 17, 2017), copies of which were provided to and reviewed by the DCISC. The procedures contained extensive guidance on implementing the program and for providing all employees an ability to raise quality or safety concerns without fear of retaliation. Confidentiality of any reporting individual's identity was assured, unless precluded by lawful requests for information from the NRC or a court. The primary methods through which concerns were entered into and reviewed by the ECP process were:

- Concerns submitted by employees directly into the ECP program,
- Referral of allegations of wrongdoing from employees to the NRC which were referred to PG&E for further investigation and response,
- Anonymous notifications entered into the Corrective Action Program, and
- Special requests from managers or other departments (for example - any potential safety concerns contained in employee resignation letters).

Statistics for 2019 and through August 2020 were as follows:

Category	2019	2020 (thru August)
Concerns, formal investigation not required	40	25
Concerns, formal investigation performed	6	4
Anonymous Notifications*	192	112
NRC Allegations referred to PG&E	5	0

* Corrective Action Program

The ECP group had been heavily involved in reviewing various aspects of the COVID-19 impacts. While the number of concerns spiked in early 2020 with several issues related to COVID-19, the overall numbers for the year remained consistent with past years. A large number of anonymous notifications was submitted related to COVID-19, with the bulk (approximately 64 of the 192 received through August 2020) related to concerns within the Security Department. The concerns included excessive overtime, COVID-19 related policies, pay and incentives, and on-the-job distractions. As a part of the ECP group's initiative to become more engaged in field activities, the group had devised a strategy to perform "pulsing activities." A pulsing activity involved members of the ECP group reaching out to individuals within various departments at the station and informally asking specific questions on topics that had the potential to affect safety. As a part of investigating and tracking COVID-19 related concerns, the ECP group was reaching out to employees via phone calls and asking a series of questions related to work processes at the station and at home for employees who were working from home. The DCISC found the pulsing plan to be

thorough and a good initiative to gather the opinions of employees regarding the impacts of the COVID-19 Pandemic on the station. Noteworthy was the fact that the plan called for 24 interviews to be completed monthly with employees from various departments during the period from March through December 2020 (240 total interviews planned).

Also during the COVID-19 pandemic, the Nuclear Safety Culture Monitoring Panel (NSCMP) met several times to review concerns related to the pandemic. Ms. Wells provided the DCISC with a copy of the Nuclear Safety Culture Review Report which contained a summary of the NSCMP's meetings during the period from February to mid-May. The NSCMP's meetings appeared to be well focused on reviewing concerns expressed by employees at the station and tracking the resulting recommended actions.

There was one technical concern which was currently being investigated by the ECP group that was related to a situation where management had not accepted Engineering's recommendations regarding changing the periodicity for a preventive maintenance activity. One of the ECP group's responses to this issue was to initiate another pulsing activity to perform an informal survey within the Engineering Department to ascertain if there were broader concerns with the deferral of work activities at the station in general. As the investigation was ongoing, the DCISC did not inquire further into the details of the concern.

Separately, DCP's Differing Professional Opinions (DPOs) Program provides a formal process for resolving differences in technical opinions between employees and supervision over issues possibly affecting nuclear safety or licensing. The DPO process was governed by procedure OM3.ID6, "Differing Professional Opinion," Revision 2, dated November 15, 2012, a copy of which was also provided and reviewed by the DCISC. The DPO process has not been frequently used, with only one DPO case having been processed in the last five years.

The DCP Employee Concerns Program continued to function well in receiving and investigating employee concerns in a confidential manner. During 2019, as in past years, and to date in 2020, there were no significant concerns regarding nuclear safety. A number of COVID-19 pandemic-related concerns from employees were being thoroughly evaluated by the Employee Concerns Program.

4.5.3 Conclusions and Recommendations

Conclusions: The DCP Employee Concerns Program, part of it Nuclear Safety Culture, appeared to be functioning effectively in addressing employees' concerns.

Recommendations: None

[31st Annual Report, Volume I, Section 4.6, Performance Improvement Programs](#)

4.6 Performance Improvement Programs

4.6.1 Overview and Previous Activities

Performance Improvement Programs include multiple programs included in DCP's Performance Improvement Initiatives, such as Corrective Action, Industry Operating Experience, Benchmarking, Self-Assessments, etc. Many consider these to be "learning" programs whereby the organization learns to improve from its and others' experiences. As have all nuclear plants, DCP has implemented a Corrective Action Program (CAP). The CAP is a formal, controlled process used to identify and correct problems which occur. A key part of the CAP is root cause analyses, which are utilized to ascertain the real causes of problems or events such that corrective actions can be taken to prevent their recurrence.

During the previous reporting period, the DCISC reviewed the following topic related to Performance Improvement Programs at one Fact-Finding Meeting:

- Notification Review Team Meeting

The DCISC concluded the following during the previous reporting period:

A meeting of the DCP Notification Review Team was conducted efficiently and effectively. The team appropriately reviewed and dispositioned approximately 50 Notifications from the previous day using a multi-user collaborative application.

4.6.2 Current Period Activities

During the current period, the DCISC reviewed Performance Improvement Programs at three Fact-finding Meetings and one Public Meeting. The following topics were reviewed:

- Corrective Action Review Board Meetings
- Self-Assessment Program
- Performance Improvement Programs

[Corrective Action Review Board Meetings](#) (Volume II, [Exhibit D.2](#), Section 3.5; and [Exhibit D.4](#) Section 3.2; and [Exhibit D.8](#), Section 3.12)

The DCISC attended the August 19, 2020, meeting of DCP's Corrective Action Review Board (CARB). The CARB is governed by DCP Procedure OM4.ID15, "Corrective Action Review Board," and its purpose is to provide a significant venue for station personnel to demonstrate commitment to Corrective Action Program (CAP) excellence. The CARB fulfills a need for senior management oversight of the CAP, and this oversight function includes:

- Reviewing Root Cause Evaluations (RCEs) for accuracy, completeness and alignment of the problem, causes and corrective actions
- Approving extensions to the due dates for Corrective Actions to prevent recurrence.
- Approving Effectiveness Evaluations for CAP documents
- Periodically reviewing CAP metrics to ensure the CAP is meeting management expectations
- Reviewing and dispositioning requests for Cause Evaluation downgrades
- Reviewing notifications screened by the Notification Review Team

The membership of the CARB consists of regular and alternate members designated in writing by the Station Director. CARB meetings are held as necessary, typically on a weekly basis. This meeting was chaired by Dennis Petersen, the Operations Director.

The agenda for this meeting included the following:

- Safety Assignments
- Facilitative Leadership Minute
- Review Desired Outcomes
- Verify Quorum
- Review of Previous Meeting Action Items and Evaluation
- Review and Approve Previous Meeting Minutes
- Review Cause Evaluation 51080669
- Review Condition Reports
- Emergent New Business - Interim Review of Root Cause Evaluation 51083213
- Review Actions Items and Meeting Evaluation

The CARB reviewed and discussed the following significant items during this meeting:

- Review of Cause Evaluation 51080669, Debris found in Battery 1-1, Cell 47. The CARB reviewed the quality of the Cause Evaluation which the DCISC found to be extensive and detailed in evaluating both the cause of the problem and its Extent of Condition for any possible effects on other battery cells.

- Interim Review of Root Cause Evaluation 51083213, Leak on AFW Piping After LCV-111. This was a report on the progress of the RCE for the Unit 2 AFW leak previously reviewed by the DCISC. The CARB reviewed the preliminary RCE results and provided appropriate questions and direction for the RCE team to consider in finalizing its evaluation.
- The DCPD Corrective Action Review Board meeting on August 19, 2020, appeared satisfactory in that the meeting met the intended objectives. Discussion of the significant items was comprehensive.

The DCISC attended the November 10, 2020, meeting of DCPD's CARB. The agenda for this meeting included the following:

- Safety Minute
- Facilitative Leadership Minute
- Review Desired Outcomes
- Verify Quorum
- Review of Previous Meeting Action Items and Evaluation
- Review and Approve Previous Meeting Minutes
- Review Bring-Back Item SAPN 51091296
- Review 20 Oldest Non-Long Term Corrective Action Items
- Review Performance Improvement Status Report
- Review Closed Anonymous Notifications
- Review Condition Reports
- Review Action Items and Meeting Evaluation

The CARB reviewed and discussed the following significant item during this meeting:

- Review of SAPN 51091296, Adverse Trend-Heat Stress (Containment). The CARB reviewed the quality of the Corrective Actions initiated in response to three heat stress incidents that occurred early during Refueling Outage 1R22. The problems occurred when personnel became overheated in the Containment Building due primarily to sweat and humidity making masks (required for COVID-19 spread prevention) damp and hard to breathe through. In response to these events, the standards for the wearing of masks were modified to provide workers additional flexibility to step away from work activities, remove masks, and rest for short time periods inside the Containment Building. Following revision of the standards, there were no additional heat stress events. The CARB expressed appropriate concern that organizational weaknesses and corrective actions would also be properly identified. The presenters responded that the station Organizational Response Tool would be implemented to review the event, and corrective actions would be captured in the lessons learned for the outage.

The DCPD Corrective Action Review Board meeting on November 10, 2020,

appeared satisfactory in that the meeting met the intended objectives. Discussion of one significant item was comprehensive.

The DCISC observed the April 28, 2021, meeting of the DCPD CARB. The agenda for this meeting included the following:

- Safety Assignments
- Facilitative Leadership Minute
- Review Desired Outcomes
- Verify Quorum
- Assign a Meeting Skeptic
- Review of Previous Meeting Action Items and Evaluation
- Review and Approve Previous Meeting Minutes
- Cause Evaluation Downgrade - SAPN 5116798
- Industry Event Report Effectiveness Review - SAPN 51103890
- Review Condition Reports and CAP Trends
- Leadership Insight Task Review
- Review Actions Items and Meeting Evaluation

The CARB reviewed and discussed the following significant items during this meeting:

- Cause Evaluation Downgrade 51103890, "DA-T11090R SCCW Temp Reads 10 °F High." The CARB reviewed the administrative closing of this Cause Evaluation and adding the investigation and corrective actions into the larger Root Cause Evaluation for Unit 2 Main Generator Issues. The CARB approved this item.
- Industry Event Report Effectiveness Review 51103890, for SAPN 50708615, "IER L2-15-23: Ineffective Dose Monitoring." The CARB reviewed the effectiveness of actions taken in response to an industry event notification regarding ineffective dose monitoring for radiation workers. The CARB approved this item.

The DCPD Corrective Action Review Board meeting on April 28, 2021, appeared satisfactory in that the meeting met the intended objectives. Discussion of the significant items was comprehensive.

Self-Assessment Program (Volume II, [Exhibit D.2](#), Section 3.12)

DCPD's Self-Assessment Program is controlled by Procedure OM15. ID4, Revision 16, "Self-Assessment and Benchmarking," dated September 12, 2019, a copy of which was provided to and reviewed by the DCISC. This procedure describes the various station responsibilities for performing, reviewing, reporting and approving the various types of Self-Assessments to insure consistency in their execution and conduct. It outlines the process and requirements for all types of Self-

Assessments, especially formal Self-Assessments. The process was recently revised to incorporate changes recommended by Nuclear Industry Standard Process NISP-PI-02, "Conduct of Self-Assessments and Benchmarks," dated March 1, 2019, in order improve efficiency. The revisions focused primarily upon reducing the administrative burden for non-formal Self-Assessments. The program now includes three general types of self-assessments:

1. Formal Self-Assessment - an evaluation of a particular program, process, system or potential problem area using a structured methodology involving scheduling, planning, one or more industry peers, a team of DCPD personnel, training, documentation in written reports and Notifications, and report-outs to management.
2. Quick Hit Self-Assessment (QHSA) - a narrow, snapshot look at a specific program, process, or issue, usually of a one- or two-day duration and not requiring industry peer involvement or report out to management.
3. Benchmarking - a study to identify industry excellence or best practices in an external organization. Compares findings at other organizations to DCPD in order to identify gaps and develop recommendations for improvement. The DCISC separately reviewed DCPD's Benchmarking programs during its November 2018 Fact-Finding Meeting.

During the twelve-month period from August 2019 to August 2020, DCPD performed the following numbers of Self-Assessments:

- 8 Formal Self-Assessments
- 41 Quick Hit Self Assessments
- 30 Benchmarking Activities

Self-Assessments were performed in the following functional areas:

- Chemistry
- Cyber Security
- Decommissioning
- Engineering
- Maintenance
- Operations
- Organizational Effectiveness/Learning Services
- Performance Improvement
- Procurement
- Quality Verification
- Radiation Protection
- Safety
- Security
- Work Management

DCPP formal Self-Assessments are monitored and reported in the monthly Performance Improvement (PI) Status Summary, copies of which were regularly provided to the DCISC. The PI Status Summary lists all planned formal Self-Assessments with their conduct dates and current statuses. The PI Status Summary is also reviewed by the CARB monthly, and the CARB is responsible for providing senior leadership oversight and guidance as well as performing a final review for all formal Self-Assessments. The DCISC was regularly provided copies of formal Self-Assessments and QHSAs. In general, both types of assessments were found to be well performed with follow-up actions for improvements clearly identified and tracked. Some examples of assessments the DCISC reviewed and found satisfactory were:

- Formal Self-Assessment for Cyber Security
- Formal Self-Assessment for Problem Identification and Resolution
- QHSA for Reactivity Management
- QHSA for Procurement Records Management System Practices
- QHSA for Critical Spares Management
- QHSA for Operability Determinations

Regarding evaluations by external organizations, the NRC performed an inspection of the DCPP Problem Identification and Resolution Program in May 2018, and the World Association of Nuclear Operators reviewed the program in August of 2019. Both organizations concluded that the program was effective.

The DCISC inquired about a Quality Verification (QV) Department finding regarding failures to document Self-Assessments. DCPP stated that the finding related to the fact that the Procurement Department failed to perform a recurring Self-Assessment within the two-year periodicity as required by station procedures. As a part of the corrective actions for the QV finding a review of station procedures was initiated to ensure that all formal and informal Self-Assessments were being performed as required by plant procedures. The evaluation identified that a total of 67 station procedures contained requirements to perform Self-Assessments and found 5 additional cases (deficiencies) where procedurally required Self-Assessments were not completed within the required periodicity. The evaluation also identified four gaps and three enhancements to ensure that the Self-Assessments would be properly performed in the future. The deficiencies, gaps and enhancements were entered into the Corrective Action System to track their resolution.

DCPP's Self-Assessment Program continues to be an active and effective program for evaluating and improving station performance. Following the identification that several recurring Self-Assessments had not been completed within the periodicity required by station procedures, appropriate corrective actions were initiated.

Performance Improvement Programs (Volume II, [Exhibit B.9](#))

The following is a summary of DCP's presentation on this topic at DCISC's June 2021 Public Meeting: DCP's Performance Improvement Model consists of performance monitoring and identification of challenges, concerns, and issues and documenting any gaps to performance in the plant's Corrective Action Program where analysis, identification and planning takes place for a solution with actions to implement the solutions and further monitoring to assess results following. The elements of the Performance Improvement Model included:

- Corrective Action Program (CAP) - for improving and maintaining a positive safety culture, the CAP provides the opportunity for employees to identify and document issues, using what are termed CAP Notifications, which allows them to follow-up and monitor issues identified. DCP uses the CAP to track, analyze the causes or drivers to performance gaps, and plan actions in response. Employees can participate in CAP processes, see the results, and are encouraged to raise issues. Each notification is assigned an owner and causal analysis is performance depending upon the significance level. When a notification is closed the employee who initiated the notification receives an email is asked to rate his or her satisfaction with the resolution and these results are monitored by the DCP leadership team to reopen the issue if necessary. Management retains discretion to elevate an issue's significance based upon its application to DCP. The Corrective Action Review Board (CARB) is chaired by the Plant Manager and made up of senior leadership and the Maintenance, Operations and Engineering Directors. The CARB reviews several metrics concerning the overall program health of the CAP. Every weekday the Notification Review Team, which includes experts from the Chemistry, Radiation Protection, Training, Engineering and Maintenance organizations, reviews the notifications generated the previous day and each notification is immediately referred to the shift manager for an initial assessment of any impact on operations. The Notification Review Team assigns the significance level to the notification and a proposed due date for a resolution. Each day the senior leadership team reviews the previous day's actions of the Notification Review Team to identify any cognitive trends and to raise awareness of any safety or human performance events.
- Self-Assessment - Forty-seven self-assessments were performed in 2021. Self-assessments were structured activities for reviewing the activities and performance of an organization and a way to identify performance gaps compared to internal and external standards. Informal self-assessments are also performed. Self-assessments are also performed prior to every major NRC inspection.
- Benchmarking - Both formal and informal benchmarking occurs, dependent upon the level of formality and whether there is a charter approved for the activity by the CARB. During 2020, DCP performed 31 formal benchmarking activities and the results are documented in the CAP

- Incoming and Outgoing Operating Experience - During 2020, DCPD reviewed 697 evaluations of industry operating experience consisting of events, issues, and lesson learned from other stations to enhance DCPD safety and reliability. DCPD also shares experience, lessons learned and information with other plants through the Institute for Nuclear Power Operations (INPO). INPO flags operating experience with significance tier levels for evaluation, and in some cases a formal response is required to be provided to INPO.
- Performance Monitoring and Trending - Performance improvement coordinators are assigned responsibilities for various departments to review CAP data, make observations, review safety events and provide quality verification and safety culture findings and identify cognitive trending. These performance improvement coordinators attend departmental morning meetings to provide information on events which may have occurred in other departments and to heighten awareness and provide information on identified or potential trends.
- Use of Human Performance Tools - The plant has human performance tools which are used as part of the Human Performance Program. These include robust pre-job briefings and pre-job checklists which provide identification of higher risk activities and employees are trained to employ a questioning attitude. Procedure use and adherence is stressed with the use of correct component verification and the two-minute rule and is documented in the plant's Site Standards Handbook which he described a quick reference to the correct procedures.

During 2020, the CAP inventory of open items decreased while a steady inventory of new notifications to the CAP continued, as it did in 2019 and 2018. The reason for the CAP inventory decrease was because DCPD was getting more efficient in addressing challenges. DCPD continues to look to simplify its processes and to use self-assessment, benchmarking, and human performance tools to ensure to remain aware of the DCPD organization's performance and to review and use operating experience to learn from others and share DCPD's operating experience and to trend performance and ensure supervisors are in the field to engage with employees.

4.6.3 Conclusions and Recommendations

Conclusion: The DCPD Corrective Action Review Board meetings on August 19, 2020, November 10, 2020, and April 28, 2021, were conducted satisfactorily and discussions of significant items were comprehensive. DCPD's Self-Assessment Program continues to be an active and effective program for evaluating and improving station performance. Following the identification that several recurring Self-Assessments had not been completed within the periodicity required by station procedures,

appropriate corrective actions were initiated.

Recommendations: None

[31st Annual Report, Volume I, Section 4.7, Emergency Preparedness](#)

4.7 Emergency Preparedness

4.7.1 Overview and Previous Activities

An Emergency Preparedness (EP) Program has been in-place since the beginning of the nuclear power industry; however, the accident at Three Mile Island brought substantial changes. Prior to Three Mile Island, Emergency Operating Procedures (EOPs) were primarily event-based, requiring the operator to know which event was taking place. Afterward, the EOPs became symptom-based, making it easier for the operator to decide what actions to take. The five major EP facilities include (1) the Control Room (simulator in practice) where operators respond to the accident, (2) the station Technical Support Center (TSC) where engineering, computer, radiological assessment, NRC, and operations, as well as documents and procedures, are located, (3) the offsite Emergency Operations Facility (EOF) where the Recovery Manager and administrative and technical staff are located, (4) a station Operations Support Center (OSC) that provides a location to stage and dispatch operations, maintenance, firefighting, and radiation protection personnel, and (5) the Joint Information Center (JIC) where DCP and San Luis Obispo County interface with the media.

The DCISC reviews Emergency Preparedness at DCP on a regular basis. Past Committee activities have included observations and reviews of drills and full, graded emergency exercises each year and related issues from the observations. The DCISC reviewed the following aspects of DCP Emergency Preparedness during the previous reporting period:

- [Meet with the New San Luis Obispo County Director of Emergency Services](#)

The DCISC Fact-finding Team visit with the new Director of San Luis Obispo County Emergency Services was beneficial to meet and learn about him and to share information with him about the DCISC.

4.7.2 Current Period Activities

The DCISC reviewed the following aspects of DCP Emergency Preparedness during the current reporting period:

- Use of Social Media in Emergency Preparedness
- NRC Inspection of Siren Maintenance

- Emergency Preparedness Virtual Capabilities
- Emergency Preparedness Update and COVID
- Emergency Preparedness During Decommissioning

DCPP Use of Social Media in Context of Emergency Preparedness (Volume II, [Exhibit D.1](#), Section 3.8)

PG&E's use of social media (primarily Instagram, Facebook, and Twitter) is controlled by the Corporate Office in San Francisco. DCPD emergency use of social media from the Emergency Operations Center (EOC) and Joint Information Center (JIC) is coordinated with that office. The PG&E corporate computer system experienced significant challenges when it was overloaded during Public Safety Power Shutdown blackouts during the summer of 2019 and has subsequently been upgraded to have substantially greater capacity. In the event of a DCPD emergency, the corporate website would be replaced with a pre-staged DCPD emergency website. DCPD coordinates its social media with San Luis Obispo County Emergency Services and has made available to the County its EOC and JIC for COVID-19 activities.

DCPD uses social media for normal and emergency operations in coordination with the PG&E Corporate Office. The DCISC should review the actual use of DCPD social media during the next emergency drill it observes.

NRC Inspection Finding on Emergency Siren Maintenance (Volume II, [Exhibit D.2](#), Section 3.10)

The DCISC reviewed the facts surrounding an NRC inspection finding regarding the maintenance of Early Warning System (EWS) Sirens that was contained in an NRC Inspection Report dated January 23, 2020 and was the topic of questions discussed at the DCISC's February 2020 Public Meeting.

In the subject NRC's Inspection Report, an Unresolved Item (URI) was opened related to testing of DCPD's offsite EWS Sirens. Specifically, the NRC found that DCPD Procedure EP MT-43, "Early Warning System Testing and Maintenance," had been modified to change the scheduled replacement of siren batteries from three years to five years. The change was based on vendor recommendations for a different type of batteries that were installed in the system during upgrades made to the EWS Sirens in 2014. The NRC's URI focused primarily on the status of the required corresponding changes that should have been made to the Federal Emergency Management Agency (FEMA)-approved design report, the "Alert and Notification System Design Report, Early Warning System." Specifically, it appeared that the current FEMA-approved design report contained a section containing a battery life calculation that still used the three-year replacement interval as its basis for assuring adequate battery life. The URI primarily concerned the fact that FEMA had not been given the proper opportunity to review and approve the replacement interval change due to DCPD's failure to update the

calculation contained in the FEMA-approved design report.

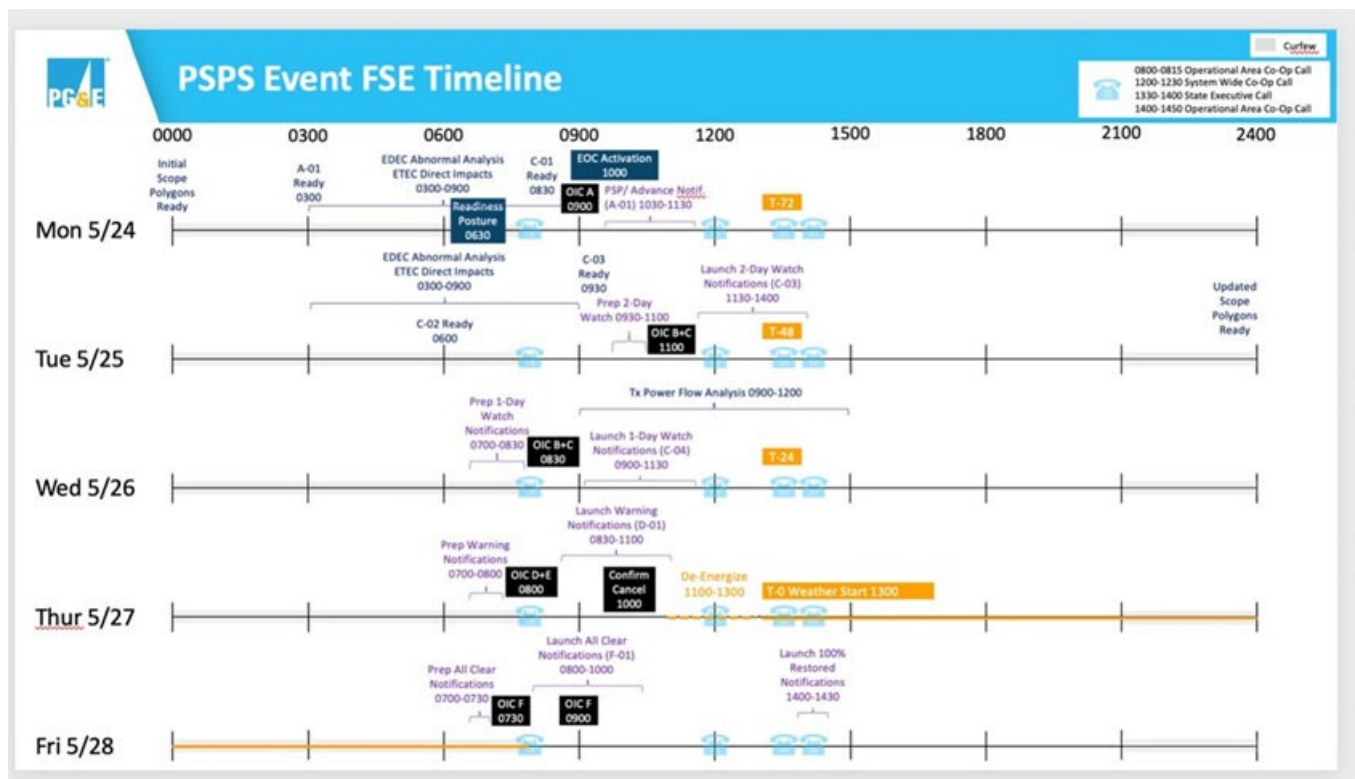
The primary issue of concern to the NRC was the fact that an outdated calculation was contained in a section of the current FEMA-approved design report. Neither DCPD nor the NRC had any questions regarding the technical adequacy of the evaluation that changed the replacement interval from three to five years. The DCISC reviewed the detailed information contained in the Inspection Report and confirmed that this was the case. In addition to the five-year periodic replacements, the batteries were tested annually and replaced if capacity fell below 80%. The type of batteries currently installed in the system had completed five years of service and annual tests without any issues following the 2014 modification through their replacement as scheduled in 2019.

FEMA had completed its review of the issue as requested by the NRC and concluded that DCPD did not properly update the subject section of the design report. FEMA also stated that it did not have any technical concerns with the five-year replacement interval for EWS Siren batteries. It was expected that the NRC would soon close the URI and would likely issue a non-cited minor violation for the failure to update the report.

The DCISC concurred with FEMA's finding that DCPD failed to properly update all portions of a design report submitted in 2014 to the Federal Emergency Management Agency with regards to the planned periodicity for siren battery replacements. This procedural failure did not degrade safety as there were no issues with the technical adequacy of changing the siren battery replacement interval from three to five years.

Emergency Preparedness Virtual Capabilities (Volume II, [Exhibit D.9](#), Section 3.7)

DCPD EP has been using MS Teams to remotely train and qualify Emergency Response Organization (ERO) personnel. EP has been meeting weekly virtually with NRC EP personnel and meeting virtually with the Nuclear Energy Institute Remote EP Task Force. The next PG&E EP exercise is a virtual five-day exercise with PG&E Corporate participation beginning on May 24 (see schedule below). The next DCPD evaluated exercise is planned for September 15, 2021, which will use some virtual technology, but also in person activities.



DCPP Emergency Preparedness (EP) has conducted personnel training and qualification and emergency exercises successfully during the COVID pandemic using remote technology such as MS Teams. Use of remote technology in some areas will continue as needed to maintain or improve the effectiveness of EP.

Emergency Preparedness Update and COVID (Volume II, [Exhibit B.3](#))

In 2020 DCPD has continued with a number of the activities planned and ongoing with the Emergency Preparedness Program including training, drills and other key events, and DCPD provided a list of recent and upcoming Emergency Preparedness Program activities. An emergency siren system test was performed in August 2020 with a 100% success rate. This test utilized 150 community volunteers, and DCPD equipped all those persons with face coverings and hand sanitizers. An automatic feedback system exists concerning the emergency sirens which provides test data immediately but the volunteers provided their personal observations of the performance of each siren in the system.

An Emergency Response Organization (ERO) full scope drill is scheduled to take place on December 2, 2020. This drill will be conducted using the ERO's facilities, with physical distancing and face covering protocols strictly observed. ERO table top drills have been successfully conducted under COVID-19 protocols and the numbers of extra participants during the December 2020 will be limited to allow more space within facilities.

The semiannual health physics drill will be conducted on December 9, 2020. The personnel in the health physics organization are very accustomed of the use of

personal protective equipment and he displayed photos of past drills. Many of the plant's existing procedures were relevant to its response to the COVID-19 pandemic. ERO workers are categorized for purposes of the pandemic as essential workers and ERO personnel have always had procedures to require notification to their supervisors in the event of any change in their ability to respond within 60 or 90 minutes as assigned or if they experience a family illness or other event which could impact their ability to respond and, in that event, it is the responsibility of the ERO team member to notify their team leader and to obtain a replacement. The ERO regularly tests its personnel to ensure they are carrying pagers and cell phones which can be used to contact them in the event a response is required.

The ERO has implemented the use of face coverings and sanitizing stations and supplies and all ERO facilities are cleaned regularly. Even with the large number of DCPD employees who are now working remotely from home the ERO staff continues to oversee the readiness, monitoring and surveillance capabilities at ERO facilities. ERO procedures are now in place to validate that personnel are feeling well and ready to work. The LiveSafe application walks essential plant personnel through the questions and the process used by the federal Centers for Disease Control and Prevention. Walk through portable temperature monitors have been installed and touch-less thermometers are available both at the plant site and at the ERO's facilities. PG&E's corporate security team can also notify ERO personnel of other types of events using the LiveSafe application. ERO muster meetings are conducted virtually with the ERO team on duty. ERO teams are rotated and remain on duty for a two-week period and regular updates are provided on the status of local, county and state conditions including PG&E and station-specific updates.

DCPD used industry operating experience concerning NRC event reports on actual emergencies that have occurred, and DCPD shares its operating experience as well in order to learn and provide information on ERO performance. ERO teams are quizzed on their proficiency in classifying, notifying, and assessing station impacts in emergency situations.

Emergency Preparedness During Decommissioning (Volume II, [Exhibit B.9](#))

(This section will be provided in the second draft.)

4.7.3 Conclusions and Recommendations

Conclusions: The DCPD Emergency Preparedness Program and Emergency Response Organization appeared to be effective and ready to respond to any plant emergencies, including given restrictions caused by the COVID-19 pandemic.

Recommendations: None

[31st Annual Report, Volume I, Section 4.8, Risk Assessment and Management](#)

4.8 Risk Assessment and Management

4.8.1 Overview and Previous Activities

PG&E has developed in-house capability to perform risk assessments and periodically updates its Probabilistic Risk Assessment (PRA) to incorporate changes in plant configuration and, if appropriate, operations. PG&E controls its risk from on-line maintenance procedurally. For On-Line Maintenance the PRA Group prepares a Risk Profile on a weekly, monthly and fuel cycle basis. The PRA Group works very closely with personnel performing the On-Line Maintenance risk assessment, and the program has been working well. The On-Line Maintenance (OLM) model has been used by Operations and Maintenance as an on-line planning tool for various operations and maintenance activities.

The DCISC reviewed the following item in DCP's Probabilistic Risk Assessment Program during the prior reporting period:

- PRA Programs
- PRA Calculation: Transition from Mode 5 to 4

In its previous reporting period the DCISC concluded that Probabilistic Risk Assessment is an effective tool in understanding and improving nuclear reactor safety. PG&E has established an effective PRA Program staffed by experienced personnel and utilizes PRA to the full extent in analyzing DCP and in operating DCP safely.

4.8.2 Current Period Activities

The DCISC reviewed the following topics during the current reporting period:

- Overall DCP PRA Programs

Overall Probabilistic Risk Assessment (PRA) Program Update (Volume II, [Exhibit D.3](#), Section 3.10)

The DCP program's principal responsibility is to maintain the station's PRA, upgrade the PRA as needed, and apply it to address safety and reliability issues affecting the plant. The principal topics discussed were the status of the PRA and

its use in various applications to support plant safety.

Status of the PRA: In the last year or more, one important activity has been (as always) maintaining the main PRA model, and that work has continued without any problems. No important upgrades to the model have been undertaken, but "maintaining" it means, among other things, keeping the model up to date with the plant's changing configuration and also keeping the failure data base current. To perform this work acceptably, the PRA team needs to monitor procedural and design changes, which they do regularly. The last complete model update was done in 2019, and the next one is scheduled for 2022; this three-year cycle is typical of the industry. However, in part because the plant will be closing in only a few years, the group is not anticipating any major PRA model upgrades in that period. [The distinction between a PRA update and an upgrade is well defined in the industry; it essentially differentiates using a new or different model (an upgrade) from using newer data or modeling a slightly different plant configuration (an update.) An upgrade requires a new peer review before the model can be said to meet the ASME-ANS PRA standard and can then be used in regulatory applications.]

Support for plant safety decision-making: The PRA model is used regularly to support a wide variety of different safety decisions. One application mentioned was when an event or off-normal condition occurs, and the plant needs to analyze it and report about to the NRC through the NRC's "Significance Determination Process" (SDP). The SDP requires using the PRA, among other tools, to understand the risk significance of the event or off-normal condition.

Another application is when a technical specification change or maintenance interval change is being considered. The PRA can be used to analyze how much change in various risk metrics would occur, to aid decision-makers. One recent example was PRA support for a proposal to change the testing interval for control-rod insertion from three months to six months. The DCISC Fact-finding team, reviewed it and found it satisfactory: it was documented in an understandable way and used standard PRA analysis approaches.

Still another example is supporting the In-Service-Inspection (ISI) program for piping and pressure vessels by using risk-analysis insights to optimize the intervals for various inspections. This so-called "risk-informed-ISI" approach has been developed over many years and is now taking hold industry-wide. The PRA has been used to support decisions that prioritize the various inspections by their importance to plant risk, and this PRA support has been a successful application of the PRA model.

Outage and out-of-service safety management: The PRA team continues to use the Phoenix software program to analyze proposals to take certain equipment out-of-service when online, and also to deterministically analyze planned outages in advance (or rapidly if the outage is unplanned). A few years ago, Phoenix replaced older software. It is widely used throughout the industry and provides a

useful tool for certain types of analyses for which using the full PRA model is not needed. The analyses are often keyed to decision criteria about what is important to safety and why that are found in an NEI guidance document that in turn has been endorsed by the NRC staff. A way of thinking about the use of these PRA-type analyses is that they indicate which equipment and functions need to be given special "protection" (and for how long a duration) if other equipment or functions are taken out of service temporarily.

Supporting the exigent LAR: Elsewhere in this annual report (Section 4.15 is an extended discussion of the submittal by PG&E of an exigent License Amendment Request related to potential safety issues with auxiliary-feedwater-system piping. The PRA group performed a PRA-based analysis of the change in risk associated with the proposed inspection and repair activities, which involved taking certain safety equipment out-of-service for a defined few-day interval. That PRA analysis was shared with the DCISC Fact-finding team, which reviewed it and found it satisfactory: it used standard approaches and was well documented. The PRA analysis showed that the change in risk was small, well below thresholds of concern. This meant that there would be substantial margins between where the plant configuration would end up during the inspection and repair activity and a configuration of safety concern. Although the PRA result was not formally relied on by PG&E as one of the technical bases for the LAR request, the fact that the risk was found to be low was a major additional technical insight that was reported to have helped in obtaining NRC approval of the LAR request.

The recent spent-fuel risk study: In spring 2020, PG&E released an outside contractor's report on the differences in the risks arising from the spent fuel pools and the Independent Spent Fuel Storage Installation (ISFSI) associated with different proposed schedules for transferring spent fuel from the pools to the (ISFSI). The results of that study, performed by a UCLA team, were reported on and discussed during the DCISC's February 2020 Public Meeting. The fact that the UCLA study was not a full-blown PRA analysis (which the UCLA team itself agreed with) was discussed during this Fact-finding meeting. That study had made some approximations and embedded some scope limitations that, while fully justified technically, mean that the results cannot be thought of as a full-scope PRA analysis. However, PG&E is not considering doing a more extensive full-scope PRA-type analysis to take the UCLA study's work further. There is broad concurrence about what would be needed to do a more thorough analysis that could be used for other purposes than the objective of the UCLA study, which was to support a narrow range of decisions on scheduling of spent fuel transfers from the pools to the ISFSI. The UCLA study's report itself had discussed those issues, and it is understood that a more complete study would be fully feasible but might be quite costly. However, at the moment no decisions of importance are facing PG&E that such a study might be needed to support.

Reorganization of the PRA group: The PRA group has recently been reorganized by splitting its scope in two. One group would continue with the responsibility to support the plant PRA and applications of it. The other group would be responsible

for what is termed "generation risk management" that has a company-wide scope, including (for example) supporting risk decision-making related to PG&E's hydroelectric dam electric generation facilities or the company's transmission system.

The DCPD Probabilistic Risk Assessment (PRA) group's work today is emphasizing the support of various PRA applications, some driven by NRC regulations and others driven by internal plant needs. The use of the PRA for these purposes continues effectively. The DCISC Fact-finding Team concludes that the PRA group is doing excellent work.

4.8.3 Conclusions and Recommendations

Conclusion: Probabilistic Risk Assessment is an effective tool in understanding and improving nuclear reactor safety. PG&E has established an effective PRA Program staffed by experienced personnel and utilizes PRA to the full extent in analyzing DCPD and in operating DCPD safely.

Recommendations: None

[31st Annual Report, Volume I, Section 4.9, Nuclear Safety Oversight and Review](#)

4.9 Nuclear Safety Oversight and Review

4.9.1 Overview and Previous Activities

Note: because of the confidentiality agreement between the Institute of Nuclear Power Operations (INPO) and its member nuclear plants, and a similar policy governing DCP's internal Nuclear Safety Oversight Committee (NSOC), only limited information can be presented in this public document.

Nuclear Safety Oversight and Review is an important function in the safe operation of nuclear power plants. This oversight represents an independent, higher and/or broader level of review of operations, events, occurrences, etc. than can be obtained from the organizations performing the day-to-day plant, technical and quality functions. The Nuclear Regulatory Commission (NRC) is charged by law to regulate the nuclear industry. In carrying out this responsibility the NRC issues regulations and guides for nuclear safety and performs inspections at facilities to assure regulations are met. NRC's role at DCP is discussed in Chapter 3.0 NRC Assessments and Issues. NRC regulations require, and DCP Technical Specifications (TS) provide for, a high level of oversight in the form of the Nuclear Safety Oversight Committee (NSOC).

Additionally, the nuclear industry monitors and enhances operational safety and excellence with the Institute of Nuclear Power Operations (INPO) which performs periodic performance evaluations of each operating nuclear plant; coordinates the collection, review and dissemination of operating event information; issues good practice guidelines; provides specific event, technical and functional reviews; and issues and monitors performance goals for the industry. PG&E is a member of INPO and participates in their programs.

The Diablo Canyon Independent Safety Committee (DCISC) provides an additional level of nuclear safety review and oversight. As stated in Chapter 1.0, DCISC is charged to ". . . review Diablo Canyon operations for the purpose of assessing the safety of operations and suggesting any recommendations for safe operations". In carrying out its responsibilities DCISC receives and reviews DCP operating and technical and NRC documents; performs fact-findings at DCP and holds several public meetings and public plant tours each year to hear PG&E reports on plant operational safety and receive public input.

The DCISC observed the following oversight meetings/items during the previous reporting period (2017-2018):

- 2019 World Association of Nuclear Operators Evaluation Results

The World Association of Nuclear Operators (WANO) August 2019 evaluation of DCPD was positive. DCPD has begun its action plan to address three Areas for Improvement and is working on its response to WANO, which is due in mid-January 2020.

4.9.2 Current Period Activities

The DCISC has an agreement with DCPD to maintain Institute of Nuclear Power Operations (INPO) and Nuclear Safety Oversight Committee (NSOC) information confidential, thus only limited information is presented here.

The DCISC reviewed the following oversight item during the period 2017 - 2018:

- INPO Update
- NSOC Exit Meeting
- INPO Corporate Evaluation

Update on INPO Evaluation Actions (Volume II, [Exhibit D.1](#), Section 3.11)

After reviewing and discussing the status of resolving INPO AFIs, the DCISC Fact-finding Team concluded that the appropriate corrective actions had been initiated with the majority being complete as of the time of the meeting. Additionally, the Fact-finding Team observed that DCPD recently completed its INPO Mid-cycle Assessment with generally positive results.

Corrective actions for Areas for Improvement (AFIs) identified during the Institute of Nuclear Power Operations (INPO) biennial August 2017 evaluation of DCPD appeared to have been appropriately initiated with the majority being complete as of the time of the meeting. (Because of its privacy agreement with DCPD, the DCISC cannot share the details of the evaluation or subsequent corrective actions.)

Nuclear Safety Oversight Committee Exit Meeting (Volume II, [Exhibit D.4](#), Section 3.12)

The DCISC has an agreement with DCPD to maintain NSOC information confidential, and thus only limited information is presented here.

The NSOC is a committee of six executive-level, external industry peers. The Committee typically visits DCPD three times per year for four days each. The first three days are usually spent in the plant interviewing personnel, observing activities, and reviewing records in the following NSOC-Subcommittee areas:

- Operations, Chemistry, Learning Services
- Maintenance, Work Management, Industrial Safety
- Engineering, Risk Assessment, Equipment Reliability, Regulatory Services
- Performance Improvement, Radiation Protection, Emergency Planning, Security
- Outages, Projects, Decommissioning
- Organizational Effectiveness, Safety Culture, Quality Verification

For this particular meeting, on site interactions were limited due to the COVID-19 pandemic. Two NSOC members visited the plant to perform several days of direct observations in September, and the remainder of the NSOC observations were conducted via remote meetings. This exit meeting was held on NSOC's fourth day of remote meetings for the purpose of reporting its conclusions to DCP's Chief Nuclear Officer and leadership team. The NSOC evaluators appeared thorough in their investigations and candid in their reports. They reported on the status of several previously identified issues and concerns, closing some, and also identified a few new issues and concerns. No nuclear or personnel safety issues were identified. Overall, the NSOC evaluated DCP as continuing to be a top performer in the industry. Many of NSOC's conclusions were similar to those of DCP's Quality Verification Department and the DCISC. Two items discussed and new to the DCISC were the results of the Institute of Nuclear Power Operations (INPO) evaluation of PG&E Corporate management and an event involving the Low Pressure Overpressure Protection system in October 2020. The DCISC should review those two items at its first opportunity (see below and Section 4.1).

The DCP Nuclear Safety Oversight Committee (NSOC) appeared to be thorough and comprehensive in their investigations and candid in their reports. The DCISC should continue to attend NSOC exit meetings regularly and should follow up on two items discussed at this meeting.

Institute of Nuclear Power Operations Corporate Evaluation (Volume II, [Exhibit D.6](#), Section 3.1)

The Institute of Nuclear Power Operations (INPO) Evaluation of PG&E Corporate Management was conducted in the fall of 2020. In addition to evaluations of DCP station activities performed every two years, INPO conducts evaluations of PG&E's corporate activities that provide oversight and support to DCP approximately every six years. The last INPO Corporate Evaluation for PG&E was performed in 2013 and would have normally been due to be performed again in 2019. A one-year delay was initiated so that the evaluation could be performed after PG&E exited bankruptcy and several executive turnovers were complete. The evaluation was primarily performed remotely by INPO due to the COVID-19 Pandemic. The results were generally positive with a small number of Areas for Improvements identified. After reviewing the results, the DCISC Fact-finding Team concluded that there were no significant safety concerns and appropriate corrective actions had been initiated.

The Institute of Nuclear Power Operations (INPO) Corporate Evaluation of PG&E performed in the fall of 2020 contained no significant safety concerns, and appropriate DCPD corrective actions had been initiated. (Because of its confidentiality agreement with DCPD, the DCISC cannot share the details of the evaluation or subsequent corrective actions.)

4.9.3 Conclusions and Recommendations

Conclusions: Regular nuclear oversight of DCPD by nuclear industry organizations has proved positive for DCPD in reporting positive performance results and by providing helpful input for improved performance in achieving excellence.

Recommendations: None

[31st Annual Report](#), [Volume I](#), Section 4.10, Radiation Protection

4.10 Radiation Protection

4.10.1 Overview and Previous Activities

DCPP Technical Specifications contain requirements on Radiation Protection, and DCPP has corresponding programs and procedures to specify the details of their radiation protection programs. Although numerical limits are specified, plant personnel are also required to use the philosophy of As Low As Reasonably Achievable (ALARA) to minimize radiation exposures and releases. DCPP has a formal ALARA program; the program applies to personnel exposure in the plant as well as releases to the environment. PG&E files reports semi-annually regarding personnel exposures; releases outside DCPP; and regular soil, vegetation, water and air samples taken around the plant.

During the previous period, the DCISC reviewed Radiation Protection Programs at two Fact-finding Meetings. The following topics were reviewed:

- Annual Radiological Release Report and Annual Radiological Environmental Monitoring Report
- Individual Radiation Doses During Outages
- As Low As Reasonably Achievable (ALARA) Review Committee Meeting

The DCISC concluded the following during the previous reporting period:

The DCPD Radioactive Effluent Release Program and the Radiological Environmental Monitoring Program appeared satisfactory in calculating, monitoring and measuring radioactivity in the environment surrounding DCPD. There were no abnormal releases of radioactivity or abnormal levels of radioactivity detected. DCPD's programs for managing the radiation exposures to workers during Refueling Outages were effectively managed and outage workers' radiation exposures were limited to a very low level. A meeting of the ALARA Review Committee was well managed, and the High Radiological Risk Plans presented were appropriate to minimize personnel radiation exposure.

4.10.2 Current Period Activities

During the current period, the DCISC reviewed the following Radiation Protection item during one Fact-finding Meeting and one Public Meeting:

- Annual Radioactive Effluent Release Report and Radiological Environmental Monitoring Report

Annual Radioactive Effluent Release Report and Radiological Environmental Operating Report (Volume II, [Exhibit D.1](#), Section 3.4, and [Exhibit B.6](#))

DCPP submitted its 2019 Annual Radioactive Effluent Release Report (ARERR) to the NRC on April 30, 2020. This report described the measured/calculated quantities of radioactive gaseous effluents, liquid effluents, and direct radiation released from the plant in 2019. The report included the dose due to release of radioactive liquid and gaseous effluents and summarizes solid radwaste shipments. In all cases, the doses associated with plant effluent releases during the report period were much less than the respective Technical Specification limits. Overall, radioactivity releases from DCPP were well-controlled and maintained ALARA. There were no abnormal or uncontrolled releases during 2019.

Based on records of 2019 radioactive liquid and gaseous releases, the following off-site radiation doses to the total body of a hypothetical individual at the closest point on the northwest site boundary full-time and the corresponding percent of Technical Specifications limits for the year 2019 were reported in the ARERR as:

Effluent Type	Calculated Radiation Dose	Percent of Tech. Spec. Limit
Liquid	0.000157 millirem	0.0010%
Gaseous	0.000031 millirad	0.0010%

The 2019 Annual Radiological Environmental Operating Report (AREOR) was submitted to NRC on April 30, 2020, and it described the results of the Radiological Environmental Monitoring Program (REMP), which measures and assesses the levels of radiation or radioactivity in the environment related to operation of DCPP. The purpose of the REMF was to assess the levels of radiation or radioactivity in the environment and to verify that DCPP was operating within its design parameters. Approximately 267 environmental samples, 884 air samples, and 1440 Thermo-Luminescent Dosimeter (TLD) phosphors were collected over the course of the 2019 REMF monitoring period. Approximately 1777 radionuclide analyses were performed on the environmental samples.

The annual offsite radiological dose received by the general public from plant operations was less than one millirem which is insignificant when compared to the 620 millirem average annual radiation exposure to people in the United States from natural and man-made background radiation sources (e.g., cosmic, terrestrial, radon, medical, etc.).

The ambient direct radiation levels in the DCPP offsite environs did not change and were within the pre-operational background range. An evaluation of direct radiation measurements indicated all Federal Environmental Protection Agency 40

CFR 190 criteria were conservatively met. The ambient onsite direct radiation levels within the DCPD plant site boundary near the Independent Spent Fuel Storage Installation (ISFSI) were elevated due to dry cask spent fuel storage. The remaining onsite REMP environmental TLD locations were not affected by the ISFSI due to ISFSI topographical elevation and placement within an onsite hillside which provided shielding to the rest of the site. An evaluation of direct radiation measurements and member-of-public occupancy times within the site boundary indicated all Federal criteria for member-of-public dose limits (10 CFR 20.1301) were conservatively met.

Groundwater isotopic monitoring was conducted in accordance with the Nuclear Energy Institute 07-07, Revision 1, Groundwater Protection Initiative. Concentrations of tritium were detected in two shallow monitoring wells (stations DY1 and OW1) near the power block. This tritium was evaluated and attributed to rain-washout of gaseous tritium exiting the plant vent system via an approved isotopic-effluents discharge path. No groundwater tritium was attributed to DCPD system leaks or spills. It should also be noted that studies of the DCPD site groundwater gradient indicated that any subsurface groundwater flow beneath the DCPD power block was not used as a source of drinking water. Due to topography and site characteristics, this groundwater gradient flow discharged into the Pacific Ocean which is approximately 100 yards from the power block.

An Old Steam Generator Storage Facility (OSGSF) long term storage vault was constructed within the DCPD site boundary in 2007 for storage of eight retired DCPD steam generators and two retired DCPD reactor heads. This OSGSF did not cause any changes to the ambient direct radiation levels within the DCPD environs during 2019. The OSGSF in-building sumps were inspected quarterly by REMP personnel. One OSGSF sump was found to contain approximately eight gallons of rainwater during 1Q19. This OSGSF sump water was analyzed and found to contain approximately 1,010 pCi/L of tritium with no other isotopes identified. The 8 gallons of sump water were removed and processed via the site's liquid radwaste system.

Overall, the results of the 2019 REMP showed no unusual environmental isotopic findings from DCPD site operations. These results were compared to DCPD preoperational isotopic data and showed no unusual trends. The REMP concluded that operation of DCPD continued to have no detectable offsite radiological impact. Samples analyzed from the offsite sampling stations continued to show no radiological contribution from plant operations. Diablo Canyon site operations had no significant impact on the health and safety of the public or the environment.

The DCPD Radioactive Effluent Release Program and the Radiological Environmental Monitoring Program appeared satisfactory in calculating, monitoring and measuring radioactivity in the environment surrounding DCPD. There were no abnormal releases of radioactivity or abnormal levels of radioactivity detected.

The following is a summary of DCP's presentation on this topic at DCISC's February 2021 Public Meeting: DCP maintains the Radiological Monitoring and Controls Program (RMCP) in conformance with applicable Federal regulations, the NRC's Standard Technical Specifications for the plant and in accordance with ALARA (As Low As Reasonably Achievable) principles. The RMCP was comprised of: Radioactive Effluent Control Program (RECP), which controls radioactive material released from the plant and the resulting dose to individuals or principal pathways of exposure, and Radiological Environmental Monitoring Program (REMP) which ensured concentrations in the environment from radioactive effluent releases conform to the reasonably achievable design objectives of 10 CFR Part 50, Appendix I.

In all cases for 2019, the impact of DCP operations were well below federal approved limits for the year. For 2020, the annual reports were in progress and were due on or before May 1, 2021. DCP was in full compliance with industry guidance and all regulatory standards regarding radiological and nuclear safety.

The dose from liquid effluents during 2019 to the total body of hypothetical person at the site boundary from all liquid effluents, as reported to the NRC as a percent of Standard Technical Specifications limits, as reported in the ARERR were 0.000031 millirem per year which is 0.0001% of the Standard Technical Specification limit. The site boundary location used in this calculation was located approximately 800 yards from the plant. The dose from gaseous effluents during 2019 to hypothetical person at site boundary from noble gas or dose from iodine, particulate, and tritium to the nearest actual resident located, located northwest of the power plant at a distance of 3.6 miles, was significantly less than 1% of the Standard Technical Specification limit. The direct radiation dose to personnel during 2019 who were located on the site at the Make-up Water Facility from direct radiation from noble gas was 0.0016 millirem per year or 0.016% of the Standard Technical Specification limit. The iodine, particulate and tritium dose to the nearest resident during 2019 was 0.00034 millirem per year which was 0.0023% of the Standard Technical Specification limit and compares to the average dose a person experienced annually of 624 millirem from natural sources.

TLDs capable of measuring direct ambient radiation are in place in and around the plant and are continuously measured at 32 locations surrounding DCP. These 32 locations are made up of 29 indicator stations and 3 control stations. Three TLD badges are placed at each location, and each badge has three detectors to provide an average dose at each location and the data is collected and read every calendar quarter. Over a one-year period 1,330 TLD measurements are collected, and the results are trended and compared with preoperational and historical operating values to look for adverse trends, with no adverse trends noted for 2019. DCP collected 364 air samples in 2019 and 884 radionuclide analyses were performed. No DCP-related radionuclides were detected in drinking water samples, ocean surface water samples, marine biological samples, marine aquatic vegetation samples, recreational beach samples, vegetation (food crop) samples, or milk and meat product samples.

The radiological impacts of DCP's operations are well below federal approved limits. This was confirmed by environmental sampling around the plant indicating no unusual environmental isotopic findings from DCP site operations with results compared to preoperational data which show no unusual trends.

4.10.3 Conclusions and Recommendations

Conclusions: The DCP Radioactive Effluent Release Program and the Radiological Environmental Monitoring Program appeared satisfactory in calculating, monitoring and measuring radioactivity in the environment surrounding DCP. There were no abnormal releases of radioactivity or abnormal levels of radioactivity detected.

Recommendations: None

[31st Annual Report, Volume I, Section 4.11, Quality Programs](#)

4.11 Quality Programs

4.11.1 Overview and Previous Activities

The DCISC has followed DCP's quality programs continuously since 1990. During the previous reporting period, the DCISC reviewed the following topics related to quality programs at three Fact-finding Meetings and one Public Meeting:

- Quality Verification Assessment of Abnormal Operations Procedures
- Quality Verification's Perspective on Plant Performance
- Quality Performance Assessment Report
- Quality Verification Audits and Nuclear Industry Evaluation Program

The DCISC concluded the following during the previous reporting period:

DCP's Quality Verification assessment of a sample of fire protection abnormal operating procedures was effective in that it found a number of technical errors. DCP took appropriate corrective actions and satisfactorily corrected and updated all 91 procedures. The Quality Performance Assessment Report was an effective tool for measuring and reporting station performance in nuclear safety culture and quality assurance functions. The 2020 Nuclear Industry Evaluation Program Biennial Evaluation concluded that DCP's development, documentation, and implementation of its independent oversight functions were effective. DCP's Audit Program appeared to be effective.

4.11.2 Current Period Activities

During the current period, the DCISC reviewed quality programs at two Fact-finding Meetings and one Public Meeting. The following topics were reviewed:

- Meeting with Quality Verification Director
- Quality Verification Audits
- Quality Verification's Perspective on Plant Performance

Meeting with Quality Verification Director (Volume II, [Exhibit D.7](#), Section 3.2)

Quality Verification (QV) produces two recurring documents, which report plant quality performance: 1) the Quality Performance Assessment Report (QPAR) and

2) the Quality Digest. The QPAR is published twice per year, and the DCISC reviewed the December 2020 issue. The Executive Summary stated the following:

Quality Verification (QV) performed an assessment of Diablo Canyon Power Plant's (DCPP) performance from June 1 through December 1, 2020 emphasizing field activities and implementation of station programs. This report provides an assessment of the station's nuclear safety culture health and implementation of the Quality Assurance Program (QAP). Conclusions and insights are based on QV observations, audit results, station challenges and the status of unresolved issues. This period included 1R22 which was conducted with COVID-19 protocols in place.

QV conducted 73 observations which identified 1 finding, 1 area requiring management attention (ARMA), 26 deficiencies, 4 recommendations, and 1 equipment problem (EQPR). The station met all six outage goals, including total dose goals, Significant Injuries or Fatalities (SIF)/SIF Potentials, Foreign Material Exclusion (FME) significant events, Outage Duration, and Human Performance (HU) Site Clock resets.

During the second period of 2020, DCPP exhibited traits reflecting a strong Nuclear Safety Culture and effectively implemented the QAP consistent with regulatory requirements and commitments to the Nuclear Regulatory Commission (NRC).

QV rated the overall station and department health through December 2020 as follows:

Overall	OP	MA	ENG	NWM	RP	CEO	SEC	EP	LS	PI	OR
W	W	G	W	G	G	G	W	G	G	Y	W
↔	↑	↔	↔	↔	↔	↓	↑	↔	↔	↔	↓

Where:

OP = Operations
 MA = Maintenance
 ENG = Engineering
 NWM = Nuclear Work Management
 RP = Radiation Protection
 CEO = Chemistry & Environmental
 SEC = Security
 EP = Emergency Preparedness
 LS = Learning Services
 PI = Performance Improvement
 OR = Organizational Effectiveness

And color ratings were defined as:

Green	Overall performance is considered industry top quartile regarding implementation of policies, programs and procedural requirements with no significant areas of concern. The majority of areas are consistently meeting industry top quartile performance expectations. Functional area is using established processes to close performance gaps.
White	Overall performance is consistently meeting expectations regarding implementation of policies, programs and procedural requirements with minor/few areas of concern. Gaps to industry top quartile performance are known and understood and functional area is using established processes to close performance gaps.
Yellow	Functional area has demonstrated behaviors or had events that indicate performance is not meeting expectations in several aspects and/or effectiveness of management actions to correct area performance have not been fully developed.
Red	Overall performance and/or plans for improvement are not meeting expectations. Significant or chronic performance problems exist and/or management's efforts have been ineffective at identifying or correcting performance concerns.

The color ratings considered observation, audit and assessment results, performance indicators, Corrective Action Program data and feedback from external sources such as the NRC, INPO and the Nuclear Safety Oversight Committee.

The Quality Digest was published monthly, and the DCISC reviewed the February and March issues. The Digest included the following topics:

- QV Escalated Issues
- QV Elevated Issues, including Areas Requiring Management Attention
- ARMA - Event Investigation
- Finding - Chemistry Procedure Data Entry
- Finding - Radiation Protection Quality Records Not Sent to Record Management System
- Finding - Engineering Issues
- ARMA - Leadership Engagement in Safety Issues
- Finding - "Port Evaluation" Failure Mode Not Recognized
- Finding - Shift Watch List Not Completed for RP Personnel

The DCPD Quality Performance Assessment Report and Quality Digest appeared to be effective tools for reporting performance in the Quality Verification area.

Quality Verification Audits (Volume II, [Exhibit D.9](#), Section 3.9)

The DCISC reviewed the status of DCPD QV audits. The DCPD audit procedure, OM4.ID13, "Nuclear Power Generation Internal Auditing," appeared satisfactory. Audits since the beginning of 2021 included the following findings:

- Fire Protection error in drawings
- Problems with calibrations of measuring and test equipment
- Fire Protection purchasing outside of the standard DCPD process
- Chemistry records problems

- San Ramon Technical Services activities

These items were being responded to by the affected Department and were not significant. There were no audit finding escalations in 2021. The DCISC reviewed the schedule for upcoming QV audits and found it appropriate and included a performance-based evaluation plan.

The DCPD Quality Verification Audit Program appears satisfactory in that audits are appropriately scheduled and performed to determine the effectiveness of various departmental and functional activities in meeting quality requirements.

Quality Verification's Perspective on Plant Performance (Volume II, [Exhibit B.9](#))

The following is a summary of DCPD's presentation on this topic at the DCISC's June 2021 Public Meeting: The Quality Verification (QV) team at DCPD performs audits and assessments of plant performance. These audits are compliance-based reviews of programs to assure the plant is implementing the requirements of the license from the NRC and also to assure the station is pursuing excellence in performance. The QV team is independent from the line and production functions, and the QV Director reports directly to the Chief Nuclear Officer. The Quality Control Inspection and Supplier Quality Programs report directly to the QV Director. DCPD presented a summary of the triennial assessment of station performance as of May 2021 which was described as a particularly challenging period for the station due to the successful completion of Refueling Outage 1R22 along with the need to address the issues with the Unit 2 Main Generator which required Refueling Outage 2R22 to commence early to allow for maintenance of the generator. This period also required the QV organization to assess the impacts on the workforce from the transition from Tranche 1 to Tranche 2 for the Employee Retention Program and this transition while not as significant as expected, had an impact on the remaining workforce.

DCPD provided a color-coded summary of the functional areas and stated Green represents industry leading performance, White represent performance that is consistently meeting expectation with some minor gaps, Yellow is satisfactory performance with gaps that need leadership attention to arrest performance shortfalls, and Red represents performance that is not meeting expectation of has chronic performance shortfalls. The QV Director reported the overall station color in the 2020 year-end Quality Performance Assessment Report (QPAR) was White and stable. The ratings for each of the functional areas were as follows.

- Operations/Operational Focus - [Green, stable] Overall performance was considered excellent with no significant issues identified. There were prompt and appropriate responses by the operating crews to emergent equipment challenges with the Unit 2 Main Generator and the need to take Unit 2 offline and set up for a refueling outage. There was strong leadership engagement and a good alignment between crews including the use of the weekly crew

management review process to evaluate the performance on each operating crew.

- Maintenance - [Yellow, stable] Overall performance was adequate with improvement opportunities. Contract worker performance associated with the generator and the core cooling water hose misalignment issue resulted in an emergent shutdown. Some minor maintenance worker shortfalls in human performance tools use throughout the period contributed to events. There was a missed opportunity to review maintenance rework for lessons learned. The Maintenance Director presented a comprehensive plan for improvement.
- Engineering and Equipment Reliability - [White, stable for Engineering and improving for Equipment Reliability] Overall performance was consistently meeting expectations. Equipment Reliability was previously rated Yellow, and Engineering leadership has improved station focus towards improving Equipment Reliability. Engineering support of the resolution of Unit 2 Main Generator issues, some issues with the Rod Control System, and corrosion under insulation issues was strong. The transition from Yellow to White reflects that the organization has developed a plan for improvement.
- Radiation Protection - [Green, stable] Overall performance was considered exemplary. Excellence organizational support managing radiation dose with industry lowest ever outage dose in 2R22.
- Chemistry - [Green, stable] Overall performance was considered excellent with continued focus on the chemistry effectiveness index and on asset protection with a Chemistry Effectiveness Index of 0.0 and 0.2 for the units respectively.
- Emergency Planning (EP) - [Green, stable] Overall performance was considered excellent. Drill and exercise performance was improving, however with limited opportunities due to COVID-19 these remained below industry top quartile. Continued focus on Emergency Response Organization staffing and proficiency was necessary.
- Work Management - [White, improving] Overall performance was consistently meeting expectations. The station adjusted well to a significant challenge of moving the Unit 2 outage up by 10 weeks. The plant was able to enter that refueling outage and exit it timely while accomplishing significant goals.
- Training - [Green, stable] Overall performance was considered excellent. DCPD completed the largest initial license class in history with 100% pass rate on the NRC exam. There was strong alignment between the line organization and the Training Department.
- Performance Improvement - [White, stable] Overall performance was consistently meeting expectations. The station improved the thoroughness of the Corrective Action Program's products and developed processes to improve the review of human performance errors.
- Organizational Effectiveness - [White, stable] Overall performance was consistently meeting expectations. DCPD responded well to several significant challenges: COVID-19, the accelerated Unit 2 refueling outage, and the

complexity of the Unit 2 Main Generator issues.

DCPP provided a summary of QV's activities including issuing a QPAR for the period December 2020 to May 2021 and conducting 5 audits, 5 assessments, 28 observations. Internal audits were performed for the Chemistry, Emergency Preparedness, Fire Protection, Special Processes, Applied Technology Services, Access Authorization and Fitness for Duty functions. These audits resulted in 8 findings, 21 deficiencies, 14 recommendations. The assessments performed resulted in 1 finding, 3 areas requiring management attention, 1 deficiency, and 3 recommendations. QV's activities found overall plant performance remained strong and on a stable trajectory.

4.11.3 Conclusions and Recommendations

Conclusions: The DCPD Quality Performance Assessment Report and Quality Digest appeared to be effective tools for reporting performance in the Quality Verification area. DCPD's Quality Verification Audit Program appeared satisfactory in that audits were appropriately scheduled and performed to determine the effectiveness of various departmental and functional activities in meeting quality requirements.

Recommendations: None

[31st Annual Report, Volume I, Section 4.12, Nuclear Fuel Performance](#)

4.12 Nuclear Fuel Performance

4.12.1 Overview and Previous Activities

The DCISC has been following performance of nuclear fuel and fuel-related matters at DCPD since its beginning in 1990. The Committee receives regular reports on nuclear fuel performance and any problems from PG&E both in fact-finding and public meetings and as input to the annual report. DCISC follows-up on problems and activities in its fact-finding meetings at DCPD and PG&E Headquarters.

DCPD fuel reliability is the most important fuel attribute monitored during operation. It is important to assure that the fuel integrity is preserved to avoid fission product leakage into the reactor coolant system (RCS) and ultimately into RCS cleanup and support systems resulting in increased personnel dose, radioactive waste and potential off-site releases.

Since the DCISC was formed in 1990, fuel reliability had been excellent until November 1994 when Unit 2 fuel began to show signs of leakage and experienced localized fuel damage. Unit 2 has had several additional fuel leaks since then. Leakage is measured by the amount of radioactivity in RCS samples, with a current goal of less than 5.0×10^{-4} microcuries (µCi) of Iodine-131 per gram of coolant. The following depicts the RCS radioactivity trend for a five-year period:

Reactor Coolant System Radioactivity (microCuries/gram of coolant Iodine-131)			
Period	Goal (Ci/gm)	Unit 1 Actual (Ci/gm)	Unit 2 Actual (Ci/gm)
15–16	5.0×10^{-4}	1.0×10^{-6}	4.2×10^{-4}
16–17	5.0×10^{-4}	1.0×10^{-6}	4.2×10^{-4}
17–18	5.0×10^{-4}	1.0×10^{-6}	4.2×10^{-4}
18–19	5.0×10^{-4}	1.0×10^{-6}	4.2×10^{-4}
19–20	5.0×10^{-4}	1.0×10^{-6}	4.2×10^{-4}
*Thru June 2020			

The DCISC did not review specific nuclear fuel performance during the previous

reporting period; however, it noted that there were no fuel problems in its reviews of DCPD refueling outage results.

The DCISC concluded the following in the previous reporting period:

The DCISC did not review nuclear fuel performance during the 2019-2020 period. DCPD nuclear fuel performance has been excellent in the recent past.

4.12.2 Current Period Activities

The DCISC reviewed the following nuclear fuel performance during the 2019-2020 period.

- Nuclear Fuel Performance

Nuclear Fuel Performance (Volume II, [Exhibit D.7](#), Section 3.9)

Unit 1 fuel, currently in Cycle 23, has completed 18 cycles since 1991 with no fuel defects. Unit 2, in its Cycle 22, has had no defects since 2011. This is excellent performance. In the recent Unit 1 refueling outage 1R22, no new debris has been found in the Reactor Vessel, and the fuel inspection camera has shown no abnormalities on the fuel assembly four sides and bottom nozzles. There has been some legacy debris from Steam Generator tube eddy current inspection equipment.

Looking ahead, fuel is being designed for shorter cycles (changing from 19-21 months to 17-18 months), typically from 590 to 480 Effective Full Power Days. The final fuel cycle for Unit 1 will last 12 months. Fuel enrichment is being reduced from 4.6-4.95 to 4.0-4.4 percent. DCPD is keeping the same design fuel from the same supplier (Westinghouse) for the remaining years of operation through 2025. Core design is a joint effort by DCPD and Westinghouse personnel. During refueling outages, Westinghouse personnel operate the manipulator crane and fuel bridge crane, and DCPD personnel operate the fuel transfer mechanism. The fuel handling equipment has performed well recently.

4.12.3 Conclusions and Recommendations

Conclusion: The DCPD nuclear fuel has for many years performed flawlessly with no defects or leakage. Unit 1 has performed without defects since 2011, and Unit 2 since 1991. This is excellent performance. DCPD is designing their fuel for the remaining operating life with lower enrichments and shorter cycles.

Recommendations: None

[31st Annual Report](#), [Volume I](#), Section 4.13, Equipment Reliability

4.13 Equipment Reliability

4.13.1 Overview and Previous Activities

Aging-related degradation is the gradual degradation in the physical characteristics of a system, structure, or component (SSC) which occurs over time and use, and which could impair the ability to perform its design functions. The purpose of the Equipment Reliability Program is to ensure that the plant continues to operate safely and within its design and licensing bases throughout its life through the process of involving engineering, operation, and maintenance in activities to control age-related degradations or failures of SSCs to within acceptable limits. The scope of the SSCs to be covered by the program continues to evolve and expand, and DCPD has established an Equipment Reliability Program with a dedicated Program Director.

During the previous reporting period, the DCISC did not review any Equipment Reliability-related topics, per se, at Fact-finding Meetings, although it did monitor Equipment Reliability via such measures as refueling outage performance, Maintenance and Engineering Department performance, causes of forced outages, etc.

4.13.2 Current Period Activities

During the current period, the DCISC reviewed Equipment Reliability programs at one Fact-finding Meeting. The following topic was reviewed:

- Equipment Reliability Process Update

[Equipment Reliability Process Update](#) (Volume II, [Exhibit D.1](#), Section 3.6)

The DCISC reviewed DCPD's Equipment Reliability (ER) program. DCPD ER performance remained Green, and the ER combined score was in the top industry quartile. Unit 2's performance was lagging Unit 1s due to a failure in the Rod Control System.

ER Excellence Plan Actions included:

- Improve trending and detection of declining equipment performance and increasing organizational awareness of equipment performance.

Create System Health Action Plan (SHAP) indicator and communicate to engineering population for use on Tier 2 systems.

- Revise monthly System Engineering Supervisors meeting agenda to review monitoring/tending results, Tier 1 health issues, Tier 2 SHAPs, and oversight of action plan implementation.
- Update the Maintenance Engineering Operations Work Management meeting agenda to review non-green Tier 1 systems and Tier 2 SHAPs for broader department awareness.

Performance indicators for the ER Program showed satisfactory performance through mid-2020.

DCPP's Equipment Reliability overall was Green (Healthy) with Unit 1 showing strong performance, and Unit 2 needing some corrective actions to meet plant expectations. DCPP had implemented a plan to improve Unit 2 ER by the end of 2020.

4.13.3 Conclusions and Recommendations

Conclusions: DCPP's Equipment Reliability overall was Green (Healthy) with Unit 1 showing strong performance, and Unit 2 needing some corrective actions to meet plant expectations.

Recommendations: None

[31st Annual Report, Volume I, Section 4.14, Organizational Effectiveness and Development](#)

4.14 Organizational Effectiveness and Development

4.14.1 Overview and Previous Activities

The focus of Organizational Effectiveness and Development is centered upon process transformation, process structure, and organizational effectiveness initiatives. DCP's cultural change efforts, leadership initiatives and activities, strategic change efforts, etc., are intended to function as interrelated efforts. This focus also supports an industry initiative to review cultural change, leadership issues, and even human performance, under the area of "organizational effectiveness." PG&E uses an annual DCP Operating Plan to be sure all departments' goals and plant goals have total alignment.

In previous reporting period, the DCISC reviewed the following Organizational Effectiveness topics at one Fact-finding Meeting and one Public Meeting:

- Observe Video of Listening and Learning Session
- Results of 2019 Operating Plan and Key Elements of the 2020 Operating Plan

The DCISC concluded the following during the previous reporting period:

The September 2019 DCP Listening and Learning Session hosted by the DCP Chief Nuclear Officer effectively brought employees up to date on PG&E corporate issues and plant issues. DCP successfully accomplished most of the objectives contained in its 2019 Operating Plan, and the 2020 Operating Plan contained appropriate focus areas with initiatives and key metrics.

4.14.2 Current Period Activities

During the current period, the DCISC reviewed Organizational Effectiveness at two Fact-finding Meetings and two Public Meetings. The following topics were reviewed:

- Plan of the Weekend Review Meeting
- Results of 2020 Operating Plan and Key Elements of the 2021 Operating Plan
- Station Excellence Plan

Plan of the Weekend Review Meeting (Volume II, [Exhibit D.2](#), Section 3.13)

The DCISC attended DCP's August 20, 2020, Plan of the Weekend Review (POWER) Meeting. The POWER Meeting was convened on Thursday afternoon for the purpose of reviewing all work completed for that day as well as work planned for the upcoming weekend (Friday through Sunday). The meeting was led primarily by the Shift Manager, and approximately 30 persons attended the meeting which was held by conference call. Topics discussed included the following:

- Desired Meeting Outcome
- Major Changes to Plant Status
- Emergent Work
- Turnover Work Items
- Security Watch Commander Brief
- Work Group Manager Brief
- Night Shift Support
- Priority Work Items
- Emerging Issues
- Industrial Safety Issues/Hazards
- Weekend Work List
- Clearances Needed
- Environmental Concerns
- Operations Focus Questions
- Operations Concerns
- Review of Weekend Priorities

The discussion was very effectively facilitated with crisp and clear informational exchanges across a large number of planned work activities by a large number of individuals. The discussions appeared to reflect a highly systematic approach to the planning of the upcoming weekend work activities.

The DCISC concluded that the August 20, 2020, Plan of the Weekend Review meeting was effectively facilitated with crisp and clear informational exchanges across a large number of planned work activities.

Results of the 2020 Operating Plan and Key Elements of the 2021 Operating Plan (Volume II, [Exhibit B.6](#))

The following is a summary of DCP's presentation on this topic at DCISC's February 2021 Public Meeting: DCP's Operating Plan is the Generation organization's line of sight to providing safe, reliable and affordable energy to PG&E's customers and encompasses all three components which make up the Generation organization. The Operating Plan process includes alignment of

Generation's goals with those of PG&E.

Some of the results of the 2020 Operating Plan were as follows:

- DCPD completed 1R22 safely and on schedule, meeting all goals for safety, reliability, schedule and budget.
- DCPD's performance on the NRC's performance metrics placed DCPD in the highest performance category, Column 1 of the NRC's Licensee Response metric. There were four violations identified during 2020 compared to eight in 2019 and this represents the lowest annual total since 2016.
- DCPD established robust safety standards for COVID-19 prevention including working remotely where possible, restricting travel, requiring face coverings and sanitizing workspaces which have resulted in no incidents of workplace transmission of COVID 19.
- DCPD maintained a skilled, proficient workforce during the Tier 1 four-year employee retention period and was in the process of monitoring progress on the Tier 2 three-year employee retention period to identify any signs of decline or issues concerning a lack of qualified personnel.

Measurable results of the 2020 Operating Plan were as follows:

Metric	Goal	Actual
Reliability & Safety Indicator	95.0	92.5
1R21 Outage Radiation Exposure	<30.5 rem	26.7 rem
Preventable Motor Vehicle Accidents	1st quartile	1st quartile
Days Away, Restricted or Transferred	1st quartile	1st quartile
Lost Work Days	1st quartile	1st quartile
Regulatory Findings	No Significant	No Significant
NRC Reactor Oversight Process	Column 1 w/ cross-cutting issues	Column 1 w/ cross-cutting issues

DCPD's failure to meet the goal set for the Reliability and Safety Indicator was due to the Unit 2 Main Generator vibration issues which resulted in Unit 2 being offline for unplanned maintenance activities.

The eight key focus areas in the 2021 Generation Operating Plan included:

- Safety - employing principles of speaking up, listening up and following up to engage both employees and leadership in the field to eliminate barriers and to ensure incidents are reviewed to prevent a recurrence.
- People - fostering a safety culture through an engaged and involved workforce including through use of the Generation People Committee and the

Pathways Program.

- Customer - focusing on proper planning and execution to improve reliability and affordability while never compromising on safety.
- Relentless Execution - leveraging safety culture and leadership and to take advantage of external review organizations such as the Diablo Canyon Independent Safety Committee and the Nuclear Safety Oversight Committee.
- Wildfire Mitigation - ensuring issues are resolved in a timely manner to leverage the nuclear experience in assisting the other parts of the PG&E organization meet the Generation organization's goal of effectively mitigating for wildfire.
- Risk-Informed Work and Resource Plan - developing risk-informed work and resource plans. The Nuclear Generation organization assists in the use of risk evaluation methodology on a case-by-case basis, but risk evaluation methodology is not integrated into the Electric Operations organization.
- Commitments - maintaining regulatory performance and documenting areas for improvement in the Corrective Action Program across the Generation organization including for the Business and Technical services group.
- Financial Stability - completing the business unit work plan within 2% of the budget established while meeting goals and choosing projects on a priority basis and following through and monitoring budget performance.

Key work projects and initiatives under the 2021 Operating Plan included:

- Maintaining 1st quartile safety performance as the number one priority.
- Executing one refueling outage (2R22) in mid-March 2021.
- Planning and preparing for two refueling outages in 2022.
- Monitoring the first year of Tier 2 retention period for DCPD employees.
- Pathways Program, Phase 2 ("Building Your Pathway") - ensuring DCPD employees have skills and knowledge to enable them to succeed at the end of DCPD generation operations whether that is within the Decommissioning organization, elsewhere within PG&E, at another nuclear facility, or in retirement.
- Completing the Nuclear Regulatory Commission Evaluated Emergency Planning Exercise scheduled for September 15, 2021.
- Completing the last initial operator license class which would free up some instructors in the Operations training department who maintain licenses as senior reactor operators.

Station Excellence Plan (Volume II, [Exhibit D.7](#), Section 3.1, and [Exhibit B.9](#))

The DCISC reviewed the 2021 DCPD Station Excellence Plan (SEP). The SEP was the highest-level document at DCPD for aligning and coordinating all other plans and initiatives. The Vision of the SEP was the following:

"Corporate executives and station leaders to share accountability for building

trust and gaining alignment. With these plans we will hold each other accountable to standards of excellence and achieving high levels of performance through the verification that the standards, expectations, and goals established through governance of the organization are met."

There were five Action Steps in the SEP as follows:

- Generation Operating Plan
- Corporate Leadership
- Corporate Oversight Monitoring
- Document Institute for Nuclear Power Operations 19-003 - "Staying on Top"
- Oversight Response Action Plan

Department Excellence Plans were included for the following:

- Engineering Services
- Maintenance Services
- Operations Services
- Organizational Effectiveness
- Performance Improvement
- Nuclear Training
- Security and Emergency Services

There were External and Audit Action Plans for the following:

- Unanticipated Equipment Failures
- Shortfalls in Corrective Action and Problem Solving
- Leader Behaviors for Continuous Learning
- Operations Engagement in Performance
- Instrumentation and Control Performance
- Shortfalls in Outage Scheduling

Initiatives were as follows:

- Completing Procedures as Written
- Equipment Issues Identification and Resolution
- Proficiency and Fundamentals

The SEP progress was reviewed by the quarterly-meeting Plant Review Management Committee and a new monthly-meeting Station Oversight Committee, which is made up of the Chief Nuclear Officer; Site Vice President; Vice President of Generation, Business & Technical Services; Quality Verification Director; Station Senior Director; Senior Director of Emergency and Technical Services; and the Director of Performance Improvement.

The DCPD Station Excellence Plan was a comprehensive, high-level plan aligning departmental and other DCPD plans. It was monitored by a Station Oversight Committee comprised of seven of the plant's highest-level leaders. The Station Excellence Plan was appropriate for DCPD and had the potential to provide improved focus for the leaders' efforts in achieving and maintaining excellence.

The following is a summary of DCPD's presentation on this topic at DCISC's June 2021 Public Meeting: DCPD stated that a 2020 assessment of station performance against Institute for Nuclear Power Operations' (INPO's) Principles for Excellence in Corporate Performance found an area for enhancement in Generation Committee Oversight. The plant performs an evaluation and assessment every two years and every six years INPO conducts an evaluation for every utility that owns a nuclear asset. The self-assessment conducted in April, prior to the INPO assessment in October 2020, identified an enhancement in that there was room for improvement and cross-functional review in corporate leadership oversight concerning the review of topical action plans that are reviewed in various meeting of senior leadership. The Station Oversight Committee (SOC) was created to address this enhancement with the goal of sustaining exemplary performance by applying intrusive oversight that aligns behaviors, reinforcing high standards, driving accountability, and ensuring organizational alignment. The SOC was intended to allow and afford PG&E corporate leaders, in addition to DCPD senior leadership to engage and review important initiatives and action plans and to challenge DCPD to improve performance.

The scope of the SOC's oversight included monthly reviews of station and department excellence plans and a quarterly performance meeting, reviews of station safety performance and internal and external audit findings, and the status of corporate and station initiatives. Initiatives to develop specific actions to align with industry practices were also brought to the SOC for review and to assign an owner and a date. The SOC allowed corporate and station leaders share accountability for building trust and gaining alignment.

The Station Excellence Plan (SEP) was another input to the SOC meeting and was intended to be a living document with SMART actions (i.e., Specific, Measurable, Achievable, and Timely) that drove improved performance. All action plans included the designation of an owner and a due date. If a plan addressed a gap to performance, it was put into a GDAR format (i.e., Gap, Driver to the gap, Actions, and Results). The SEP focused on initiatives and issues important to the station with cross-functional aspects and included Department Excellence Plans.

4.14.3 Conclusions and Recommendations

Conclusions: A Plan of the Weekend Review meeting was effectively facilitated with crisp and clear informational exchanges across a large number of planned work activities. DCPD successfully accomplished most of the objectives contained in its 2020 Operating Plan, and the 2021

Operating Plan contained appropriate focus areas with initiatives and key metrics. DCP's Station Excellence Plan was a comprehensive, high-level plan aligning departmental and other DCP plans. The Station Excellence Plan was appropriate for the station and had the potential to provide improved focus for the leaders' efforts in achieving and maintaining excellence.

Recommendations: None

[31st Annual Report](#), [Volume I](#), Section 4.15, System and Equipment Performance/Problems

4.15 System and Equipment Performance/Problems

4.15.1 Overview and Previous Activities

During past periods, the DCISC had reviewed the performance and problems of DCPD equipment and systems as well as the actions taken by PG&E to resolve them.

During the previous period (July 1, 2019 - June 30, 2020), the DCISC reviewed the following system and equipment issues:

- Refueling Outage Equipment Issues
- Modifications to Reactor Coolant Pump Vibration Monitoring
- Safety System Functional Failures
- Reactor Coolant Pump Turning Vane Bolt Crack
- Single Point Vulnerabilities
- Inadvertent Unit 2 F Bus Transfer
- Transmission System & Unit 2 Trip
- Generator Stator Refurbishment Video
- Unexpected Energy Release
- 4kV Relay Replacements
- Equipment Qualification Program
- Special Protection System
- Variable Frequency Drives in Containment Polar Crane

The DCISC performed the following system/component reviews and/or walk downs with DCPD System/Component Engineers in the previous period:

1. Containment Spray System
2. Crane Program
3. Condensate System
4. Containment Structure
5. Plant Health Committee Meetings
6. Intake Structure Condition

7. Residual Heat Removal System,
8. Auxiliary Saltwater System
9. Auxiliary Feedwater System
10. Component Cooling Water System
11. Emergency Diesel Generators
12. Process Control System
13. Auxiliary Building Ventilation System

In the previous period (2019 - 2020), the DCISC concluded that DCPD has dealt effectively with most equipment and system problems and is focused on improving system health. DCPD's Plant Health Committee has been improved to focus more on system/component health and meets more frequently, and overall system health has improved.

4.15.2 Current Period Activities

4.15.2.1 DCISC Reviews of System and Equipment Performance and Problems

The DCISC reviewed the following system and equipment issues during the current reporting period:

- Containment Concrete Inspection
- License Amendment Request (LAR) for Auxiliary Feedwater (AFW) System Inspection
- AFW LAR Status
- Control Rod Issues
- Safety System Functional Failures
- Main Generator Issue & Root Cause Evaluation
- Reactor Vessel Specimen

And reviewed the following systems/components:

- Compressed Air System
- Containment Ventilation & Hydrogen Mitigation Systems
- Nuclear Instrumentation System
- Radwaste Processing Systems
- Motor Operated Valve & Air Operated Valve Testing Programs
- Turbine Generator Health
- Large Transformer Health
- Chemical and Volume Control and Emergency Core Cooling Systems
- Control Room Ventilation System
- Reactor Protection System
- Radiation Monitoring System

- Auxiliary Building Ventilation System

Containment Concrete Inspection with Camera Drone (Volume II, [Exhibit D.1](#), 3.5)

Until recently, DCPD had been performing its 10-year exterior Containment inspections visually using personnel rappelling down the vertical sides of the building. The Containment buildings are approximately 140 feet in diameter and 165 feet high above grade. During July 2020, DCPD's contractor changed to using a drone-mounted high-resolution camera with a telephoto lens. The acceptability of this method is supported by research by the Electric Power Research Institute. The drone/camera method is used for inspections above the 140-foot level, and direct visual inspections below 140 feet. Concrete not exposed, e.g., behind the plant vent, is exempted by the applicable code, the American Society of Mechanical Engineers Boiler and Pressure Vessel Code.

The drone camera takes high-resolution photos, which are used to create three dimensional models, which are reviewed by qualified inspectors for cracks in the concrete. A Registered Professional Engineer is in charge of the process. Security reviews all images before the inspectors begin their review. To date, no significant cracks have been detected using either inspection method.

The comprehensive DCPD inspection specification appeared to the DCISC to be appropriate for this work. Similarly, the DCPD inspection procedure was appropriately extensive and detailed.

The use of drone-mounted cameras for exterior Containment concrete inspection appears satisfactory.

License Amendment Request (LAR) for Auxiliary Feedwater (AFW) System Inspection (Volume II, [Exhibit D.2](#), 3.2)

The AFW System is a safety-related system that provides feedwater to the Steam Generators (SGs) under shutdown, startup, low power, and accident conditions.

The AFW System is designed to provide a water source to the SGs during emergencies in order to cool and prevent damage to the nuclear reactor fuel and to prevent overpressurization of the Reactor Coolant System in the event of transients such as a loss of normal Main Feedwater (MFW), a stuck open relief valve, or a pipe rupture on the secondary side. During normal plant shutdown, the AFW System replaces the MFW System and serves to remove heat in hot standby or to cool down the unit to a point where the Residual Heat Removal System (RHR) can be placed in operation (when Reactor Coolant System temperature becomes less than 350 °F). The AFW System is also used during normal plant startup prior to placing the MFW System in service. The AFW System consists of three feedwater supply trains with diverse means of powering the pumps that draw water from the Condensate Storage Tank. One train consists of a full-capacity steam turbine-driven pump, which can be aligned to use steam from and supply feedwater to any of the four SGs. The other two supply trains consist of half-capacity electric-motor-driven pumps, each normally supplying flow to two of

the four SGs, with the capability to be aligned to any of the four SGs.

During a forced outage on Unit 2, operators identified a leak on the discharge piping going from AFW Pumps 2-1 and 2-2 to SG 2-2, downstream of valve LCV 111. This section of piping was outdoors and insulated. The affected Unit 2 AFW trains were declared inoperable, and the unit was placed on Mode 4 (Hot Shutdown; reactor cooled by RHR system) in accordance with the applicable Technical Specification (TS), Section 3.7.5. Insulation was removed from the piping and an approximate 3/8-inch diameter hole was found in the piping. The area of the leak was heavily corroded on the exterior of piping which was previously concealed under the insulation. A Root Cause Evaluation (RCE) was initiated and preliminarily concluded that the cause of the leak was moisture trapped under the insulation which accelerated corrosion on the outside of the piping. The section of the piping where the leak occurred appeared to be in a particularly vulnerable position to be routinely wetted both by ocean moisture and by water falling from SG Power Operated Relief Valve drains during their periodic operation in hot standby conditions. Interim Corrective Actions were initiated, and those actions included performing an Extent of Condition (EOC) investigation on both DCPD units. On Unit 2, additional sections of piping that were outdoors and insulated were inspected both visually and using non-destructive examinations to measure pipe wall thicknesses. No additional leaks were found, but six additional locations were identified in the Unit 2 AFW piping where additional repairs were required because pipe wall thickness did not meet minimum code requirements. All of the additional repairs were in the same section of piping as the leak. Repairs were promptly initiated, and approximately four days were required to complete repairs to all of the affected sections of piping.

The EOC evaluation also determined that inspections were needed for similar sections of piping on Unit 1, which was operating at full power at the time of the event. It was believed that the Unit 1 piping would be less susceptible to corrosion under the insulation because the ocean spray environment was less corrosive on the Unit 1 piping rack in general. As such, DCPD management did not believe that making an EOC inspection was an urgent matter but at the same time also considered that waiting until the next scheduled shutdown to perform the Unit 1 EOC inspections would not be prudent. Accordingly, DCPD prepared a plan to inspect the corresponding piping on Unit 1 while the unit was online and make repairs as necessary. If inspections found defects on Unit 1, two trains of AFW would be required to be declared inoperable under the existing TS 3.7.5 and the unit would be required to be shut down within six hours. Operations and DCPD management reviewed the inspection and repair plan with the associated TS and concluded that the generic TS-required actions poorly fit the situation.

Specifically, the potential similar leak and repair location on Unit 1 would only effect AFW flow to one of four SGs. Instead of two AFW trains being completely inoperable as addressed by the TS, one train of AFW would maintain the ability to flow to three of its normal four SGs, one train of AFW would maintain the ability to flow to one of its normal two SGs, and one train of AFW would maintain its full

ability to flow to two of its normal two SGs. Also considered was the fact that the AFW system, which is normally in standby while the unit is online, would be required to be started up and used to cool the plant if a shutdown were initiated. Isolating a part of the system to perform repairs could limit the system's redundancy and ability to cool down the unit after a shutdown and thus possibly increase the risk to operations.

DCPP management then reviewed regulatory alternatives to following TS 3.7.5 during the maintenance should repairs be required. One option was to perform the inspection as soon as possible and then request Enforcement Discretion from the NRC if repairs were needed. Another option would be to request an Emergency License Amendment Request (LAR). These options were ruled out as they were generally both intended to address emergent issues and not inspection and repair activities that could be planned in advance such as was the case in this situation. DCPD discussed submitting an LAR on an exigent basis with the NRC, and the NRC responded that such an LAR could be issued within a few weeks if the basis was appropriate and the change was found to adequately protect the safety of the public. DCPD concluded that this approach was appropriate for the timeliness of corrective actions given the situation.

The LAR specifically requested the addition of a one-time only TS 3.7.5 Limiting Condition for Operation (LCO) and associated action times that would allow for one or two AFW trains to be inoperable in Modes 1, 2, or 3 due to inoperable AFW piping affecting the AFW flow path(s) to a single SG. The new LCO would include required actions to isolate AFW to the affected SG within two hours and to restore the AFW system to operable status within seven days. The LCO would only be applicable for the current operating cycle which was scheduled to end in October 2020. The LAR's safety evaluation included risk insights in having the affected AFW equipment out of service for seven days using DCPD's Probabilistic Risk Assessment model and concluded that the increase in incremental conditional core damage probability was below 1×10^{-6} per year, the incremental conditional large-early-release probability was below 1×10^{-7} per year, and both increases were not risk-significant. The LAR was submitted to the NRC on August 12, 2020, (PG&E Letter DCL-20-066; NRC ADAMS number ML20225A303), and a copy was obtained and reviewed by the DCISC. Following submission of the LAR, a conference call was held between PG&E staff and the NRC, and the NRC made several Requests for Additional Information (RAIs) which were subsequently submitted by PG&E to the NRC. The DCISC was also provided copies of and reviewed the NRC RAIs and DCPD's responses. The DCISC concluded that there were only minor safety concerns with the approach that DCPD was proposing in the LAR to perform the AFW System EOC inspections and possible repairs on Unit 1.

Following the Fact-Finding Meeting on August 31, 2020, the NRC issued the LAR with a modification to TS 3.7.5 as requested by PG&E. Later that same day, DCPD removed the insulation from the potentially affected Unit 1 piping and found only minor areas of light corrosion. Visual inspections and ultrasonic non-destructive examinations were performed, and the results found that there was no

degradation of pipe walls due to corrosion exceeding that allowed by applicable piping codes. Plans for contingency pipe repairs were cancelled, and no further work was planned prior to the upcoming Unit 1 Refueling Outage scheduled to begin in October. As such, the recently approved LAR modifications to TS 3.7.5 would likely not be used.

DCPP completed its interim Root Cause Evaluation (RCE) for the Corrective Action Review Board on August 19, 2020. Key elements of the RCE are as follows:

Direct Cause (proposed):

Insulation damage introduced moisture under the AFW piping insulation, which created a Corrosion Under Insulation (CUI) mechanism that accelerated the external corrosion, resulting in the through wall leak to the AFW piping elbow.

Root Cause 1 (proposed):

Past missed opportunities to remove AFW piping insulation existed in the following areas:

- A 1974 design change added check valves, between the Main Feed Water and AFW systems, which lowered the expected normal operating design temperature below the threshold for requiring insulation.
- A 1984 design change sealed closed the leak detection system, which lowered the enveloping pressure and temperature conditions for AFW downstream of the pump discharge check valves. Assumption that insulation may still be beneficial as an extra safety/external elemental barrier
- Removal may be cost prohibitive
- Design Change process at the time may have not been intrusive enough to address new failure modes, such as CUI.
- Design Change Process Initiative Project 1992

Had these activities addressed insulation removal, corrosion would have been more easily recognized in subsequent inspections. Instead, an assumption that insulation damage observed on AFW piping was merely cosmetic led to missed opportunities, during engineering walkdowns and inspections, to identify the unique vulnerability related to insulated cold piping.

Development of corrective actions is in progress. Examples include, but are not limited to:

- Permanently remove insulation from AFW piping.
- Training solution for understanding of CUI phenomenon has been identified.
- Potential revision to TS5.ID1 "System Engineering" to add more detail to aid the engineer in identifying issues with insulation.
- Perform an Extent of Cause to include CUI vulnerable systems identified in License Renewal.

Interim actions taken

- The Emerging Issue Team's extent of condition actions resumed on August 31 after the NRC has addressed the Exigent License Amendment Request (ELAR).
- The Root Cause Team walked down other outdoor systems for evidence of leaks or corrosion as well as some piping systems indoors that may be susceptible to outside elements (near doors, etc.). SAPNs were written for deficiencies or degradations observed on insulation, coatings, or visual corrosion.

After the NRC LAR was granted, DCPD performed the inspection. DCPD reported that the Unit 1 AFW piping inspection found no significant corrosion or leakage problems which needed repair. The DCISC should request a DCPD presentation in its next Public Meeting in October 2020.

The DCISC concluded in August and at this Fact-finding meeting in September that there were no safety concerns with the approach that DCPD was proposing in a License Amendment Request to perform AFW System Extent of Condition inspections and possible repairs on Unit 1. After the NRC LAR was granted, DCPD performed the inspection, and reported that the Unit 1 AFW piping inspection found no significant corrosion or leakage Problems. The DCISC should review the final Root Cause Evaluation for the AFW leak on Unit 2 following its completion by DCPD.

Control Rod Issues (Volume II, [Exhibit D.3](#), 3.7)

Forced Outage 2X22 occurred on February 13, 2020. During the quarterly full-length Unit 2 control rod surveillance testing, four shutdown rods became misaligned greater than 12 steps, resulting in an entry into a Limiting Condition for Operation of the plant Technical Specifications. This required an unplanned entry into Mode 3, Hot Shutdown, resulting in a loss of power generation.

Troubleshooting revealed that a circuit card was functioning incorrectly. The card was replaced, which corrected the control issue. A root cause was not identified; however, a "presumptive cause" was determined to be an indeterminate, intermittent circuit card sub-electronic-component failure. This cause was a defect physically located on the card.

Corrective actions were to replace the card, develop and implement a plan to acquire test data during the surveillance testing, perform visual inspections of cards during the next refueling outage (2R22), test cards with the DCPD card tester, and send the defective card to Westinghouse, the component supplier, for inspection.

Unit 2 was brought back up to full power immediately following the cause analysis and card replacement. The rod control and indicator system appeared to have been performing normally following the event, until on June 12, another similar

control rod issue occurred. Investigation revealed that there was a bad wire crimp leading onto the circuit card. This was repaired during the July 2020 generator hydrogen leak forced outage. The rod control system has been performing normally since then.

DCPP is making a change to its control rod testing program. The test for exercise, operability, and position indication is being changed from quarterly to semi-annually. DCPP is using a risk-based analysis to support the change.

DCPP experienced two similar control rod misalignment problems determined to be associated with a control circuit card. Initially thought to be a bad card, it was eventually found to be a bad wire crimp. This was resolved satisfactorily, and the system has since been performing normally.

Safety System Functional Failures (Volume II, [Exhibit D.6](#), Section 3.3)

A Safety System Function Failure (SSFF) is any event or condition that at the time of discovery could have prevented the fulfillment of the safety function of a structure or a system that is needed to shut down the reactor and maintain it in safe shut down; to remove residual heat; to control the release of radioactive material; or to mitigate the consequences of an accident. There is no credit, allowance or leeway given the licensee in SSFF analysis for manual action or other means of performing the function. An SSFF only applies to those safety-related systems, structures or components that are within the plant's Technical Specifications and are required to be operable. In 2012, DCPP recognized that there was an improvement opportunity to reduce SSFFs and a root cause evaluation was conducted which identified need for improvement in recognition of risk through the use of human performance tools. Efforts were undertaken to educate and assist plant staff who are involved in daily work planning activities, including the assessment and prioritization of risk, to better identify and categorize risk in context of SSFF considerations. These efforts were generally successful, and there was only one SSFF occurring between 2014 and 2019. The one event occurring during that period was in the fall of 2017 and concerned a leak in the Unit 2 Pressurizer Power Operated Relief Valve (PORV) actuator, which rendered the PORV inoperable.

Since the time of the last review of SSFFs by the DCISC in 2019, only one additional SSFF was recorded. This SSFF occurred in November 2019 when operators inadvertently disabled both Containment Spray pumps simultaneously while in Mode 4 (Hot Shutdown; 200 - 350 °F). This event was previously reviewed by the DCISC during its March 2020 Fact-Finding Meeting (Reference 6.5). In summary, two SSFFs occurred between 2014 and 2020, and the DCISC considered this to be good performance. The DCISC noted that given the currently low rate of SSFF occurrence, the DCISC could benefit from reviewing DCPP's Maintenance Rule performance and statistics in the future in lieu of monitoring SSFFs as such may currently be a better indicator of the performance of safety-

related equipment.

DCPP has experienced two Safety System Functional Failures (SSFFs) since 2014, and this is good performance. The DCISC should consider reviewing DCPP's Maintenance Rule performance and statistics in the future in lieu of monitoring SSFFs as such may currently be a better indicator of the performance of safety-related equipment.

Unit 2 Main Generator Issues and Root Cause Evaluation (Volume II, [Exhibit D.8](#), Section 3.8)

In July 2020, Unit 2's Main Generator developed a leak of hydrogen into the Stator Closed Cooling Water System (SCCW). (This was the same Main Generator that had been extensively refurbished during Refueling Outage 2R21 in the fall of 2019.) Since that timeframe, Unit 2 has been shut down for Main Generator for troubleshooting and repairs on the following occasions:

Date Shutdown	Date Restarted	Outage Designation
July 16, 2020	August 2, 2020	2Y22
October 15, 2020	November 28, 2020	2Z22
December 2, 2020	January 12, 2021	2G22
February 3, 2021	April 17, 2021	2H22; extended into 2R22
April 19, 2021	April 25, 2021	2X23

At the time of the DCISC's last review during its Fact-Finding Meeting in January 2021, Unit 2 had been restarted following Forced Outage 2G22, and vibrations were being monitored during plant operations at higher power levels to determine the effectiveness of repairs. DCPP reported that in early February 2021, increasing vibrations and indications of a very small hydrogen leak were noted. Unit power was decreased, and generator vibrations continued to increase above the acceptable limits. As a result, the unit was shut down on February 3 (Forced Outage 2H22). Based on the results of initial leak checks and inspections inside the generator, the decision was made to remove the rotor from the generator in order to facilitate additional generator internal inspections and modifications. Due to the forecasted duration of the generator inspections and repairs/modifications, the decision was made on February 17 to begin Refueling Outage 2R22 early (originally scheduled to begin on March 14, 2021).

During Forced Outage 2H22/Refueling Outage 2R22, investigations included performing extensive vibration testing and nodal analyses for several internal components in the generator such as the end winding assemblies and the parallel ring collector assembly. Based on the results of these analyses, extensive modifications were made to internal generator components that displayed a tendency to have natural resonance frequencies near the natural frequencies of the generator (mostly around 120Hz). Completely new end manifolds for SCCW were fabricated and installed in the generator. Numerous additional structural

supports and epoxy fill materials were also added for the end windings on the exciter end of the generator. At several stages during the work, vibration tests were again performed, and the results were analyzed to determine the effectiveness of the modifications. Additionally, major fasteners internal to the generator (core building bolts and through bolts) were checked for tightness and several were found to be loose. Finally, four new fiber-optic vibration sensor assemblies were added inside the generator to assist with vibration monitoring during operation.

Following Forced Outage 2H22/Refueling Outage 2R22, Unit 2 was restarted on April 17, 2021. Shortly after restart and generator loading (at approximately 50% power), operators noted that one set of generator core thermocouples was reading slightly higher than adjacent thermocouples. This was reported to the generator vendor who reviewed the data and determined that it was likely that there was a problem with SCCW circuits inside the generator. A review of as-left photos taken during the previous outage identified that two SCCW hoses (of 96 total) inside the exciter end of the generator had been incorrectly swapped during installation. This reversal reduced SCCW flow to one section of the generator windings to an unacceptably low value. The unit was shut down, and the vendor was able to promptly restore the hoses to the correct configuration.

The hose installation error was considered a human performance error made by vendor personnel, and the vendor was performing a cause evaluation to determine how the hoses were swapped. Additionally, this human performance error was classified as a Station Level Event. The unit was restarted on April 25, and it was ramping up in power without any additional issues at the time of the DCISC's meeting. The generator vendor, PG&E, and a vibration consultant were continuing to monitor and review the generator's vibration data on a regular basis.

The RCE Team was continuing its work to review the issues and causes for the events. The RCE would include in the evaluation PG&E's own investigations and conclusions regarding the SCCW hose installation error discussed above.

Currently, the RCE was expected to be completed in mid-2021. The DCISC should follow up in the future to review the RCE after it is final.

DCPP was appropriately managing Unit 2's recent Forced Outages which were driven by Main Generator high vibrations and hydrogen leaks. The DCISC should continue to follow this issue and review the final Root Cause Evaluation during a future Fact-Finding Meeting as well as at a future Public Meeting.

Reactor Vessel Specimen Testing Program (Volume II, [Exhibit D.9](#), Section 3.6)

The DCPP Reactor Vessel Material Surveillance Program manages loss of fracture toughness of reactor vessels due to neutron embrittlement in reactor vessel materials exposed to neutron fluence. Coupons (samples) of reactor vessel material are periodically removed from the vessels during the course of plant

operating life. Neutron embrittlement is evaluated through coupon testing and evaluation, ex-vessel neutron fluence calculations, and actual measurement of reactor vessel neutron fluence. Data resulting from the program are used to determine RCS pressure-temperature limits, minimum temperature requirements, and end-of-life fracture toughness requirements. Fracture toughness relates to the ability of a material to withstand Pressurized Thermal Shock (PTS).

The test coupons have been placed in locations in the reactor that receive significantly higher neutron dose rates than the actual vessel, and thus provide information on the longer-term conditions of the reactor vessel. The DCPD plant possesses enough metallic coupons, either in the reactor itself or already removed and in the Spent Fuel Pool, to support the plant's need to determine the capability of the reactor vessel to withstand the effects of PTS out to the full 40-year lifetime of the plant. DCPD is also able to rely on additional backup information from tests conducted on specimens from another nuclear plant because the reactor vessel at that plant, and the accompanying metallic specimens, were fabricated from the same batch of metal as were the reactor vessels at DCPD. DCPD's two reactor vessels are slightly different in composition. Hence, they have slightly different metallic properties, slightly different susceptibilities to PTS, and different specimens for testing.

DCPD's program committed to the NRC to remove and test a minimum of four coupons per unit containing both base metal and weld material for analysis. On Unit 1, 12 coupons have been installed in the inner core barrel area of the vessel.

Of these 12, 7 have been removed to date, and 5 remain in the vessel. One of the five coupons currently remaining in the Unit 1 vessel, Coupon B, had been scheduled for removal in October 2010, but was stuck and could not be removed as scheduled without applying excessive force. That coupon is currently scheduled to be removed by cutting at the end of Unit 1 operation in 2024 with data to be provided to the Electric Power Research Institute. Three of the seven removed Unit 1 coupons have been tested, and four are stored in the Spent Fuel Pool.

Without Coupon B, testing of the other three coupons alone could not provide results that met the requirements for maximum data scatter and the Unit 1 sample results could not alone be deemed as creditable for use in analyses to demonstrate the vessel's compliance with NRC regulations to prevent PTS. Accordingly, additional evaluations were performed under the NRC Standard Review Plan, Branch Technical Position 5.3. The evaluations demonstrated the vessel's compliance with NRC regulations through end of life in 2024 for Unit 1 and 2025 for Unit 2.

For Unit 2, six coupons have been installed and all have now been removed. Four of the Unit 2 coupons have been analyzed, and two remain in storage in the Spent Fuel Pool. The results of the testing for the four Unit 2 coupons provided results that met the requirements for maximum data scatter and were determined to be creditable without additional sampling for use in analyses which demonstrated the vessel's compliance with NRC regulations to prevent PTS.

Both DCPD units' Reactor Vessel specimens have been removed from the vessel and have been successfully physically analyzed for fracture toughness. The results support operation through the end of life in 2024 for Unit 1 and 2025 for Unit 2.

4.15.2.2 DCISC Reviews of DCPD Systems/Components

The DCISC performed the following system/component reviews and walk downs with DCPD System Engineers:

- Compressed Air System
- Containment Ventilation & Hydrogen Mitigation Systems
- Nuclear Instrumentation System
- Radwaste Processing Systems
- Motor Operated Valve & Air Operated Valve Testing Programs
- Turbine Generator Health
- Large Transformer Health
- Chemical and Volume Control and Emergency Core Cooling Systems
- Control Room Ventilation System
- Reactor Protection System
- Radiation Monitoring System
- Auxiliary Building Ventilation System

Compressed Air System Review with System Engineer (Volume II, [Exhibit D.1](#), Section 3.2)

The Compressed Air System is common to and serves both units and is divided into two subsystems: Instrument Air System (IAS) and Service Air System (SAS). The IAS is Safety Class 2, having redundancy and high-quality components typical of Class 1, but it is not designed for seismic loads nor supplied by emergency electrical power. IAS consists of three primary full-capacity air compressors, Plant Air Compressors (PACs) 0-5, 0-6, and 0-7, which supply clean, dry, pressurized air primarily to air-operated valves (AOVs) and instruments needed to operate the plant and to safely shut the plant down. Normally one compressor is required for plant operation. Operation of each of these three compressors is rotated in succession to serve the plant with each compressor operating for a week at a time.

Four additional full-capacity reciprocating air compressors (PACs 0-1 through 0-4) are maintained on site and, although not normally used, could serve the IAS if needed and could also serve in a secondary role during refueling outages.

Because the IAS is not fully safety-related, the IAS-supplied air operated valves required for safe shutdown are supplied with an additional source of assured air from the Backup Air/Nitrogen System (BANS), a Class 1 design. The BANS is a passive pressure system with air or nitrogen accumulators located with and

dedicated to each safe-shutdown valve. They are seismically designed, fabricated, and installed to resist earthquakes and require no electrical power. Each is designed with capacity adequate for valve operation to assure safe shutdown. There appear to be no design or operational problems with the BANS.

In 2017 the overall System Health was rated "Yellow," due to component aging and parts obsolescence, and a compressor replacement plan had been initiated.

Compressors 1 through 4 were being replaced at the time of this fact-finding meeting, and Compressor 7 had already been replaced. Plans to replace the two plant air dryers were delayed to 2021. Compressors 8 and 9, outdoor non-safety-related Service Air Compressors, were showing some corrosion, but were functioning properly. The CAS, currently a Tier 2 system no longer requiring a formal health report, was considered healthy as of July 2020.

The DCPD Compressed Air System, with its new compressors and soon-to-be replaced air dryers, was in good health and operating properly. The system engineer appeared knowledgeable and proactive about his system.

Containment Ventilation & Hydrogen Mitigation Systems (Volume II, [Exhibit D.2, 3.7](#))

DCPD's Containment Ventilation Systems are Engineered Safety Feature systems that serve in conjunction with the Containment Spray System to limit the temperature and pressure in the Containment Building in the event of a Loss of Cooling Accident or a Main Steam Line Break Accident. The system consists primarily of five Containment Fan Cooler Units (CFCUs) which each contain the ductwork, cooling coils, fans and motors necessary to provide 50% of the cooling needed following an accident. The fans are direct drive, two speed fans, with low speed operation used during post-accident conditions. Two of the five CFCUs are required to provide the heat removal capability necessary to maintain containment post-accident atmospheric pressure and temperature within design limits. During normal operations, two or three CFCUs are run in high speed to cool the Containment Building. The CFCUs are cooled by Component Cooling Water. A simplified CFCU diagram is shown below:

accident functions, and recent tests consistently demonstrated satisfactory performance.

Each DCPD Containment includes a Containment Hydrogen Mitigation Systems, which is comprised of two electric Hydrogen Recombiner units inside containment. The Hydrogen Recombiners at DCPD are natural convection, flameless, thermal reactor-type hydrogen-oxygen recombiners. DCPD has experienced no issues with the Hydrogen Recombiners which were tested every outage. Additionally, each containment was provided with piping for purging hydrogen during an accident or for installing and using external recombiners. DCPD has also experienced no recent issues with hydrogen purge piping systems which were normally isolated but tested every cycle.

DCPD's Containment Ventilation and Hydrogen Mitigation Systems were in good health and operated properly. The system engineers appeared knowledgeable and proactive about the health of the system.

Nuclear Instrumentation System (Volume II, [Exhibit D.3](#), 3.9)

The DCPD Nuclear Instrumentation System includes the following:

1. Excore Nuclear Instrumentation System (NIS)
2. Movable Incore Detector System (MIDS)

NIS

The NIS consists of an array of neutron detectors arranged around the outside (i.e., excore) of the Reactor Vessel whose purpose is to measure neutrons emanating from the core to

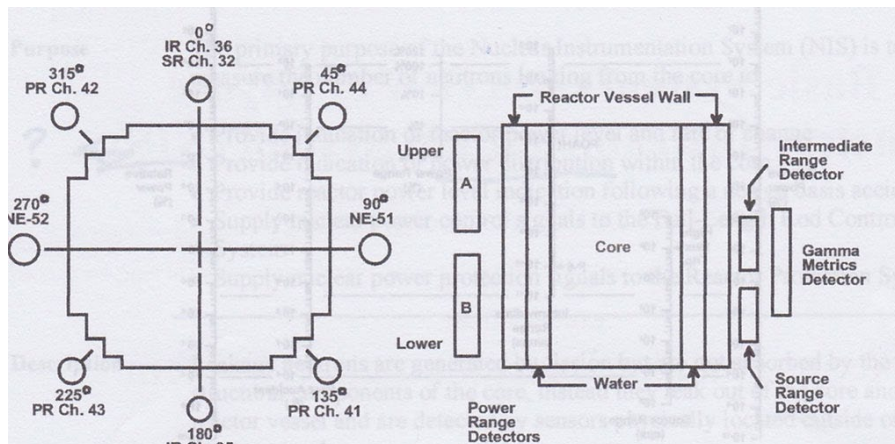
- Provide indication of reactor power level and rate of change
- Provide indication of power distribution within the core
- Provide reactor power level indication following a design basis accident
- Supply nuclear power control signals to the Full-Length Rod Control System
- Supply nuclear power protection signals to the Reactor Protection System

There are three ranges of instrumentation as follows:

1. Source Range instrumentation provides monitoring of neutron flux during shutdown, the initial phase of reactor startup, and final phase of reactor shutdown.
2. Intermediate Range detectors provide monitoring of neutron flux over a range of eight decades in between startup and the beginning of power operation.
3. Power Range detectors provide monitoring of neutron flux over a range of 0 to 200% of full power. There are four redundant channels that are physically separated and electrically isolated from each other.

Additionally, a two-channel Post Accident detector system is provided for

monitoring of reactor power level of 10⁻⁸ to 100% power during accident conditions. This system indicates in both the Control Room and the Hot Shutdown Panel.



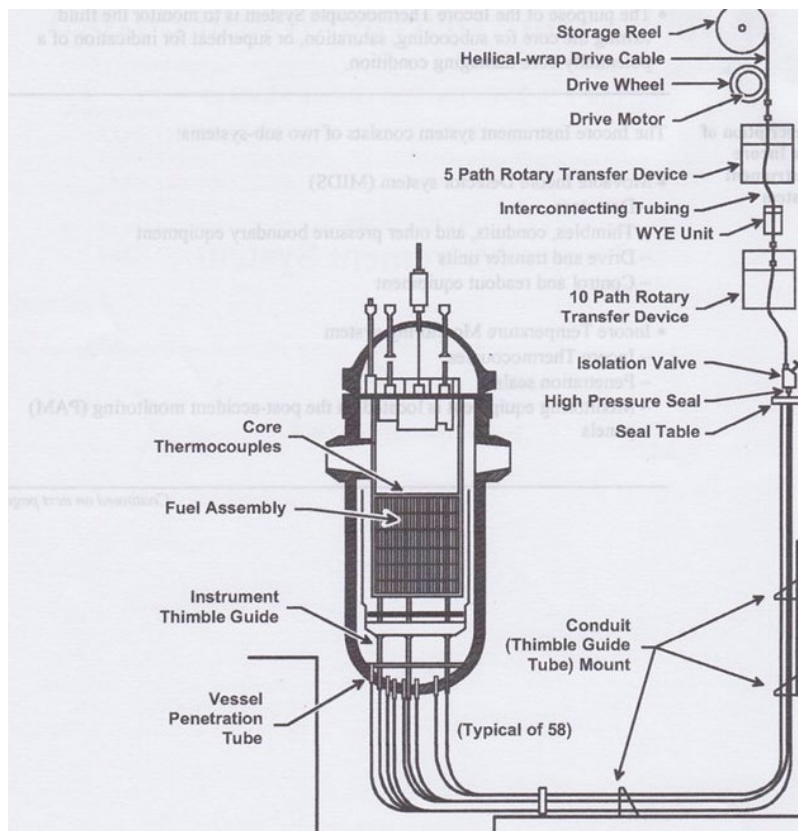
Nuclear Instrumentation Detector Arrangement

DCPP reported that the NIS is in good health. Two Unit 2 Intermediate Range Detectors required replacement in November 2019 and April 2020 due to abnormally high indications caused by faulty electrical connections. The NIS has been operating normally since then.

Incore Instrument System

The Incore instrument System consists of two sub-systems.

1. MIDS purpose is to monitor nuclear power distribution within the reactor core. It employs
 1. Neutron detectors
 2. Thimbles, conduits and other pressure boundary equipment
 3. Drive and transfer units
 4. Control and readout equipment
2. The Incore Thermocouple System is provided to monitor the fluid exiting the core for subcooling, saturation, or superheat for indication of a potentially core-damaging condition, and it includes:
 1. Incore thermocouples
 2. Penetration seals
 3. Monitoring equipment



Schematic drawing of Incore Instrument System

DCPP reported that these systems are in good health; however, there was one equipment issue outstanding. In February 2019 Unit 2 MIDS Detector C was identified as degraded. A complication with its replacement in October 2019 resulted in a plan to replace it again in November 2020.

The current plan is to maintain the existing Nuclear Instrumentation Systems until the end of plant life.

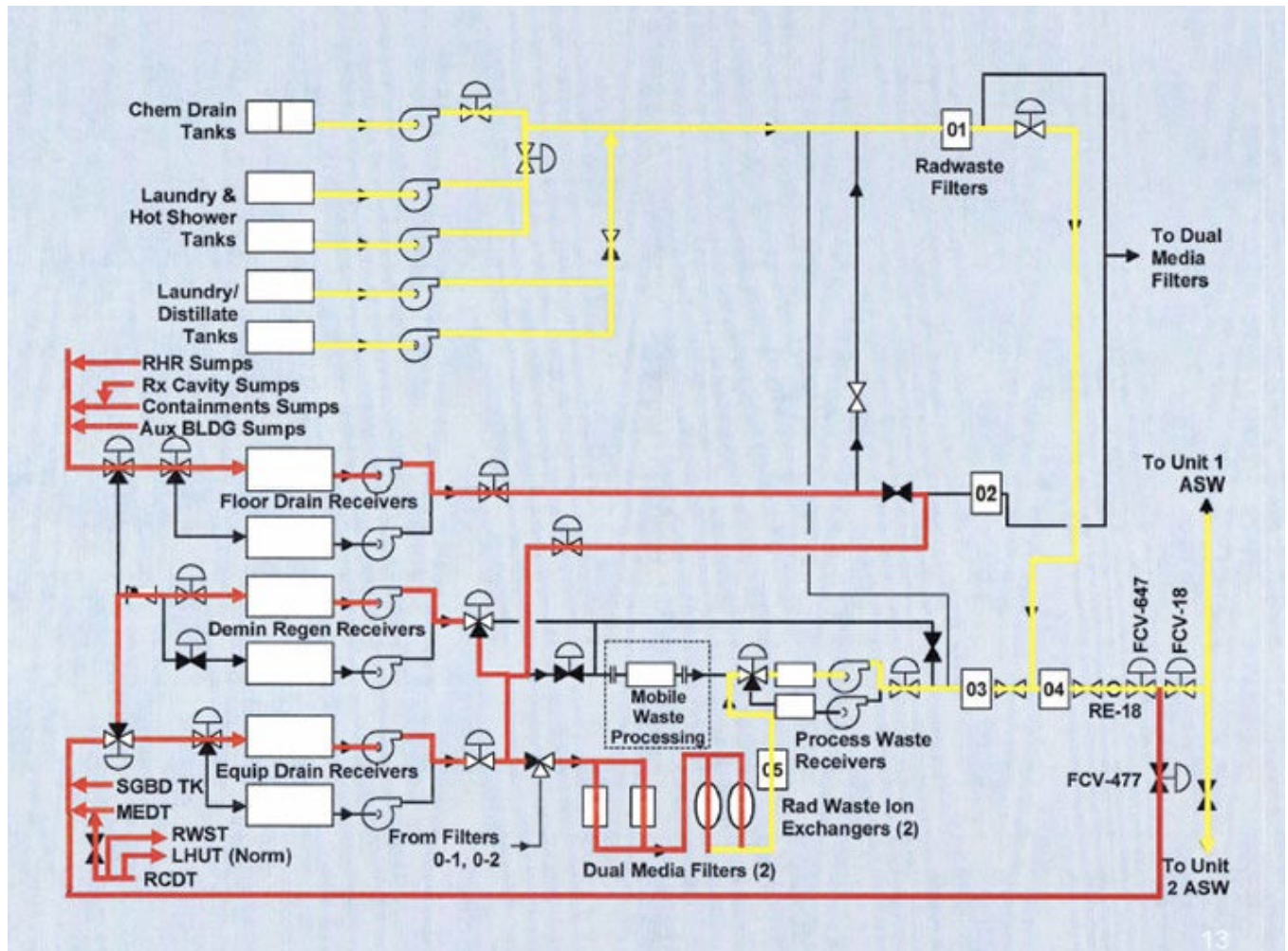
The DCPN Nuclear Instrumentation System is in good health on both units. There have been several nuclear detectors needing replacements, which have been resolved satisfactorily.

Radioactive Waste Processing Systems (Volume II, Exhibits D.4, 3.6)

The DCPN Liquid Radwaste System (LRWS) process flow paths and major components using the system flow diagram (included below). The purpose of the LRWS is to collect radioactive liquid wastes from various sources and process the waste to reduce the radioactivity to environmentally acceptable levels prior to discharge. Except for equipment inside each unit's Containment Building, DCPN Units 1 and 2 share common collection and processing equipment. The LRWS performs the following functions:

- Collect radioactive liquid wastes generated by plant operation and provide adequate surge volume and processing capability to assure plant availability is not limited,

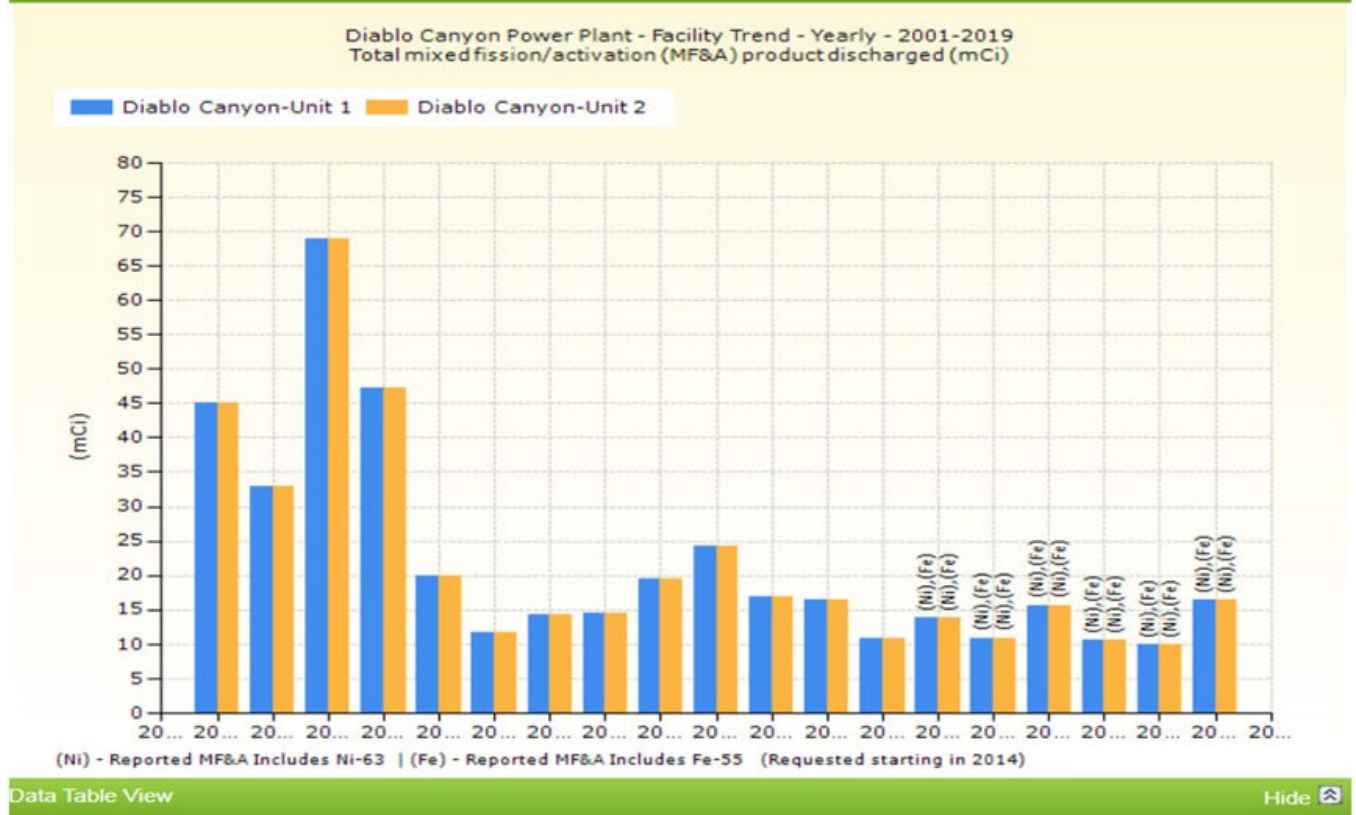
- Reduce and limit the radioactivity of the liquid effluent to acceptable levels,
- Maintain safe LRWS operating conditions and system integrity, and
- Provide adequate drainage of radioactive liquids during both normal plant operations and postulated flooding conditions following equipment failure.



DCPP Liquid Radwaste Processing System Schematic.

The system processes approximately one million gallons of liquid per year. There was a major reduction in volumes in 2000 and again in 2005 due to improved plant operations and improved LRWS performance. Collected liquids are stored in tanks, processed by filtration and/or ion exchange, and recycled or sampled and diluted and discharged through the Auxiliary Saltwater (ASW) System into the Pacific Ocean. The ASW discharge to the ocean is provided with a radiation monitor-controlled valve to assure liquid releases are below prescribed levels.

DCPP's 20-year discharge history by unit is shown below:



DCPP Liquid Waste Discharge 2001-2019

The system reliability was generally good, but Reactor Cavity sump pumps had been a recurring problem. DCPD Engineering was working to find a solution to make the pumps more reliable in their priming and pumping. With regards to system instrumentation, the system's Human-Machine Interface computer system was functioning well, and DCPD had recently replaced several level detectors in the system with more reliable indicators.

Regarding solid Radwaste, DCPD has worked to minimize the generation of all solid waste. DCPD currently sends both its Class A Low Level Waste (LLW, lowest radioactivity and half-life less than five years) and its Class B or C LLW (higher radioactivity) to a licensed disposal site in Andrews, Texas. DCPD has discontinued sending waste to a licensed disposal site in Utah but could do so again in the future if needed. Trash contaminated with extremely low or trace levels of activity were being sent to a waste processor in Tennessee for disposal in a landfill licensed for the burial of slightly radioactive material.

DCPD's Liquid and Solid Radwaste Processing Systems are effective in minimizing the volumes and radioactivity levels discharged or sent to licensed storage facilities.

Motor Operated Valve & Air Operated Valve Testing Programs (Volume II, [Exhibit D.5](#), 3.2)

The purpose of the program is to test and maintain AOVs and MOVs to assure that these valves will achieve required reliability when operated under anticipated system conditions. The program was developed in the mid-1990s as part of an industry effort in response to NRC concerns about the operability of AOVs and MOVs. An industry Joint Owners' Group (JOG) was formed in the late 1990s. DCPD personnel participate in the JOG.

The DCPD AOV/MOV Program organizes valves into the following four categories:

Category 1 - safety-related valves with an active safety function and high safety significance (six AOVs - three per unit), which are the Pressurizer Power Operated Relief Valves.

Category 2 - active safety-related valves, which do not have high safety significance.

Category 3 - Valves outside Categories 1 and 2, which affect plant efficiency and megawatt capacity, or whose maintenance history indicates the need for increased surveillance. There are several hundred valves in this category.

Category 4 - any remaining valves not included in the above three categories.

There are approximately 1900 air and motor operated valves in the program with 96 high priority valves tested each outage. The AOV/MOV Program Team determines which valves are assigned to each category. For each valve, a design basis reconstitution is performed to determine operational parameters, which are used as the basis for test acceptance criteria. Additionally, valve capability and operator sizing calculations are performed to assure that the valve/operator combination is acceptable for its specific application. Baseline, periodic, and post-maintenance testing are performed on each AOV and MOV depending on its category. Records and trends are maintained for each AOV and MOV. Any problems are documented and tracked on an Action Request in the Corrective Action Program.

Maintenance performs the actual tests, and the Program Owner verifies and approves the test results. During Outage 1R22, 44 AOVs and 23 MOVs were tested. Results were satisfactory.

Overall, both AOV and MOV Program health indicators are Green, having reached Green when the Program Owner achieved the required three years of experience. The Program Owners participate actively in industry AOV/MOV Program activities. They develop both a Long-Range Plan for the Program and a Life Cycle Management Plan for DCPD's valves. The former plan is addressing the issue of obsolete AOV/MOV parts, and the second addresses the testing budget as well as future valve/actuator replacements.

NRC plans inspections of DCPD's AOV and MOV Programs in July 2021.

The DCPP Air- and Motor-Operated Valve Programs appear to be sound and to be implemented satisfactorily.

Turbine-Generator Health (Volume II, [Exhibit D.5](#), Section 3.9)



DCPP Unit 1 Turbine, Generator and
Exciter



Typical Turbine
Internals

The basic function of the Turbine-Generator is to convert thermal energy initially to mechanical energy and finally to electrical energy. The Turbine-Generator for each unit receives saturated steam from the four Steam Generators through the Main Steam system. Steam is exhausted from the Turbine-Generator to the Main Condenser. The Siemens-Westinghouse BB96 High Pressure (HP) Turbine for each of the two nuclear units is coupled to three Alstom ND56R Low Pressure (LP) Turbines in a four-casing, tandem-compound, six-flow exhaust, 1800 rpm unit, with 57-inch last-stage blades. The Alternating Current generator is connected to the Turbine shaft, and a brushless exciter is coupled to the Generator.

The Turbine-Generators and their auxiliary systems are designed for steam flow corresponding to 3,500 MWt and 3,580 MWt, which in turn correspond to the maximum calculated thermal performance data of the Units 1 and 2 Nuclear Steam Supply Systems (NSSS), respectively, at the original design ultimate expected thermal power. The Unit 2 Turbine-Generator has a higher power rating because of subsequent uprating of the Unit 2 NSSS. The intended mode of operation of both Unit 1 and Unit 2 is base loaded at levels limited to the lower licensed reactor level of 3,411 MWt.

The plant is designed to sustain sudden large load decreases. This capability is provided by the use of controlled steam dump (turbine bypass) from the secondary system. This dump serves as a short-term artificial load, allowing the reactor to automatically cut back power without tripping. The reactor control system itself is not rapid enough to follow a sudden loss of load without allowing certain reactor plant variables (e.g., pressure and temperature) to exceed allowable operating limits. Therefore, a sufficiently large, controlled steam dump, capable of simulating an external load on the reactor, is used to prevent the

reactor from tripping.

The Turbine Bypass System (TBS) bypasses Main Steam directly to the Main Condenser and atmosphere, depending on the required capacity, during the emergency condition caused by a sudden load reduction by the Turbine-Generator or a Turbine trip, and during plant startup and shutdown. The TBS consists of 25 power-operated relief valves. Four of these valves (10 percent dump valves) take steam from each Main Steam line and discharge to the atmosphere. The remaining 21 valves take steam from the dump headers (connected to all Main Steam lines) and discharge either into spray distribution headers in the Main Condenser (40 percent dump valves) or to the atmosphere (35 percent dump valves). The system thus provides an artificial load on the Reactor Coolant System during the emergency condition of a sudden load reduction by the Turbine-Generator or a Turbine trip (four of the 40 percent dump valves are used during cooldown).

The Westinghouse Generator and exciter are connected to an extension of the Turbine shaft, spinning also at 1800 rpm. The Generator is internally cooled by hydrogen gas, which flows to the Generator Hydrogen Gas Cooling System. The cooling water in this system is at lower pressure than the hydrogen to avoid water getting into the Generator in case of a leak. During a refueling outage ending March 19, 2019, DCPD replaced the internal stator components of the Unit 2 Generator, including the hydrogen cooling piping. The piping subsequently developed a leak which caused DCPD to shut down the unit for entry, investigation and repair. The repair was made, the unit returned to service, but another leak developed, causing a second shutdown, and that shutdown was still continuing during this December 8-9, 2020 Fact-finding meeting. For more information about this issue see the DCISC November 2020 Fact-finding Meeting report (Reference 6.10).

Units 1 and 2 Turbines are both in Green health with minor issues.

Unit 1 Generator is in Green health with minor issues.

Unit 2 Generator is in Red health as described in the following health report excerpt:

The SCCW inlet waterbox welded to the inlet header developed a crack in a weld that allowed hydrogen gas to leak from the main generator into the SCCW system. This caused a low main generator hydrogen pressure alarm to actuate. Operations also found that FE-203 was indicating significant hydrogen flow from the SCCW head tank to the vent. The unit was tripped and a forced outage was initiated to troubleshoot and repair the problem. A root cause investigation is currently being performed to determine the cause of the event.

This issue is described above in 4.15.2.

The DCPD Turbine/Generators have been and are in Green (good) health with the exception of the Unit 2 Generator hydrogen leak. Unit 2 was shut

down recently for the second time with this leak and is aggressively investigating the cause. The Unit 2 leak is not directly nuclear-safety-related but is generation-limiting.

Large Transformer Health (Volume II, [Exhibit D.6](#), 3.4)

All of the major transformers at DCPD were currently in good health. One of the best indicators of transformer health is the dissolved gas measurements made of oil samples taken from the transformers during outages. The most recent dissolved gas measurements for all DCPD major transformers, including Main Transformers, Auxiliary Transformers, and Start-up Transformers (14 total), found the units to be in good condition and with normal monitoring results. Additionally, online gas monitors for the transformers did not indicate any problems. Currently, it was forecasted that the health of all major transformers was sufficient to support plant operations through the end of the cessation of power operations in 2025, with no future major transformer replacements or upgrades required.

Work that was recently completed on large transformers included the replacement of oil circulating pumps on the Unit 2 'B' Main Transformer during the Refueling Outage 2R21 in late 2019. This work was the last major project planned for any of the Main Transformers. Regarding the Auxiliary Transformers, bushings were replaced on Auxiliary Transformer 1-1 during Refueling Outage 1R22 in 2020 in order to correct abnormal trends noted on bushing performance. It was also planned that the radiators would be replaced on Auxiliary Transformer 2-1 during Refueling Outage 2R22 due to general degradation, and that would be the last major project planned for the Auxiliary Transformers. The Startup Transformers were in good shape with only one major preventative maintenance activity planned to overhaul the Load Tap Changer during Refueling Outage 1R24, currently planned for 2023.

DCPD's Large Transformers are in good health overall, and the health of all major transformers is sufficient to support plant operations through the cessation of power operations in 2025.

Chemical and Volume Control and Emergency Core Cooling Systems (Volume II, [Exhibit D.6](#), Section 3.9)

The DCPD CVCS System serves both emergency and non-emergency functions. During non-emergency (normal) operations, the Centrifugal Charging Pumps (CCP), as a part of the CVCS, supply high pressure makeup water to the Reactor Coolant System (RCS). The CVCS system provides a means of continuous letdown and makeup to the RCS to replenish water removed via letdown for cleanup or via Reactor Coolant Pump seal leak off. The CVCS system also includes two Boric Acid Transfer Pumps per unit and associated equipment which provide for the addition of boric acid to RCS water to control core reactivity. The CCP system was originally provided with two safety-related CCPs for either ECCS or normal use along with a non-safety related positive-displacement pump for

normal use. As the positive-displacement pump proved highly unreliable, it was replaced with a non-safety related CCP on both units in 2008. This non-safety related CCP is currently the primary pump used to supply the CVCS system during normal operations. The other two safety-related CCPs are normally left in standby.

During emergencies, the two safety-related CCPs serve as High Pressure Safety Injection Pumps as a part of the larger ECCS. The CCPs as a part of the ECCS are designed to inject high pressure water from the Refueling Water Storage Tank to cool the reactor core and provide negative reactivity in the event of a loss of coolant accident, a spurious lifting of a Reactor Coolant System (RCS) Pressurizer Relief Valve, a Rod Cluster Control Assembly ejection, or a Steam Generator tube rupture. The larger ECCS also includes two additional systems. The first is the Safety Injection (SI) System (for intermediate pressure injection) which includes two SI Pumps and four pressurized SI Accumulator tanks. Second is the Residual Heat Removal (RHR) System (for low pressure injection and recirculation) which includes two RHR Pumps and two RHR Heat Exchangers for long term heat removal during post-accident or shutdown conditions.

The System Engineers provided copies of the System Health reports to the DCISC for the CVCS, SI, and RHR systems for both units. All three systems on both units were rated as Green, Healthy, and there were only a few minor equipment issues affecting the systems. Flow tests had been regularly completed during recent outages without any major issues. Additionally, the System Engineers reported that they felt that they were being provided with adequate funding and resources for maintenance of the systems for which they were responsible. The DCISC concluded that the health of CVCS and ECCS systems was good, and this was good performance in systems management by DCP.

DCP's Chemical Volume Control System and Emergency Core Cooling Systems were all in good health on both units. This was good performance.

Control Room Ventilation Systems (CRVS) (Volume II, [Exhibit D.6](#), Section 3.10)

DCPs CRVS primarily consists of the Control Room HVAC System (CRHVAC) and the Control Room Pressurization System (CRPS). The CRHVAC consists of two independent trains of fans, dampers, heaters, and air conditioning for each unit. The CRPS is composed of one train of pressurization fans and filters for each unit. These systems are interconnected mechanically and operationally and are intended to be operational during all plant operating modes. The CRHVAC and CRPS operate in one of the following modes:

Mode 1	Normal mode
Mode 2	Smoke removal mode to remove smoke in the Control Room
Mode 3	Recirculation with 100% air recirculation and 27% passing through High Efficiency Particulate Air (HEPA) filtration

Mode 4	Pressurization to counteract the detected presence of radiation at the Control Room air intake or in response to a Containment Isolation signal
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Although formal system health monitoring was no longer required for the CRVS, the system was generally in good health with minor issues and problems. Testing was done approximately every five years and was due to be next performed in late 2021. Implementation of the Alternate Source Term license amendment modified and clarified the basis for accident dose calculations. As such, the acceptance criteria for Control Room inleakage testing became clearer, and test performance and the subsequent evaluation of results were made more straightforward.

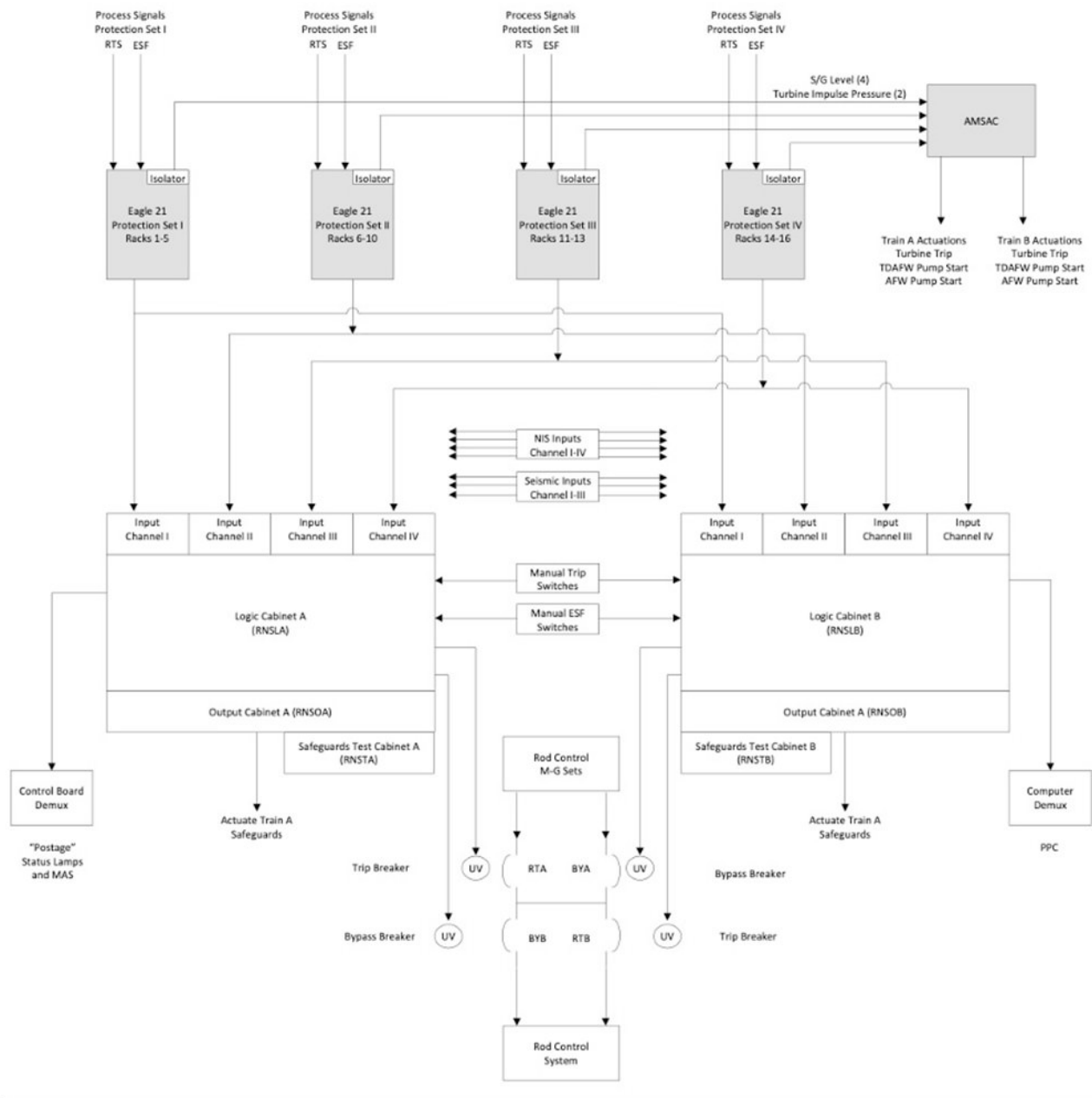
Additionally, differential pressure testing (without using tracer gases) of the Control Room ventilation envelope was performed every two years and was scheduled to next be performed in January 2021. No major problems had been noted with recent past tests performed on the ventilation envelope.

DCPP's Control Room Ventilation System was in good health overall on both units, and minor equipment issues were being effectively addressed.

Plant (Reactor) Protection System (Volume II, [Exhibit D.7](#), Section 3.3)

The Plant Protection System (PPS) is part of the original Westinghouse Nuclear Steam Supply System (NSSS), which includes the Reactor Coolant System (RCS). The PPS consists of four separate independent full function protection sets, which provide trip and actuation signals to the Solid-State Protection System (SSPS) for use by the Reactor Trip System (RTS) and Engineered Safety Features Actuation System (ESFAS). Each protection set is physically and electrically separated from the other three sets. Output signals of the PPS parameters (temperature, pressure, level, neutron flux, and flow) are provided to the Main Control Room for indication and recording, to the Plant Process Computer for monitoring, and to the Main Annunciator System, for alarming. The PPS also provides input sensor signals to various plant control systems. These signals are electrically isolated from the PPS and are not processed by the PPS instrumentation (with the exception of RCS Delta-T and Tavg channels). The PPS also provides isolated signals to the Anticipated Trip Without Scram (ATWS) Mitigation System Actuation Circuitry (AMSAC) and other such control systems as the Control Rod Control System and Digital Feedwater Control System. The PPS was updated in the mid-1990s.

Functional Flow Diagram of Eagle 21 Solid State Plant Protection System



DCPP had submitted a License Amendment Request (LAR) to the NRC for an upgraded PPS but later decided to keep the current system in light of the proposed plant shutdown in 2025. The current system has been operating reliably, and service and spare parts are readily available. It is expected to operate reliably through 2025. This March 2021 Fact-finding review concentrated on the current system performance.

Although the PPS does not receive a health report, and therefore is not given a health color, its health is acceptable - there are no significant issues. DCPP is a member of the Westinghouse Owners' Group (WOG) on Eagle 21 and stays current including attending WOG meetings twice per year. The most recent WOG meeting was on March 4, 2021. DCPP performs full train tests and calibrations each six months, and the system has built-in testing capability which provides regular performance reports.

The PPS is subject to full DCPD Cyber Security Program requirements and has no connections outside the plant.

The DCPD Plant (Reactor) Protection System has been operating as designed in a reliable manner. DCPD reversed a decision to replace the System due to the 2025 shutdown and the acceptable health of the System.

Radiation Monitoring System (Volume II, [Exhibit D.8](#), Section 3.1)

The Radiation Monitoring (RM) System is designed to provide general area and process system radioactivity measurements and alarms, as well as automatic line isolations, in order to monitor and control personnel dose exposure and the release of radioactive fluids in compliance with applicable regulations. It consists of 101 channels of radiation detectors and associated electronic components, as well as wiring and displays located around the plant. The system components are diverse and came primarily from four manufacturers. The system components range in age from the 1970s to the 1990s and consist of both analog and digital components. DCPD reported that the RM System was classified as a Tier 2 system and health reports for the system were no longer required. However, if a system color were to be assigned to reflect the current system health, he believed that the system would be rated as White (Acceptable but needing improvement) due primarily to reliability concerns.

Historically, the RM System had been managed according to a Long-Range Plan. The general strategy consisted of three major points:

1. Continue to maintain and improve existing equipment,
2. Modify and replace selected equipment in accordance with the Long-Range Plan, and
3. Plan for an entire system asset replacement concurrent with the plant relicensing period.

This strategy was to have been implemented through 2023; however, because of the capital review process associated with the decision not to pursue license extension, the plan for an entire RM System replacement was cancelled. DCPD was currently focused on maintaining and improving the reliability of the existing RM System by using the Preventative Maintenance program effectively and by low-cost modifications to the greatest extent possible. In general, engineers and maintenance technicians were focused on improving the current equipment rather than performing large-scale upgrades or replacements. Activities that were recently completed to improve the performance of the RM System consistent with this approach included:

- Replacement of the Containment Building atmospheric sampling pumps.
- Replacements of all control switches and alarm relays in equipment supplied by a specific vendor.

- Upgrades to replace control room chart recorders with multi-channel digital data loggers (consistent with similar control room chart recorder replacements on other systems).
- Various changes to the frequencies of Preventative Maintenance tasks in order to reduce the likelihood of failures.

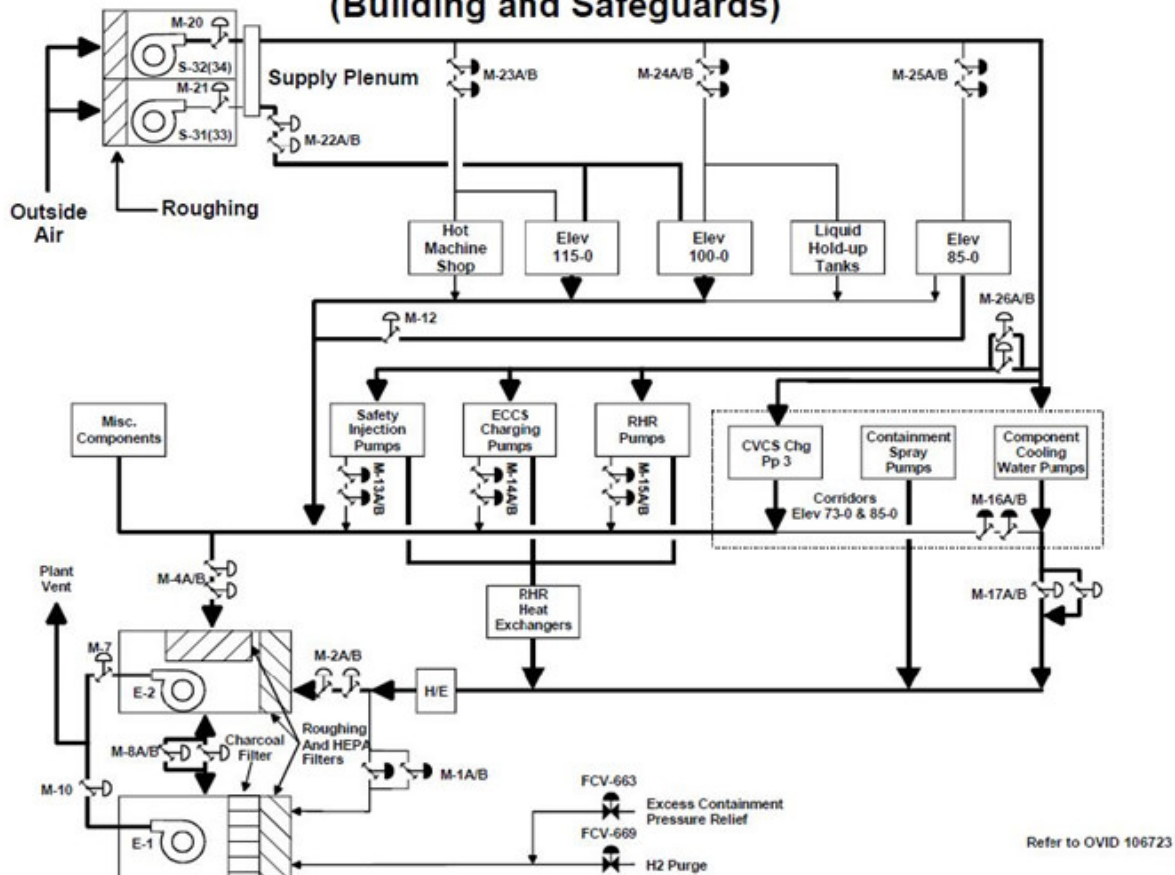
This approach was generally proving effective in that the numbers of system failures were steadily decreasing over time. Many of the ongoing activities to address reliability were being driven and tracked by DCP's Maintenance Rule (MR) Program which analyzes all functional failures in the system to determine if the failures were preventable by changing maintenance activities (see Section 3.6 of this report for additional information about the MR Program). He provided a list of all Maintenance Rule Functional Failures (MRFFs) for the RM System over the last six years with associated causes and trend graphs. The data demonstrated that the number of MRFFs for the RM System was steadily decreasing. There continued to be adequate spare parts available from the original manufacturers (several of which have been bought by other major suppliers), as well as from surplus at other nuclear plants that were upgrading their RM Systems.

DCP's Radiation Monitoring System was in acceptable health overall, and DCP was working to address reliability issues. The health of the system and the availability of spare parts appeared to be sufficient to support plant operations through the termination of power operations in 2025.

Auxiliary Building Ventilation System (Volume II, [Exhibit D.8](#), Section 3.3)

The ABVS consists of fans, dampers, ducting, and filters whose function is to supply, heat and/or cool, filter, and discharge air for the Auxiliary Building. It is one of several ventilation systems at DCP which serve various plant areas. The ABVS provides cooling and/or heating for both personnel and equipment, including several components of the Engineered Safety Feature system. The ABVS consists of two supply fan units with roughing filters and two discharge fan/filter units with roughing, High Efficiency Particulate Air (HEPA), and charcoal filters, along with extensive ducting throughout the building. Instrumentation and controls include flow instruments (elements, indicators, and switches), pressure instruments (indicators and switches), temperature instruments (controllers and switches), position switches, solenoid valves, vibration transmitters, dampers with actuators, and pressure regulating valves. Because there is potential for radioactive particulates and gases to enter the ABVS, the system is equipped with radiation monitors to preclude inadvertent releases via the Plant Vent. A simplified system diagram is shown below:

Auxiliary Building Ventilation (Building and Safeguards)



The ABVS was classified as a Tier 2 system and as such, formal system health reporting was not required. However, Tier 2 systems were still assigned Strategic/System Engineers to monitor the system for adverse trends or degrading conditions and initiate appropriate action plans as required.

During the DCISC's last review, there were several issues with the ABVS that were being addressed. The ABVS for both units were in (a)(1) status under the Maintenance Rule (MR) Program, with Unit 1 having incurred three Maintenance Rule Functional Failures (MRFFs) and Unit 2 having incurred seven MPFFs within the last two years (see Section 3.6 for additional information about the MR Program). The majority of these failures were failures of various dampers to function properly during surveillance testing during 2018. The action plan concluded that the primary cause of the damper failures was inadequate preventative maintenance, and the frequency of performing preventative maintenance on the dampers was changed from twelve to six months along with other actions that were initiated to improve the overall health of ABVS dampers. The systems would be returned to MR (a)(2) status if they successfully passed three successive periodic surveillance tests following repairs without any issues.

While the number of damper failures had been significantly reduced, the ABVS remained in (a)(1) status under the MR Program, due primarily to an issue with indication failures for a damper that occurred in late 2020. Operators noted that the position of a damper did not indicate correctly after closing, and maintenance

technicians cleaned the indicator collars. The problem later recurred, and technicians replaced the collars. This pair of failures was classified as an MPFF and prevented the ABVS from being returned to MR (a)(2) status in late 2020 as was previously forecasted. The rate of MPFFs occurring for dampers in the ABVS would continue to be monitored under the MR Program until such time that the criteria for returning to MR (a)(2) status (described above) could be achieved.

DCPP's Auxiliary Building Ventilation System was in acceptable health and performs as expected. Corrective Actions have been completed for numerous Maintenance Rule Functional Failures of system dampers over the last two years, and the effectiveness of the corrective actions is being monitored.

4.15.3 Conclusions and Recommendations

Conclusions: DCPP has dealt effectively with most equipment and system problems and is focused on improving system health. DCPP's Plant Health Committee has been improved to focus more on system/component health and meets more frequently, and overall system health has improved.

Recommendations: None

[31st Annual Report, Volume I](#), 4.16 Steam Generator Performance

4.16 Steam Generator Performance

4.16.1 Overview and Previous Activities

Steam Generator (SG) tube reliability is important to operational safety because the SG tubes are part of the Reactor Coolant System (RCS) boundary. The nuclear industry has experienced substantial problems with a variety of mechanisms that can cause the SG tubes to deteriorate. The most notable of these is stress corrosion cracking. To address these issues DCPD engaged in a major capital project of replacing all 8 DCPD steam generators: four in Unit 2 were replaced during refueling outage 2R14 (February - April 2008), and four in Unit 1 were replaced during refueling outage 1R15, (January - April 2009).

The DCISC reviewed the following during the previous reporting period:

- Steam Generator System

The DCISC concluded the following during the previous reporting period:

The DCPD Steam Generators (SGs) have been performing well since their replacements in 2008 and 2009. The most important SG parameter, tube integrity, has been shown to meet all criteria as a result of regular Eddy Current Test inspections, and very few tubes needed to be plugged. SG secondary side inspections have generally found very little foreign debris and only small amounts of sludge have been removed during cleanings. An evaluation has been initiated to extend the Unit 1 secondary side inspection and cleaning intervals from three to six cycles, and the DCISC will review that evaluation following its planned completion in June 2020.

4.16.2 Current Period Activities

The following items were reviewed during the current reporting period:

- Steam Generator Inspection Frequency
- Steam Generator Inspection Results

Steam Generator Inspection Frequency (Volume II, [Exhibit D.2](#), 3.6)

Historically, the four DCPD SGs per unit were replaced in Refueling Outages 2R14 (Unit 2) in 2008 and 1R15 (Unit 1) in 2009 due to tube degradation and have since

been performing very well. One of the most important SG parameters is the integrity of the 4,444, 0.75-inch diameter, Alloy 690 tubes in each SG. The tubes serve as the pressure boundary between the Reactor Coolant System (RCS) and the Main Steam and Feedwater Systems. To ensure the continued integrity of these tubes, they are typically inspected by performing inspections from the primary sides of the SGs using Eddy Current Testing (ECT) inspections every three refueling cycles (every four to five years). At DCP, 100% of the tubes were last inspected via ECT on Unit 1 during Refueling Outage 1R19 in 2015 and on Unit 2 during Refueling outage 2R21 in 2019. The DCISC previously reviewed the inspection results and found that only minor indications of tube degradation have been detected and only a small number of tubes have been plugged.

In addition to ECT inspections on the primary (RCS) side of the SG tubes, the secondary (Main Steam) side of the SG tubes is typically visually inspected and cleaned using a process called "sludge lancing." Sludge lancing was also previously performed on Unit 1 during Refueling Outage 1R19 and Unit 2 during Refueling Outage 2R21. Additionally, during these cleanings, a Foreign Objects Search and Retrieval (FOSAR) activity is performed to identify and remove any foreign objects that may have entered the secondary side of the SGs from the feedwater system. If any foreign objects are found and cannot be removed, an analysis is performed to ensure that there is little or no potential for the objects to cause tube erosion. During past cleanings, the SGs were generally found to be very clean and very little sludge material or foreign objects were removed.

A Preventive Maintenance Change Request (PMCR) was completed and documented in a Notification (SAPN 51070107), a copy of which was provided to and reviewed by the DCISC. The evaluation as completed by Engineering included the following high-level points for consideration:

- The current three-cycle periodicity for sludge lancing and FOSAR was based on vendor recommendations made in technical letters received in 2017. In response to a more recent inquiry from DCP, the vendor recommended against extending the sludge lancing and FOSAR activities.
- Guidance from nuclear insurers recommended a three-cycle periodicity for the activities.
- The effects of not removing sludge from the SGs was limited to increasing the possibility for pitting and stress corrosion cracking which was generally a long-term issue and would not be a concern prior to the Unit 1 cessation of operations in 2024.
- FOSAR directly detects, precludes and mitigates the potential for SG tube wear from the movement of debris. Therefore, the effects of not performing a FOSAR would be a potential loose part remaining in the SG which in turn could result in a primary to secondary tube leak.
- The probability of a tube leak from a loose part remaining in the SG due to an extension of the FOSAR was low.
- There was a low probability that significant loose parts had entered the SGs

since the last inspection. Loose parts could come from aging feedwater heaters which in the past have released small ligaments/fragments to the SGs. Also, it was possible for tube plugs to be released from the feedwater heaters and migrate to the SGs. Although plugs had been released from the feedwater heaters at DCPD in the past, there were no past instances of plugs migrating to the SGs at DCPD. It was noted that any significant loose parts present on the secondary side (such as a tube plug) would likely, but not definitively, be detected by the primary side ECT inspections.

- The consequence of a tube leak could be a forced outage to locate and plug the leaking tube, which would be a high financial risk.
- There was no industry history of any SG tube leaks caused by loose parts on any of the newer replacement SG designs similar to DCPD.
- Overall, the preventive maintenance extension was judged to have a medium risk, based on a low probability of failure in conjunction with a high consequence of failure.

In May 2020, the PMCR was reviewed by the Outage Management Team (OMT, which also acted as and with a quorum for the Plant Health Committee), and the OMT approved the PMCR extending the sludge lancing and FOSAR intervals from three to six cycles. The DCISC inquired as to what was the basis for the OMT's decision to approve the extension contrary to engineering's recommendation. The managers stated that they believed that the risk was very low due primarily to the past history of sludge cleaning and FOSAR for the SGs at DCPD. Typically since SG replacement, only very small amounts of sludge and very few small foreign objects had been removed from the SGs. Also, the managers noted that it was desirable to reduce unnecessary and labor-intensive work in the upcoming outage due to the risk posed by the COVID 19 pandemic. They reported that secondary side work on the SGs was not typically a critical path activity and did not affect schedule; however, it was still resource intensive and would require a significant number of workers to perform.

The DCISC team asked how this decision was documented, and DCPD personnel pointed out that it was documented in the PMCR and also in the minutes of the OMT meeting. The DCISC found that the decision was documented in both documents; however, management's basis for its decision was not specifically recorded in either document. Specifically:

- The PMCR (SAPN 51070107) recorded, "This PMCR was reviewed by PHC Quorum during an OMT meeting on 5/5/20. Quorum members in attendance were.... This meeting was held via Web ex and sign in sheet is attached to the notification. The PHC final decision is as follows: 5.5 OMTPHC approved frequency from 3RF to 6RF."
- The OMT Meeting Minutes recorded in column labeled as "OMT/PHC Decision, Option 2: Skip Sludge Lancing in 1R22 (never perform again). Develop contingency to perform FOSAR / Hand Hold Covers on secondary side based on results of Eddy Current testing."

The DCISC concluded that DCP's decision to defer SG secondary side cleaning and inspection activities was acceptable because the associated safety risks were found to be low; because those risks were well understood by the station; and because an undetected problem (defect possibly later causing a SG tube leak) would likely lead only to a forced outage, which although undesirable is not in itself a significant safety issue. However, the DCISC believed that the basis for significant decisions such as this one should be better documented with more detail, particularly if the decision was counter to recommendations being made by the Engineering Department and/or equipment vendors (as was the case in this situation). Additional detail regarding management's basis for its decision would help avoid possible misinterpretations of the decision by employees as one made counter to key elements of a healthy nuclear safety culture.

DCP's decision to defer Steam Generator secondary side cleaning and inspection activities was acceptable, and the associated safety risks were found to be low and well understood by the station.

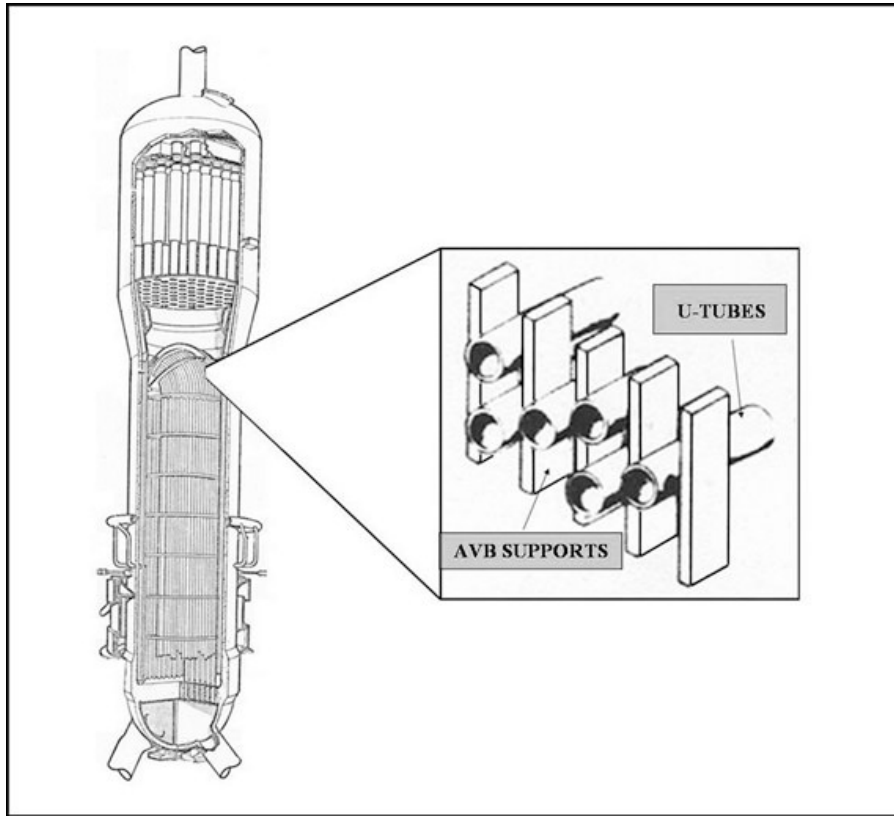
Steam Generator Inspection Results (Volume II, [Exhibit D.6](#), Section 3.2)

DCP's SGs are vertical shell and U-tube evaporators with integral moisture separating equipment. The Reactor Coolant flows through inverted U-tubes, entering and leaving through the nozzles located in the hemispherical bottom head of the SG. Steam is generated on the shell side and flows upward through the moisture separators to the outlet nozzle at the top of the vessel. To ensure the continued integrity of the SG tubes, Eddy Current Testing (ECT) inspections of 100% of the tubes are typically performed every three refueling cycles during refueling outages. In addition to ECT inspections on the primary (RCS) side of the SG tubes, the secondary (Main Steam) side of the SG tubes is typically visually inspected and cleaned. Previously, the DCISC reviewed the most recent Unit 2 SG inspection results performed during Refueling Outage 2R21 in the fall of 2019 and concluded that the most important SG parameter, tube integrity, had been shown to meet all criteria as a result of regular ECT inspections. SG secondary side inspections had also generally found very little foreign debris and only small amounts of sludge had been removed during cleanings.

During Refueling Outage 1R22 in November 2020, ECT Inspections were performed on 100% of tubes in all four Unit 1 SGs. The ECT Inspections found tube wear indications near the locations of Tube Support Plates (TSPs) at 87 locations. Twelve of the eighty-seven indications near TSPs were new with the remainder having been previously identified during earlier inspections. The ECT Inspections also found tube wear indications near the locations of Anti-Vibration Bars (AVBs) at 18 locations in the Unit 1 SGs. Four of the eighteen indications near AVBs were new with the remainder having been previously identified during earlier inspections. All of the identified indications were evaluated, and it was determined that all flaw sizes were less than structural limits for maintaining tube integrity through the next three cycles. Accordingly, no additional tubes were

required to be plugged.

A picture of the approximate location of the AVBs and TSPs in the SG is shown below:



Steam Generator Cutaway Showing AVBs and TSPs

A summary of Unit 1 SG tube plugging to date following Refueling Outage 1R22 is shown below:

1R22	
SG Number	Tubes Plugged (in previous outages)
1-1	1
1-2	5
1-3	2
1-4	0
Total	8

An evaluation of the degradation was performed by the vendor including performing a detailed operational assessment. The operational assessment concluded that the structural integrity and leakage performance criteria would be satisfied for all existing types of degradation for the next three fuel cycles, from Cycle 22 through to end of plant life following Cycle 25 (2024). A copy of the inspection report and operational assessment titled, "Diablo Canyon Unit 1 1R22 Condition Monitoring and Operational Assessment," was provided to the DCISC. The DCISC reviewed the inspection report and operational assessment and found

that the methods and conclusions were appropriate.

The DCISC noted that secondary side inspections and cleanings for the Unit 1 SGs were not performed during this refueling outage. The periodicity of those inspections had been extended by DCPD from three to six cycles. This extension was previously reviewed by the DCISC during its August 2020 Fact-Finding Meeting (see above)) and found to be acceptable.

Inspections of DCPD's Unit 1 Steam Generators during Refueling Outage 1R22 found only minor tube defects, and no additional tubes were required to be plugged.

4.16.3 Conclusions and Recommendations

Conclusions: The DCPD Steam Generators (SGs) have been performing well since their replacements in 2008 and 2009. The most important SG parameter, tube integrity, has been shown to meet all criteria as a result of regular Eddy Current Test inspections, and very few tubes needed to be plugged. SG secondary side inspections have generally found very little foreign debris and only small amounts of sludge have been removed during cleanings. An evaluation has been initiated to extend the Unit 1 secondary side inspection and cleaning intervals from three to six cycles, which the DCISC has found acceptable.

Recommendations: None

[31st Annual Report, Volume I, Section 4.17, Outage Management](#)

4.17 Outage Management

4.17.1 Overview and Previous Activities

The DCISC monitors DCP's outage plans, actions, and results in the following ways:

- Reviews of outage safety evaluations and plans
- Regular fact-finding meetings to discuss planned major modifications, inspections, maintenance and activities
- Regular reports from PG&E at DCISC Public Meetings on outage plans and outage performance, noting any special situations or problems affecting safety
- Visits to DCP during outages to monitor the Outage Coordination Center, Control Room, and activities of interest
- Reviews of documentation and reports of outage activities such as steam generator tube inspections, major equipment problems, and events affecting safety

Since the DCISC began its review of this subject in 1990, outage management performance has steadily improved. DCP continues to actively manage and track Outage Duration, Collective Radiation Exposure, and Personnel Safety incurred during the conduct of Unit Refueling Outages, as shown below:

	Outage Duration (days)		Collective Radiation Exposure (person-Rem)		Personnel Safety (recordable injuries)	
Outage	Unit 1	Unit 2	Unit 1	Unit 2	Unit 1	Unit 2
R13	41	39	116	74	5	3
R14	30	69 ¹	103	226	6	3
R15	58 ¹	38	247	87	3	0
R16	42	36	123	30	1	0
R17	55 ²	48 ²	41	25	1	0
R18	32	32	30	30	0	0
R19	35	32	56	29	0	0

R20	68 ³	39	48	24	0	0
R21	37	87 ⁴	30	22	2	1
R22	30	52 ⁵	27	11	0	1

- ¹ Steam Generator Replacement Outage
- ² Process Control System Replacement
- ³ Reactor Vessel Baffle Bolt Inspection and Replacement
- ⁴ Main Generator Stator Rebuild
- ⁵ Main Generator Stator Repairs

During the previous reporting period, the DCISC reviewed the following topics related to Outage Management at seven Fact-finding Meetings and two Public Meetings:

- Refueling Outage 2R21 Preparations
- Refueling Outage 2R21 Performance
- Unit 2 Forced Outage
- Plans for Refueling Outage 1R22

The DCISC concluded the following during the previous reporting period:

Refueling Outage 2R21 appeared to have been planned in a logical, carefully organized manner. The DCPD Refueling Outage 2R21 Outage Safety Plan and Safety Schedule appeared comprehensive and effective to prevent the plant safety level from dropping below acceptable safety standards. Refueling Outage 2R21 was successfully performed, and the project to rewind the Unit 2 Generator Stator was completed without any major issues. Performance in Nuclear Fuel reliability, Foreign Material Exclusion, and Radiation Protection was good. Actions taken to make two major changes to the Refueling Outage 2R21 startup mode change sequence late in the outage were appropriate given the unanticipated circumstances. Nevertheless, making two major changes to the plan for the startup mode change sequence within a short time period was undesirable. The Rod Control System problems that caused a Unit 2 Forced Outage on February 13, 2020, appeared to be appropriately managed, and problems occurring during the power reduction were properly resolved. The DCISC planned to review the final Root Cause Evaluation (RCE) for the Rod Control System failure during a future meeting.

4.17.2 Current Period Activities

During the current period, the DCISC reviewed Outage Management at four Fact-finding Meetings and two Public Meetings. The following topics were reviewed:

- Refueling Outage 1R22
- Unit 2 Forced Outages
- Refueling Outage 2R22

Refueling Outage 1R22 (Volume II, [Exhibit D.3](#), Section 3.2; and [Exhibit D.3](#), Section 3.5; and [Exhibit D.5](#), Section 3.1; and [Exhibit B.6](#))

The DCISC observed DCPD Outage Safety Training for Refueling Outage 1R22 for both licensed and non-licensed operators. The training was conducted remotely due to the COVID-19 pandemic. The subjects covered were as follows:

Licensed and Non-Licensed Operators:

- Outage Operating Experience
- Outage Operating Procedures
- Outage Safety Schedule and Checklist
- Shutdown Procedures
- Drain to Vessel Flange Procedure
- Human Performance Tools
- Reactor Vessel Refueling Level Instrumentation System

Licensed Operators Only:

- New Core Design Features
- Moving to Shorter Cycles After Refueling Outage 1R23
- Core Behavior with Time
- All Rods Out Operation
- Fuel Mechanical Design
- Fuel Pellet Design Features

The instructors were knowledgeable and effective with their presentations. Class participation during the lecture phase was low, likely due to the remote nature of the class; however, following the lecture, the instructor asked many questions about the material and received good responses. The class materials and handouts appeared satisfactory.

The remotely held Outage Training to prepare Licensed and Non-Licensed Operators for Refueling Outage 1R22 and subsequent start-up and operation appeared satisfactory.

The DCISC reviewed the outage safety plan for Refueling Outage 1R22 which was scheduled to run from October 4 to November 14, 2020. The purpose of the Outage Safety Plan was to provide information on outage safety requirements and highlight risk areas to plant staff. The intent of the Outage Safety Plan was to provide a concise document for use in evaluating plant conditions during Modes 5

(Cold Shutdown) and 6 (Refueling) to ensure the key safety functions are in place.

The Outage Safety Plan provided background information for the logic contained in the Outage Safety Checklists. The Plan, Schedule and Checklists together ensured that the equipment and plant conditions assumed in the abnormal procedures for use during shutdown are met. Outage Safety planning was based upon being able to cope with a very severe event, which is assumed to be a loss of all AC power.

Backup decay heat removal capability could be maintained during such events by assuring that the system remains capable of taking advantage of natural physical laws (natural circulation by gravity or boiling) to maintain passive cooling if Residual Heat Removal (RHR) or Spent Fuel Pool (SFP) cooling is lost. The Outage Safety Checklists were the primary means of verifying that normal and backup decay heat removal capabilities are maintained.

The Outage Safety Plan contained the following sections:

- 1R22 Defense-in-Depth Non-Green Color Descriptions
- Infrequently Performed Test or Evolutions for 1R22
- Contingency Strategies
- Transition Periods and Testing descriptions
- An outline/basis for each of the Outage Safety phases for 1R22
- Mode 5 Loops Filled
- Mode 5 Loops Not Filled
- Mode 6 RCS Level \geq 111 feet
- Core Offloaded

DCPP used "Phoenix," a computer-based tool that is used online to analyze changes in risk using the PRA model when equipment is removed from service for maintenance. As the PRA model did not extend to shutdown conditions, Phoenix was used during outages via the loading deterministic fault trees for shutdown conditions based on the Outage Safety Checklists. An "N+1" Defense in Depth (DID) approach, where N generally represents the minimum equipment needed to maintain a key safety function, was then utilized by Phoenix to evaluate the maintenance of the key safety functions. This DID Status was represented by the following four-color definitions:

- Green - represents DID greater than N+1, where N is the minimum equipment needed to maintain a key safety function with more than one backup means of support.
- Yellow - represents DID equals N+1, which is considered the normal DID. Key safety functions are fully supported with at least one backup means of support.
- Orange - represents a DID equals N condition, where key safety functions are supported, but minimum DID is not met, and compensatory measures must be in place.

- Red - represents a DID less than N condition in which key safety functions are not supported.

DCPP considered a status of Green or Yellow acceptable for planned outage activities because key safety functions are fully supported with at least N+1 DID.

No planned activities should result in an Orange condition; however, in the rare case where an Orange condition was necessary, a contingency plan with compensatory actions must be developed and implemented. The contingency plan then provided an additional approach to DID, because it provided a backup safety function if the minimum safety function becomes unavailable. Planned Red conditions were prohibited. The 1R22 Outage Safety Plan contained no Orange or Red conditions and seven individual Yellow ones as follows:

- Shutdown Cooling - Remains Green.
- Inventory Control - Remains Green.
- Reactivity Control - A Yellow condition would occur when the Reactor Coolant System (RCS) is drained to mid-loop conditions (with an intact RCS pressure boundary).
- Support Systems (Heat Sink) - Four Yellow conditions would occur when the Auxiliary Saltwater System (ASW)/Component Cooling Water System (CCW) 2-2 train is out of service at lowered inventory, when ASW/CCW 2-1 train is out of service at lowered inventory, when the RCS is drained to mid-loop conditions, and when CCW Train 2-2 is taken out of service during testing.
- Containment Closure - Remains Green.
- Vital AC Power - Two Yellow conditions would occur due to a single offsite power source available when the plant is at lowered inventory due to the Main Bank power supply being removed from service at the start of the outage and later when the Start-up Bank power supply is removed from service late in the outage.
- Spent Fuel Cooling - Remains Green.

The DCPP Refueling Outage 1R22 Outage Safety Plan and Safety Schedule appeared comprehensive and effective to prevent the plant safety level from dropping below acceptable safety standards. The Plan and Schedule applied a Defense-in-Depth philosophy to prevent accidents and to mitigate the effects of unanticipated off-normal conditions or accidents, if they were to occur during shutdown.

The DCISC reviewed the recently completed Refueling Outage 1R22 experience on Foreign Material Exclusion (FME) and COVID-19.

The outage was a success as defined by achieving goals in duration, cost, ALARA, safety, etc., and experiencing good results with its COVID-19 prevention program. Of the approximately 800 supplemental outage workers brought in, two initially tested positive pre-outage for COVID-19 and were quarantined. During the outage, one contractor tested positive. DCPP experienced no worker-to-worker

transmission during the outage. DCPD employed risk-based quarantining in a conservative, pro-active manner and strictly following Center for Disease Control and Prevention and California State recommendations for essential workers.

The purpose of DCPD's FME Program was to prevent the undesired and potentially harmful intrusion of foreign materials into plant systems or components.

Situations in which this intrusion could most likely occur were during maintenance when normally closed systems and environments were open or during inspections or tests under similar conditions. In such situations, it was important to maintain control of tools, fasteners, repair parts, replaced parts, safety items, and residue resulting from the work, items attached to clothing, and anything else that could become loose and enter a system or environment. The vast majority of FME problems typically occurred during plant outages when many system repairs, modifications, inspections, and tests were performed.

FME performance during Refueling Outage 1R22 was good with the following FME events:

- Three threats
- Two FME violations (different than NRC violations)
- Seven Condition 3 FME violations
- No Level 1 or 2 FME violations (the most significant levels)

Not only was DCPD's Refueling Outage 1R22 successful in the plant meeting its major goals, but DCPD's performance in Foreign Material Exclusion and COVID-19 was good.

The following is a summary of DCPD's presentation on this topic at DCISC's February 2021 Public Meeting: DCPD summarized key activities, performance indicators, and the results of the fuel and steam generator inspections during Refueling Outage 1R22 which commenced on October 3 and terminated on November 2, 2020. This was the first DCPD refueling outage in more than ten years to have been completed in under 30 days. Key activities during 1R22 were as follows.

- Reactor Vessel Hot Leg inspections
- Steam Generator Eddy Current testing
- Reactor Coolant Pump Seal replacement
- Main Turbine Low Pressure "C" inspection
- Circulating Water Pump 1-1 motor overhaul
- Condensate Polisher Computer upgrade
- 230 kV tower replacement
- 500 kV Tower vertical insulator replacement.
- Auxiliary Transformer 1-1 high voltage bushing replacement (emergent work)

The performance metric goals and the results achieved during Refueling Outage

1R22 were as follows:

	Goal	Actual
Serious Near Hit events	0	0
Nuclear Safety Events	0	0
Site Clock resets	0	0
Outage duration (Days)	30	29.9
Collective Radiation Exp. (Rem)	30.5	26.7
Power Ascension (Days)	5	4.1

The above outage performance metrics were achieved during a period when Unit 2 was in a forced outage that began almost half-way through the outage.

Unit 2 Forced Outages (Volume II, [Exhibit D.2](#), Section 3.3; and [Exhibit D.4](#), Section 3.1; and [Exhibit D.4](#), Section 3.4; and [Exhibit B.9](#))

The DCISC reviewed the cause and corrective actions for a Unit 2 Forced Outage that occurred on July 17 to August 2, 2020. During rounds late on July 16, 2020, the Unit 2 Turbine Building operator noted a slightly low hydrogen pressure on the Unit 2 Main Generator and prepared to add hydrogen, which was not in itself an abnormal condition. Later that same date, an increase in conductivity for the Stator Core Cooling Water (SCCW) system was also noted. The SCCW system serves to cool the hydrogen circulating through the Main Generator. A few hours later in the early morning of July 17, an alarm was received in the Control Room indicating a low hydrogen pressure condition on the Unit 2 Main Generator.

Troubleshooting commenced in accordance with Alarm Response Procedures, and technical assistance was obtained from the vendor which had refurbished the Main Generator during Refueling Outage 2R21 in the fall of 2019. Later on July 17, investigations concluded that the most likely cause of the alarm was a leak of hydrogen to the SCCW system at a location internal to the Main Generator. In accordance with Abnormal Procedures for the size and location of the leak, operators initiated a manual Reactor Trip of Unit 2 (in order to promptly remove the Main Generator from service) and placed the plant in a stable condition in Mode 3, Hot Shutdown.

Investigations were initiated into the location and cause of the leak. Hydrogen was removed from the generator and the SCCW system was pressurized with nitrogen. A generator crawl-through inspection was performed on both the exciter and turbine ends of the generator and one leak at a weld flaw (visible crack) was found on the transition box between the SCCW inlet header and the exciter end SCCW manifold. An Apparent Cause Evaluation was initiated and concluded that the flawed weld was caused by an insufficient weld quality attributed to worker confusion over the thickness of the plate being welded and buckling of the plate during welding. An Extent of Condition was performed, and no additional defective welds were identified. Additionally, hammer tests were performed on the manifolds at both ends of the generator to confirm that there were no vibration

nodes that could have contributed to crack initiation. Other possible causes such as design, corrosion, or fatigue were reviewed and eliminated. Repairs to the weld were completed, and pressure testing was performed satisfactorily. Unit 2 was then restarted and returned to service on August 2nd.

The FFT concluded that the Unit 2 Forced Outage on July 17, 2020, (2Y22) was properly managed, and corrective actions to identify and repair a hydrogen leak in the Main Generator were appropriate.

The DCISC attended two of DCP's November 10, 2020, outage planning meetings. The 0600 Outage Coordination Center (OCC) Brief was a meeting convened at 6:00 a.m. each morning during the outage for the purpose of reviewing the current status of plant work activities and issues related to Unit 2 Forced Outage 2222 that was in progress at the time. The meeting was led primarily by the Shift Outage Manager, and approximately 30 persons attended the meeting which was held by conference call (voice-only remote meeting).

The DCISC also observed the 1100 OCC Schedule Review which was a meeting convened at 11:00 a.m. each morning during the outage for the purpose of reviewing changes to the detailed schedule for Unit 2 Forced Outage 2222 that was in progress at the time. The meeting was led primarily by the Outage Management Scheduler, and approximately 15 persons attended the meeting which was held by conference call. The meeting used the outage schedule which contained all planned outage activities displayed in a linked bar-chart format.

Craft Operations and Maintenance personnel attending the meeting updated OCC personnel as to which work activities on the schedule were completed and which items on the schedule required changes due to delays to or advancement of the work activities.

The FFT observed that in both meetings, the discussions were very effectively facilitated with crisp and clear informational exchanges across a large number of planned work activities by a large number of individuals.

Two November 10, 2020, Outage Coordination Center meetings were conducted by conference call and effectively facilitated with crisp and clear informational exchanges across a large number of planned work activities.

The DCISC reviewed the cause and corrective actions for Unit 2 Forced Outage 2222 that began on October 15, 2020. In mid-October, operators noted that hydrogen usage was increasing on the Unit 2 Main Generator. Indications were similar to a problem that occurred three months earlier, in July 2020, which resulted in a two-week Unit 2 forced outage to repair a hydrogen leak internal to the Main Generator. In accordance with Abnormal Procedures for the size and location of the leak (revised since the July 2020 event), operators initiated a controlled shutdown of Unit 2 and placed the plant in a stable condition in Mode 3, Hot Shutdown. The unit remained in Hot Shutdown at approximately 360 °F in the

Reactor Coolant System for the duration of the forced outage.

Investigations were initiated into the location and cause of the leak. Hydrogen was removed from the generator, and a generator crawl-through inspection was performed on both the exciter and turbine ends of the generator. A leak at a weld was found on a transition box between the Stator Closed Cooling Water (SCCW) inlet header and the exciter end SCCW manifold. The leak was very similar to the leak that drove the July forced outage but at a different location on the manifold.

Specifically, the leak was located at the approximately three o'clock position on the manifold, whereas the previous leak was located at approximately the twelve o'clock position. Minor damage was also found to other gas baffle and core frame welds inside the generator.

The start of the Unit 2 Forced Outage 2Z22 overlapped with the end of the Unit 1 Refueling Outage 1R22, which placed significant demands upon station personnel.

However, personnel were able to maintain a regular schedule with one day off per week and some planned vacation schedules were maintained. The total length of the combined outages was comparable to some past extended Refueling Outages.

A Root Cause Evaluation (RCE) was initiated in response to the repeated failure, and the preliminary investigations and findings as of the date of the DCISC's meeting in November 2020. To assist with the RCE, DCPD obtained the services of four consulting parties as follows:

- An independent technical consultant to review cause evaluation actions and conclusions to ensure that neither PG&E nor the generator vendor missed any items of concern
- A structural vibration analysis consultant to perform vibrational nodal analysis for the generator frame and manifold as well as to perform shaker testing on the generator
- An individual consultant with knowledge of similar generator failures in the industry
- Personnel from the Electric Power Research Institute to review and provide industry technical documentation applicable to the problem

The initial findings of the RCE investigations revealed that one of the feet of the generator frame was not properly shimmed to the concrete floor. It was postulated that the refurbishment of the generator in the fall of 2019 may have changed the weight distribution of the generator, but a check of the generator frame to floor weight loadings was not completed at that time. DCPD and the generator vendor performed a check of the frame to floor weight loadings for all of the generator feet during this outage and corrected loadings as required.

Investigations also revealed a total of 14 cases of weld cracks for equipment mounted to the frame inside the generator. Most of the cracks that had been analyzed showed indications of high cycle fatigue consistent with failures due to high vibrations. Shaker testing was performed, and several minor modifications were made inside the generator in order to reduce the likelihood of future high

cycle fatigue failures. There were no problems found with any major structural elements of the generator, and there was no risk of a catastrophic failure.

In November 2020, DCCP believed that it had identified and corrected all off-normal conditions on the generator. However, because the RCE was still open and other possible causes for the problem were being reviewed, DCCP would be implementing an extensive monitoring program upon restart of the generator.

Twenty-five vibration sensors had been installed inside the generator, and the information from the sensors was being routed to a real-time monitoring system located on the turbine operating deck near the generator. It was anticipated that the system would need to remain in place for the remaining lifetime for operations of Unit 2. Operators were being provided with guidelines for responding to changes in data, which were based on generator historical data as well as industry standards. The DCISC was provided with a preliminary copy of the monitoring plan and observed that it provided guidance for both Engineering and Operations with regards to data points to be monitored, periodicity of monitoring, and thresholds for initiating additional actions. The DCISC planned to continue to follow this issue and review the results of the RCE when finalized.

DCCP was appropriately managing Unit 2's Forced Outage 2222 which was driven by a hydrogen leak inside the Main Generator that was very similar to a leak that drove a forced outage three months earlier. The DCISC should continue to follow this event and review the final Root Cause Evaluation for the problem during a future Fact-Finding Meeting as well as at the next Public Meeting.

The following is a summary of DCCP's presentation on this topic at DCISC's June 2021 Public Meeting: The Unit 2 Main Generator was located on the non-nuclear side of the plant, and outages were focused on restoring reliable electric generation. All activities were focused on restoring the generator to a situation where it would be reliable and not create issues for PG&E or its customers. It was not a nuclear safety issue, and there was no impact to the health and safety of the employees and the public as DCCP addressed problems with the Main Generator.

The original generator that was on Unit 2 was at its end of life, which facilitated an issue that PG&E needed to resolve. The project involved a rewind and rebuild of the stator using the original manufacturer in September of 2019. Initially, there were no significant issues until July of 2020. At that time, DCCP saw hydrogen leakage from the unit increase, and the unit was shut down to repair the leakage.

Investigations found a crack inside the generator on the Stator Cooling Water header. The Stator Cooling Water system is a closed loop water cooling system which removes heat from the generator to a heat exchanger that external to the generator. A very small amount of hydrogen leaked into the Stator Cooling Water System which was vented outside of the Turbine Building. The weld was repaired and analysis at that time concluded that the geometry of the weld was not ideal which resulted in a vulnerability to failure.

Then in October of 2020, Unit 2 experienced another hydrogen leak into the Stator Colling Water system, and the unit was shut down again. Inspections found another crack in the Stator Cooling Water header. DCPD worked with the vendor and brought in experts to help from a structural integrity standpoint and a vibration standpoint. Support frames and the loading frame for the header were redesigned.

In December 2020, an additional leak and unit shut down occurred. DCPD began extensive analysis for vibrations in the generator using finite element analysis, which is a way of modeling the stresses that are at any location within a fixed amount of material. The analysis showed that there were high levels of stress at some locations in the generator due to vibrations. Additionally, modeling was performed on the entire generator frame. The modeling showed exactly how that frame moves as the rotating element inside spins with the magnetic forces being applied. The team came up with locations where DCPD installed counterweights to balance the machine. The counterweights allowed the frame motion to move away from a natural frequency, or resonance, which generated a higher level of vibration. Finally, a large number of accelerometers to measure vibration were installed both inside and outside on the machine.

The unit was returned to service, and the frame vibrations decreased significantly. Unfortunately, there remained one outstanding area where vibrations were higher than desired. Given that the unit was moving toward a refueling outage, DCPD decided to reduce the load on the unit, take it offline in February 2021, and ultimately to commence the refueling outage early. During the outage, additional supports were added to the parallel ring assembly inside the generator. The installation of those supports to stiffen that parallel ring resolved the remaining area of excessive vibrations. Following the parallel ring support modifications, the machine was returned to service and measured vibrations were at a level below the pre-refurbishment baseline. Also, the machine was still heavily instrumented and monitored each shift. The team continued to work through the cause evaluation with the assistance of the vendor and other companies.

Refueling Outage 2R22 (Volume II, [Exhibit B.9](#))

The following is a summary of DCPD's presentation on this topic at DCISC's June 2021 Public Meeting: DCPD provided an update on the status of the Unit 2 Main Generator and noted that Unit 2 was operating safely and producing electricity for PG&E's customers as of the date of the presentation. The Main Generator was located on the non-nuclear side of the plant, and the outages which took place recently were focused on restoring reliable energy generation. The issue with the Unit 2 Main Generator was not a nuclear safety issue and had no impact on the health and safety of DCPD employees or the public. DCPD provided the following as a summary of the events involving the Unit 2 Main Generator.

- The Unit 2 Main Generator had been online for approximately two months.
- Significant additional instrumentation with enhanced monitoring had been

installed and the results were very positive.

- A Root Cause Evaluation was in process to identify any additional corrective actions, and all immediate corrective actions were complete.
- PG&E leveraged industry experts and extensive vendor support to resolve unique technical challenges.
- DCPD staff executed a safe and error-free shutdown and restart of Unit 2 during multiple outages clearing the generator and restoring to service during each outage.

The Unit 2 Main Generator was approaching or slightly beyond its expected operational life when the decision was made in September 2019 to use the original manufacturer rewind and rebuild the generator. Issues with a weld failure at the Stator Component Cooling Water (SCCW) header inlet water box with resulting hydrogen leakage was discovered in July 2020, and Unit 2 was shut down to address this issue (Forced Outage 2Y22). (The generator is cooled by hydrogen gas inside the generator and the stator core cooling water system, a closed loop water cooling system with an external heat exchanger, removes heat from the hydrogen and cools the stator elements. The hydrogen gas has a higher pressure than the cooling water. Accordingly if there is a hydrogen leak, the water serves as an indicator of the leak but the leaking hydrogen does not substantively affect the capability of the water to continue to provide cooling. The capability exists to remove the very small volume of hydrogen from the cooling water system by venting it outdoors and therefore this type of problem does not fundamentally challenge the ability of the cooling water system to provide cooling to the generator.) The weld was repaired, and the plant restarted until October 2020 when another hydrogen leak was detected and Unit 2 was shut down (Forced Outage 2Z22). The same area was inspected, and results revealed another small crack in a fillet weld the SCCW parallel ring. DCPD brought in experts to assess the problem from the standpoints of structural integrity and vibration and the support frames were capped and redesigned at that time.

In December 2020 another weld failure occurred, and the unit was shut down for repairs (Forced Outage 2G22). DCPD then undertook a finite element analysis which was an extremely technical modeling of the stresses at a location within a fixed amount of material which required high powered computation to identify the areas of the highest level of stress in the material of the water inlet box. The vendor developed a completely different design to eliminate stress points which involved replacing the water inlet box with a standard "T" connection which facilitated the smooth flow of water into the stator cooling water ring.

DCPD also became aware that there was also a vibration element driving the failure mechanism and sophisticated modeling was performed of the entire Main Generator frame showing precisely how the frame moved with the movement of the rotor inside the stator and with the magnetic forces produced through operation of the generator. The decision was made to install weights on the Main Generator frame to dampen vibration and the modeling produced suggested

locations for six counterweights with three each on both sides of the generator to balance the generator to move it away from its natural frequency or resonance which was producing a higher level of vibration. Numerous accelerometers were also installed to measure and assess internal and external vibration which determined the counterweights produced a reduction in the generator's vibration and resulted in a very good range of performance for the stator.

Unit 2 was returned to power operations after the December shutdown and internal and external vibration was monitored which indicated the frame vibrations decreased significantly. However, at 80% power the plant began to experience higher vibration of conductors located inside the stator parallel ring which again produced a small hydrogen leak (although it was well below the threshold at which DCPD would normally have acted). The decision was made to shutdown Unit 2 and take it offline (Forced Outage 2H22) and later to commence Refueling Outage 2R22 early. During outage 2R22, a full replacement of the parallel rings was performed including installing 37 new braces and blocks as additional supports for the conductors and the parallel ring. Radiography was performed at various locations on the parallel ring which did not identify any other flaws or issues that could result in a crack. Following those modifications, Unit 2 was restarted and the Main Generator was subsequently vibrating at a level below the baseline. Monitoring was continuing on a 24/7 basis to ensure performance continued operating within normal operating parameters.

4.17.3 Conclusions and Recommendations

Conclusions: The remotely held Outage Training to prepare Licensed and Non-Licensed Operators for Refueling Outage 1R22 and subsequent start-up and operation appeared satisfactory. The DCPD Refueling Outage 1R22 Outage Safety Plan and Safety Schedule appeared comprehensive and effective to prevent the plant safety level from dropping below acceptable safety standards. DCPD's performance in accomplishing planned work and achieving its goals was good during Refueling Outage 1R22.

A Unit 2 Forced Outage in July 2020 (2Y22) was properly managed, and corrective actions to identify and repair a hydrogen leak in the Main Generator were appropriate. Two Outage Coordination Center meetings were conducted by conference call and effectively facilitated with crisp and clear informational exchanges across a large number of planned work activities. DCPD appropriately managed a second and third Unit 2 Forced Outage (2Z22 and 2G22) which were driven by similar hydrogen leaks and vibration issues on the Main Generator. Ultimately, the unit was removed from service for additional modifications during a fourth Forced Outage (2H22) and Refueling Outage 2R22. The DCISC planned to review the final Root Cause Evaluation for the problem when finalized.

Recommendations: None

[31st Annual Report](#), [Volume I](#), Section 4.18, Plant Security Interface

4.18 Plant Safety-Security Interface

(Note: because of the sensitive nature of nuclear plant security, only limited information can be presented in this public report.)

4.18.1 Overview and Previous Activities

The DCISC has previously reviewed plant security in fact-finding meetings by reviewing security performance measures and by reviewing plant audits and NRC inspections of the Security Program. Additionally, there have been overviews of the Security Program in DCISC public meetings.

The DCISC reviews and NRC inspects these measures. The DCISC monitors and assesses current security measures and expected modifications to determine whether there may be negative effects on plant safety during normal operation and maintenance and emergency response during off-normal conditions.

The DCISC's interest and scope of review was limited to the effects of Security-related barriers and procedures on nuclear and operational safety rather than Security itself. The DCISC reviewed the following DCPD safety-security interface during the previous period:

- Safety/Security Interface Program

The DCISC concluded in the previous reporting period that the DCPD Safety/Security Interface Program appeared to be implemented effectively.

4.18.2 Current Period Activities

The DCISC reviewed the following the DCPD safety/security-related items during the current period:

- Cybersecurity Program
- Safety Security Interface and Intake Structure Devitalization

[Cybersecurity Program](#) (Volume II, [Exhibit D.4](#), 3.5)

The core elements of the Cybersecurity Program include identifying and implementing protection for all of the Critical Digital Assets (CDAs) at DCPD. CDAs

are digital computer and communications systems associated with safety-related and important-to-safety functions, security functions, emergency preparedness functions, and support systems which if compromised could adversely impact any of those functions. During the program's initial implementation, DCPD identified approximately 4,000 CDAs across 66 critical systems. Slightly less than half of the 4,000 were in security-related systems, and the remainder were plant-related systems. Some examples of CDAs were the Programmable Logic Controllers in the Digital Electrohydraulic Turbine Control System, Operator Human-Machine Interface Computers, the Plant Process Control System, Security Cameras, and the Security Event and Monitoring System. Almost all of the CDAs were located inside protected or vital areas of the plant. The CDAs were evaluated, and approximately 900 were modified to assure compliance with the regulations. Modifications included such work as locking USB ports, removing unnecessary programs, upgrading firmware, and reassigning or locking Internet Protocol (IP) addresses.

DCPD completed its original implementation of the full Cybersecurity Program prior to the required NRC due date of December 31, 2017, and an NRC pilot inspection was completed in May of 2017, with no significant issues.

A full NRC inspection for the Cybersecurity Program was originally planned for April 2020; however, the inspection was deferred to March 2021 due to impacts from the COVID-19 pandemic. This inspection was also known as a "Milestone 8" inspection which referred to the NRC regulatory requirement milestone denoting full program implementation. In the interim, DCPD was working to stay abreast of current industry issues and NRC inspection findings at other stations. Recent industry issues under review for applicability at DCPD included the management of CDAs located outside the Protected Area, the quality of baseline CDA assessments, and time synchronization for CDAs. The last issue would require substantial effort at DCPD to ensure that all of the CDAs were synchronized in time such that any CDA events or issues could be properly assessed for any possible correlations that would indicate a broad cybersecurity attack.

Additionally, DCPD completed a formal cybersecurity self-assessment in late 2019, which was approved by the Corrective Action Review Board in early 2020 and a copy of which had been previously provided to the DCISC among its regular monthly documents (SAPN 51036631, "Formal Cyber Security Self-Assessment").

The assessment was performed primarily using guidance from the NRC Inspection Procedure for cybersecurity, and the assessment team included third-party cybersecurity expert consultants. The assessment identified three deficiencies, three gaps to excellence, and seven enhancements. Overall, the DCISC found that the assessment was thorough and well performed with proper corrective actions initiated for all identified deficiencies.

DCPD expected that the main industry guidance document, NEI 08-09, "Cybersecurity Plan for Nuclear Power Reactors, Revision 6," would likely undergo significant revisions following the completion of all of the NRC "Milestone 8" inspections. The revisions were expected to include program implementation

lessons learned and best practices identified in the twelve years since the document was originally published. The DCISC also discussed the fact that the requirements for the numbers of CDAs included in the program could likely be reduced, and those reductions could come from risk-based insights with regards to the importance to overall risk of individual CDAs.

DCPP's Cybersecurity Program appears to be effectively managed, and efforts are continuing to ensure that the program is successfully sustained. The DCISC should next review the status of the Cybersecurity Program following the NRC inspection currently scheduled to be completed in the spring of 2021.

Safety Security Interface and Intake Structure Devitalization (Volume II, [Exhibit D.5](#), Section 3.8)

The purpose of the Safety-Security Interface Program is to assess and manage changes to safety. The purpose of the Safety-Security Interface Process is to assess and manage changes to safety and security activities so as to prevent or mitigate potential adverse effects that could negatively impact either plant safety or security.

The DCISC reviewed the recent change to security practices to reconfigure the Vehicle Inspection Station and a planned change to security practices for the Intake Structure which was recently submitted to the NRC for its review and approval. The team concurred that both of these changes did not have any substantive effect on plant operational safety. The team also discussed with DCP staff the status of Security staffing during normal operations, during Refueling Outages, and upon implementation of the station Emergency Plan.

There were no issues adversely affecting safety or security regarding design or procedure changes or physical security barrier modifications. To keep up to date on plant activities either the Security Manager or the Security Watch Commander attends and is a participating member of both the daily morning and afternoon status meetings.

The DCISC was interested in the basis for "devitalizing" the DCP intake structure. "Devitalization" in this case means reclassifying the Intake Structure from a security vital area to a non-vital area.

Because it housed the safety-related Auxiliary Saltwater System (ASW), the Intake Structure had been treated as a vital area since the plant began operation. This required the Structure to have its own Security force as well as its own search train and other protective features. The Intake Security Force consisted of 36 full-time equivalent positions prior to devitalization.

The ASW System is part of the Ultimate Heat Sink, which means it is key to providing long-term cooling water from the Pacific Ocean to the plant in the event of an accident. Regarding the basis for not needing to protect the ASW System,

DCPP produced the three following documents which supported the decision:

1. "Security Plan Change Evaluation Criteria," NEI 11-08 Attachment 1
2. "Loss of Auxiliary Saltwater System," WECTEC Technical Report
3. "Physical Security Determination for Devitalization of the Auxiliary Saltwater System," DCPP Security Basis Document 0127

Because these three documents were designated "Security-Related Information - Withhold Under 10 CFR 2.390," the detailed information contained within cannot be detailed in this report; however, suffice it to say that the basis for devitalization of ASW identified alternate means of providing long-term Ultimate Heat Sink cooling water. The DCISC was satisfied with this evaluation.

The basis for security devitalization of the Intake Structure and its safety-related Auxiliary Saltwater System was found acceptable by the DCISC Fact-finding Team.

4.18.3 Conclusions and Recommendations

Conclusions: The DCPP Safety/Security Interface Program appeared to be implemented effectively, and the devitalization of security in the DCPP

Intake Structure was based on appropriate measures.

Recommendations: None

[31st Annual Report](#), [Volume I](#), Section 4.19, Independent Spent Fuel Storage Installation (ISFSI)

4.19 Independent Spent Fuel Storage Installation (ISFSI)

4.19.1 Overview and Previous Activities

This section of the report describes DCISC reviews of the DCPD Independent Spent Fuel Storage Installation (ISFSI). The history of spent fuel storage at DCPD has dictated a number of changes to its approach to this matter over the years. During plant construction, the expectation for the management of used nuclear fuel was that it would be stored for a short period on site, then sent off-site to be reprocessed and reused. Accordingly, the DCPD's expectation was that there would only be the need for storing a modest amount of used fuel on site at any time, and the Spent Fuel Pools were each arranged to accommodate 270 fuel assemblies.

As time passed, the reprocessing option did not materialize because of a change in national policy, and the impact of the accompanying uncertainty regarding the increasing used fuel inventory on site, in turn, led to the need to expand the used fuel storage capacities to 1,324 assemblies in each pool. However, national policy on this topic later became directed at the development of a national used fuel storage facility at Yucca Mountain, Nevada, which was mandated to begin receiving spent fuel in 1998. Recognizing that DCPD would indeed be able to have its used fuel shipped offsite, PG&E returned the Spent Fuel Pools again to their original capacities of 270 assemblies in each pool.

In the ensuing years, the recognition that the future of Yucca Mountain as a repository for used nuclear fuel was in jeopardy and that the future of off-site storage of used nuclear fuel was uncertain, DCPD again expanded its used nuclear fuel storage capacity to 1,324 assemblies for each pool, which are their current capacities. Also, a separate Independent Spent Fuel Storage Installation (ISFSI) was constructed on site for the dry storage of used fuel, and the ISFSI began receiving used fuel in 2009.

The DCISC reviewed the following ISFSI-related topics at three Fact-finding Meetings and two Public Meetings during the previous period:

- Future Spent Fuel Management
- Update on Plans for Relicensing of the Independent Spent Fuel Storage Installation

- Spent Fuel Risk Analysis

The DCISC concluded the following and made one recommendation during the previous reporting period:

Independent Spent Fuel Storage Installation relicensing was underway for submittal in 2022 (when the current license expires), and DCPD will address cask Stress Corrosion Cracking in the relicensing submittal. The DCPD-sanctioned spent fuel risk assessment performed by The B. John Garrick Institute for the Risk Sciences at UCLA appeared well-developed and focused. The assessment found small differences in risk among the four options analyzed, and all were within the NRC's spent fuel storage risk limits. The smallest risk was for the option of early movement of spent fuel from the DCPD Spent Fuel Pool to the Independent Spent Fuel Storage Installation beginning following the Unit 1 shutdown and prior to the Unit 2 shutdown. Following completion of the Spent Fuel risk management study, a Request for Proposals for the procurement of new casks for dry storage of Spent Fuel was issued.

The DCISC recommends that when PG&E considers decisions about the future management on-site of the spent fuel from DCPD's two reactor units, the risks arising from spent fuel management should be one part of the PG&E decision process and that process should be informed by the conclusions contained the Study entitled "Probabilistic Risk Assessment of Nuclear Power Plant Spent Fuel Handling and Storage Programs: Methodology and Application to the Diablo Canyon Power Plant."

4.19.2 Current Period Activities

During the current period, the DCISC reviewed the ISFSI at two Fact-finding Meetings and one Public Meeting. The following topics were reviewed:

- Spent Fuel Cask Procurement Update
- Independent Spent Fuel Storage Installation Update

Spent Fuel Cask Procurement Update (Volume II, [Exhibit D.8](#), Section 3.11, and [Exhibit B.3](#))

In early 2020, the DCISC reviewed a study of Spent Fuel management risks commissioned by PG&E. PG&E incorporated the information contained in that study along with other requirements and issued a Request for Proposals (RFP) for procurement of the Spent Fuel Casks needed for storage of Spent Fuel following the termination of power operations. In mid-2020, proposals were received in response to the RFP from multiple vendors, all of which were qualified and responsive to the requirements of the RFP.

As of April 2021, all of the technical and commercial reviews of the proposals were complete. The next step in the process was for senior leadership to approve

moving forward on further commercial discussions with one or more vendors.

Once those discussions were successfully completed, PG&E believed that the first quarter of 2022 was realistic for the execution of a final contract. The DCISC was concerned as to the sufficiency of the schedule to complete cask procurement in time to support moving Spent Fuel from the Spent Fuel Pools (SFPs) to the Independent Spent Fuel Storage Facility (ISFSI) as soon as technically possible.

DCPP believed that the selected vendor was likely to be successful in obtaining the necessary regulatory approvals and in manufacturing the new casks in time to support the start of fuel movement as soon as needed. Assuming that approvals and cask production occurred on schedule, the technology proposed by the vendors would allow removing all of the Spent Fuel from the SFPs to the ISFSI within four years of the termination of power operations (2028 for Unit 1 and 2029 for Unit 2). PG&E expected that some time could be gained by the vendors through performing some production tasks early on an 'at risk' basis while awaiting final regulatory approvals.

The size of the project included procuring up to 80 Spent Fuel Casks along with up to 10 casks for the storage of Class C radioactive waste. Previous plans to possibly store Class C waste casks on the perimeter of the ISFSI had been changed, and it appeared that Class C waste casks would be placed in a newly designated storage area near the old Steam Generator storage area. DCPD was still planning to submit its application for renewal of the existing ISFSI cask licenses by the end of 2021, and pre-application inspections of the existing casks (including corrosion measurements) were scheduled to be performed in June 2021.

DCPP's procurement of new Spent Fuel storage casks was making steady progress towards execution of a contract in early 2022. Cask procurement proposals appeared to be capable of supporting movement of all Spent Fuel from the Spent Fuel Pools to the Independent Spent Fuel Storage Installation within four years of the termination of power operations for each unit.

The following is a summary of DCPD's presentation on this topic at DCISC's October 2020 Public Meeting: The following were the key inputs to the Spent Fuel Cask RFP process and these inputs, within the plant's Technical Specifications, were derived from the recommendations contained in the Decommissioning Engagement Panel's Strategic Vision document:

- Expediting spent fuel offload.
- Adhering to site-specific seismic requirements.
- Addressing high burn-up fuel.
- Providing for a site-specific license for an 80-year design life.
- Addressing corrosion and the potential for cracking due to the marine environment.
- Providing for future in-place inspection capability and NRC aging management requirements.

- Minimizing dose to workers and public.

The RFP was informed by the operating experience from the development of previous RFP for construction and operation of the ISFSI and by input provided by the California Energy Commission (CEC). The CEC reviewed the UCLA Spent Fuel Risk Study, the draft RFP, the scope of the technical evaluation criteria and participated with PG&E in multiple technical evaluation meetings. PG&E was evaluating multiple site-specific proposals received from qualified vendors which were all consistent with the time frame for spent fuel offload to be within four years of shutdown of each unit, although for business confidentiality reasons PG&E could not reveal how many proposals have been received or the details of any proposal. These proposals address material to be stored, seismic spectra, and an offload time frame consistent with the proposed settlement agreement in the 2018 Nuclear Decommissioning Cost Triennial Proceeding.

Technical and commercial evaluations were completed separately and were combined into a recommendation to PG&E senior leadership for their evaluation and subsequent approval to start negotiations. Approval to start negotiations was forecast to be forthcoming in the fourth quarter of 2020 and negotiations may be with all or with a subset of the proposers and contract negotiations were forecast to take up to one year. Once a purchase order was issued, design, licensing and permitting would follow to ensure a spent fuel dry storage system will be in place and operational prior to the shutdown of each unit. DCPD believed that dependent on the vendor chosen and the nature of the changes proposed to existing spent fuel storage systems, two and one-half years for approval of a license for a new system was achievable.

Independent Spent Fuel Storage Installation (ISFSI) Update (Volume II, [Exhibit D.9](#), Section 3.4)

DCPD did not have any active or planned spent fuel loading campaigns from the Spent Fuel Pool to the ISFSI as it was awaiting the DCPD review of proposals from manufacturers regarding the design and cost of a new ISFSI design cask. DCPD expected to issue a purchase order for the new casks in the first quarter of 2022. The delivery schedule of these new casks would determine how soon all spent fuel can be moved to the ISFSI; however, DCPD believes all spent fuel will be in the ISFSI in 2029, roughly four years following the shutdown of Unit 1.

The DCPD ISFSI 40-year license is coming to an end, and DCPD was preparing a November 2021 application submittal to NRC for license renewal for an additional 40 years to be issued in March 2022. Meanwhile, in September 2021 DCPD planned to inspect the sides of eight ISFSI casks with robotic equipment to ascertain any corrosion or other problems. The inspection would also include the inside walls of the ISFSI overpacks.

DCPD is well along on procuring new casks for the Independent Spent Fuel Storage Installation (ISFSI) and expects to issue purchase orders in

the first quarter of 2022. Meanwhile there are no active or planned campaigns to move spent fuel from the Spent Fuel Pool to the ISFSI until the new casks arrive. DCPD plans to have all spent fuel moved from the Spent Fuel Pools to the ISFSI in 2029.

4.19.3 Conclusions and Recommendations

Conclusions: DCPD's procurement of new Spent Fuel storage casks was making steady progress towards execution of a contract in early 2022. Cask procurement proposals were being evaluated and appeared to be capable of supporting movement of all Spent Fuel from the Spent Fuel Pools to the Independent Spent Fuel Storage Installation within four years of the termination of power operations for each unit. There were no active or planned campaigns to move spent fuel from the Spent Fuel Pool to the ISFSI until the new casks arrived.

[31st Annual Report, Volume I, Section 4.20, Earthquakes and Tsunamis](#)

4.20 Earthquakes and Tsunamis

4.20.1 Overview and Previous Activities

This section of the report provides updates on recent seismic events, tsunamis or related matters that could affect DCPD.

In previous reports the DCISC has reviewed with PG&E earthquakes occurring in California in the vicinity of DCPD as well as seismic designs, analyses, and activities related to DCPD. This has included updates to PG&E's Long Term Seismic Program which is an NRC license condition requiring PG&E to monitor and evaluate seismic events world-wide which could potentially affect DCPD design.

The DCISC did not review any items related to earthquakes, flooding or tsunamis during the current reporting period because there was no new information or activities requiring review. The most recent issues in this area were related to the Fukushima accident, and they were resolved prior to this period.

In the previous reporting period, the DCISC did not review any items related to earthquakes, flooding or tsunamis during the current reporting period because there was no new information or activities requiring review.

4.20.2 Current Period Activities

The DCISC reviewed the following item during the current period:

- Workplace Seismic Safety

Workplace Seismic Safety: Control Room Procedure Cart Stability (Volume II, [Exhibit D.5](#), Section 3.5)

This concern, originally brought up by the NRC in 2010, was documented by Notification 50314030, "Evaluate Procedure Carts for SISI." SISI is the acronym for Seismically Induced System Interaction, which is a DCPD program to evaluate the effects of components that do not have an explicit design against earthquakes on nearby safety-related components.

The following is excerpted from the subject Notification.

"Seismically Induced Systems Interaction (SISI) program concerns regarding the Emergency Operating Procedure (EOP) carts are addressed in accordance with paragraph 2.2.6 "Loose Components" of the SISI manual.

The cart and contents are designed against earthquakes to be a "source" object. The targets in the area of the control room where the carts are stationed are defined in Appendix 1 Figure 10 (pages F10-1 & 2). The targets are the vertical boards 1 through 4 (VB1-VB4) and the control consoles 1 through 3 (CC1 # CC3). Appurtenances to the targets that could be damaged by the cart and contents would be the various switches, meters, and handles on the apron areas of the VB's and the lower sections of the control consoles. Based on a visual observation, the upper portions of the targets are too high to be impacted or are robust enough to withstand damage based on the dimensions and size of the carts. Therefore, only the lower sections of the VB's and CC's as described above are considered to be credible targets. Paragraph 2.2.6 describes how various loose objects respond to seismic excitation based upon reports and studies given in Section 6 of the SISI manual. Reference 4 & 5 in section 6 indicates the vertical displacement of the floor at the 140' elevation of the auxiliary building is very small (less than 0.040" assuming worst case). Therefore, the maximum vertical displacement of the carts would not exceed this. Horizontal displacement is assumed to be 5' plus the height of the object (maximum) unless shown otherwise.

The nominal dimensions of the cart wheelbase are 17" wide by 42" long by 35" high. The height is measured to the top of the paper files. The mass of the handle can be disregarded. The weight of the cart with contents is estimated to be 60 pounds.

Based on these dimensions the EOP carts are top heavy by the description in paragraph 2.2.6 which could make them tend to tip over in a seismic event. The procedure packages are hanging inside the cart in a vertical orientation. Based on the given vertical displacements, the paper is not expected to be expelled from the cart. The mass of the paper in the cart would lower the overall center of gravity by several inches. This configuration will make it less likely to tip over. The exact center of gravity could be calculated but a general statement of a lower center of gravity will suffice here. A visual assessment of the cart has concluded the cart would remain upright.

The tendency to move in either horizontal direction would be dampened by the carpeting on the floor. Horizontal sliding movement is expected to be minimal due to the facts that vertical movement is minimal and the carpet would inhibit movement in the horizontal directions. The wheels on the cart are solid material (not pneumatic) and therefore the vertical movement would not be exacerbated by the cart bouncing on the tires. The cart is stationed at the very end of the control room desk which would tend to inhibit movement in one

direction.

Therefore only the west ends of the CC1 and the inside of the VB1 apron would be exposed to a potential interaction from the carts moving from their normal location. Assuming the cart tips over, the carpet would further inhibit horizontal movement due to increased friction. The most likely scenario would have the cart lying on its side without reaching the VB. If it traveled to the VB, it would impact the lower vertical panels below the VB apron. With the cart on its side, the width dimension on the cart is shorter than the lower edge of the VB or CC apron. There are no objects on the lower apron except for a phone on the Unit 2 side and switches on the Unit 1 side. Damage to the phone would not cause any concerns. The switches on the Unit 1 side are inset several inches from the plane of the panel and therefore, no potential for impact by the cart is postulated. A similar situation would occur with the CC apron except there are no targets on the sides of the CC apron. No interaction with the paper is expected if the cart remains vertical and rolls to the VB or CC. The paper will remain in the cart.

Conclusion: The expected response for the cart in a seismic event would be minimal movement in the rolling direction of the cart (east # west) or overturned toward the VB's with no damage to any components on the aprons. There are no adverse SISI concerns with the EOP carts and the present practice of staging them at the end of the Balance of Plant Control Operator desk on the west side of the control room (north end of the desk for Unit 1 and south end of the desk for Unit 2)."

The DCISC reviewed the above evaluation and determined that it is satisfactory.

4.20.3 Conclusions and Recommendations

Conclusions: DCPP's evaluation of the effects of an earthquake on the Control Room Procedures Cart, concluding that it would not cause damage to Control Room, appeared satisfactory.

Recommendations: None

[31st Annual Report](#), [Volume I](#), Section 4.21, Fire Protection

4.21 Fire Protection

4.21.1 Overview and Previous Activities

Fire protection requirements are contained in NRC's regulations in 10 CFR 50.48 and 10 CFR 50 Appendix R. These regulations specify the minimum requirements for safe shutdown systems and equipment, fire hazards analysis, prevention, detection and mitigation, fire brigades and training, emergency lighting, fire barrier and penetration qualifications, and fire doors. PG&E has committed to implementing these requirements, utilizing interpretations and deviations approved by NRC. NRC regulations were later modified to allow licensees to substitute a probabilistic-risk based program under National Fire Protection Association standard NFPA-805 for the requirements of Appendix R, and DCPD modified its program to align with NFPA-805. The NRC periodically performs inspections of the DCPD fire protection program implementation.

During the previous reporting period, the DCISC did not review any Fire Protection-related topics, per se, at Fact-finding Meetings, due primarily to the fact that the topic was heavily reviewed late in the previous reporting period when DCPD completed its transition to a Fire Protection Program based on NFPA-805.

The DCISC did monitor Fire Protection via such measures as refueling outage performance, Maintenance and Engineering Department performance, regulatory compliance performance, etc.

4.21.2 Current Period Activities

During the current period, the DCISC reviewed Fire Protection at three Fact-finding Meetings. The following topics were reviewed:

- Fire Protection and Detection Systems
- Fire Protection Program - NFPA-805 Update
- Wildfire Risk

Fire Protection and Detection Systems (Volume II, [Exhibit D.2](#), Section 3.4)

The DCISC reviewed the Fire Protection Program Health Report. The program health report included data on the health of Fire Protection Systems, for which specific system health reports were no longer required. The Equipment Performance Indicator in the program health report was rated as White

(Acceptable). The White indicator was being driven primarily by the fact that the Firewater System was being monitored in Maintenance Rule (MR) (a)(1) status.

The MR (a)(1) status was driven by recurring failures of deluge valves in the turbine building. All of the subject valves had been replaced, and system performance was in the process of being monitored for a complete cycle to ensure effectiveness of the maintenance following the replacements. If no further failures occurred, the Firewater System was expected to move out of MR (a)(1) status following the upcoming Unit 1 Refueling Outage scheduled to begin in October 2020.

All other portions of the Fire Protection system were generally performing well.

Portions of the Firewater System other than the deluge valves and carbon dioxide gaseous systems had very few failures or problems during surveillance testing over the last two years. The good performance of Fire Protection systems was most notably demonstrated by a low number of fire impairments. The number of current impairments was one, which was a significant reduction from an average number of 45 which was typical at the station three to four years ago and the eight impairments that were present at the time of the DCISC's last review in 2017. The single current impairment consisted of an improperly functioning indicator light on a carbon dioxide system control panel which was scheduled for repair by the end of the day of the FFT's meeting. DCPD continued to strive to achieve a goal of zero impairments and was now routinely achieving that goal.

This reduction was made possible by focusing on taking actions to make systems fully functional as opposed to routinely living with impairments. The reduction in impairments also reflected the fact that the number of inoperable fire doors and the number of routine fire watches at the station had been significantly reduced.

Finally, it was reported that there were no significant remaining projects planned for implementation on Fire Protection systems prior to the planned cessation of operations in 2025.

Fire detection systems were generally performing well despite the fact that they were original equipment for the station. To address possible obsolescence issues, DCPD had stockpiled a large supply of fire detectors to ensure that the supply of replacement detectors would remain adequate through 2025. DCPD was also working through reliability issues with the incipient fire detection systems installed in 2018 as a part of the transition to an NFPA-805 Fire Protection Program. The systems appeared to be prone to biological contamination of the sensing chambers, which then required frequent replacements. DCPD was working with the vendor to identify the specific causes and make changes to improve the time between failures of the sensing chambers.

Over the last few years, an increased level of attention to the health of DCPD's Fire Protection and Detection Systems has improved system performance, and the number of impairments has been significantly reduced. This is excellent performance and a notable contribution to improving overall safety at DCPD.

Fire Protection Program - NFPA-805 Update (Volume II, [Exhibit D.7](#), Section 3.7)

The DCISC reviewed the status of DCP's National Fire Protection Association (NFPA)-805 Program. The health report for the Program showed Green (Good) performance for the period 4th quarter 2019 through 3rd quarter 2020. The health report reported the following:

- Program Personnel was Green (Good)
- Program Infrastructure was Green (Good)
- Program Implementation was White (Acceptable) due primarily to the fact that an NRC Green Non-cited Violation (NCV) was identified by resident inspectors on the fire protection program during the reporting period. The NCV was regarding paint on fire sprinkler heads having not been identified by previous fire sprinkler system inspections. A full plant walkdown was performed and replacements of affected sprinkler heads were performed or were being planned.
- Program/Equipment Performance was currently White (Acceptable) due primarily to the fact that one system, firewater, was in a monitoring status under MR(a)(1) status with all corrective actions completed.

The NRC Triennial Fire Protection Inspection Report was issued showing acceptable performance, except for one Green NCV for an improper test sequence involving a pilot valve in the CO₂ system, which was entered into the DCP's Corrective Action Program. The last Nuclear Energy Insurance Liability (NEIL) audit report of November 2020 resulted in positive results with several minor issues.

The Fire Department moved into its new building. The department consisted of six firefighters and one supervisor for each of three shifts for a total of 21. Fire protection exercises were continued through the COVID-19 period. The February 2020 drill resulted in one human performance event - a component misposition - which was considered minor.

The DCP's National Fire Protection Association-805 Fire Protection Program and the Fire Department itself both appeared satisfactory based on periodic exercises as well as audits and inspections by regulatory organizations.

Wildfire Risk (Volume II, [Exhibit D.9](#), Section 3.3)

The DCISC reviewed the potential risk of offsite wildfires to DCP. The specific topic was the potential threat to the DCP plant's safety arising from an offsite fire accompanied by very severe high winds. Two different phenomena were discussed. One was an offsite fire that, by chance, might occur when high winds were also present. The second was a phenomenon in which the fire itself, could produce its own "windstorm," which is sometimes termed a "fire storm." This latter phenomenon occurred from time to time in coastal California, especially in canyons or similar topographies near the Pacific Ocean's coast. The phenomenon

could be especially violent where very large amounts of dry vegetative "fuel" are present, on the ground or in trees or shrubs, that can ignite quickly and spread very rapidly.

DCCP explained that the threat from this phenomenon was reviewed in the original plant Safety Analysis Report submitted to the NRC, and it did not pose a threat to plant safety, on the basis of the following facts:

- In the vicinity of the plant site, especially in the area inland of the nuclear facilities themselves, has been cleared of most vegetative matter (trees, shrubs, grass, etc.) so that not enough fuel exists to sustain a large fire if a smaller fire were to ignite.
- If a fire were nevertheless to ignite, it could not generate enough thermal energy to produce a self-sustaining "fire storm." This conclusion was based on a review of the amount of fuel on the ground and its distribution.
- If a fire were to ignite when very high winds were present simply by coincidence, no fire in such a situation could grow to a size large enough to threaten the plant's safety.
- The major reason for the low risk was the fact that the facilities themselves were sufficiently fire-resistant such that there was nothing which an offsite fire could threaten, except certain offsite electrical equipment. The potential loss of certain offsite electrical equipment, including the power lines feeding the plant, presented a special challenge. Although its loss in an offsite fire was possible, that loss would not threaten the plant's safety because sufficient alternative means of electric power supply existed to maintain plant safety.
- Regarding the Independent Spent Fuel Storage Installation (ISFSI), it was located many hundred feet further inland than the main nuclear power plant itself, and at a much higher elevation. The ISFSI was designed and analyzed to withstand the most severe external fire that might arise in the vicinity, and hence its safety too would not be threatened.

The Land Stewardship Team at Diablo Canyon (DCLST) prepared a Fire Risk Mitigation plan in an effort to reduce the risks to the Diablo Canyon Power Plant (DCCP) and critical supporting infrastructure. Two fire risk reduction programs are implemented by the DCLST: a yearly maintenance of fire lines and vegetation management activities in the area known as "Parcel P."

DCCP performed, in concert with California Fire (CalFire) and the San Luis Obispo Air Pollution Control District, a Vegetation Management Project (VMP) consisting of control vegetation burns in February 2020. The burns included 270 acres in Mal Paso Canyon. In preparation for the VMP, a risk analysis was performed and a contingency plan for various problems which might occur was developed. The contingency plan provided backup equipment and personnel in case uncontrolled fire mitigation measures were needed. The burn was successfully completed. Another control burn of 230 acres was planned for the end of November 2021.

Wildfire risk at DCPD has been reviewed extensively, and DCPD has fire prevention and mitigation plans to maintain fire lines and manage vegetation such that the risk of damage to the plant was determined to be acceptably low.

4.21.3 Conclusions and Recommendations

Conclusions: Over the last few years, an increased level of attention to the health of DCPD's Fire Protection and Detection Systems has improved system performance, and the number of impairments has been significantly reduced. This is excellent performance and a notable contribution to improving overall safety at DCPD. The DCPD National Fire Protection Association-805 Fire Protection Program and the Fire Department itself both appeared satisfactory based on periodic exercises and audits and inspections by regulatory organizations. Wildfire risk at DCPD has been reviewed extensively, and DCPD has fire prevention and mitigation plans to maintain fire lines and manage vegetation such that the risk of wildfire damage to the plant was low.

Recommendations: None

[31st Annual Report, Volume I](#), Section 4.22, Learning and Development Programs

4.22 Learning and Development Programs

4.22.1 Overview and Previous Activities

The focus of this section is training performed in formal environments created to transfer specific knowledge and skills to individuals within the organization for their individual development.

The DCISC reviewed the following Learning and Development Programs topics at three Fact-finding Meetings during the previous reporting period:

- Training Program for Temporary Outage Workers
- Observe Licensed Operator Training
- Training Programs During the COVID-19 Pandemic

The DCISC concluded the following during the previous reporting period:

DCPP's training for temporary outage workers was extensive and rigorous, and outage worker training in Foreign Material Exclusion was acceptable. A Licensed Operator training class on Natural Circulation of the Reactor Coolant System observed by the DCISC was satisfactory. DCPP continued to implement both Licensed and Non-Licensed Training programs successfully during the COVID-19 Pandemic.

4.22.2 Current Period Activities

During the current period, the DCISC reviewed Learning and Development Programs at two Fact-finding Meetings. The following topics were reviewed:

- Control Room Simulator
- Learning Services Department Update

[Control Room Simulator](#) (Volume II, [Exhibit D.4](#), Section 3.9)

The DCISC reviewed the status of the DCPP Control Room Simulator. All U.S. nuclear power plants have Control Room Simulators. The DCPP Control Room Simulator is an accurate copy of the actual DCPP Unit 1 Control Room with respect to control boards, charts, displays, and everything else down to the lighting and

carpet. Simulator controls and displays are wired to computers whose plant models provide the simulator with realistic behavior and responses which mimic the actual plant. Simulator training for operators is required for new licensee training as well as for continuing training for licensed operators. The simulator is used for both operator training and practice of upcoming plant evolutions as well as operator testing for continuation of their license certifications.

A few years ago, DCPD completed a major update to the simulator, resulting in significant computer hardware and software updates. The upgrades were very successful in improving simulator model stability, ease of use, and overall reliability. In the last year, there were no incidents of lost training opportunities due to simulator unavailability. A few issues with input/output cards occurred, but those cards could be quickly replaced with interruptions lasting typically less than one hour. Software was typically operated without any crashes or freezes, and the updated simulator model was significantly easier to modify and incorporate performance improvements or design changes when needed. Since February 2020, DCPD's simulator performance index had achieved the maximum rating of 100 with minimal unavailability or equipment discrepancies. Efforts were continuing to ensure that the simulator configuration accurately reflected actual plant configurations. Most recently, design changes to replace control room analog instruments with digital instruments had been replicated in the simulator.

In early March, the use of the simulator was temporarily discontinued due to the COVID 19 pandemic. Training resumed approximately two weeks later after procedures were established for the wearing of personal protective equipment, sanitation, and social distancing.

The DCISC inquired with regards to the status of maintaining simulator fidelity as required by NRC regulation 10 CFR 55.46. DCPD reported that the regulations were met primarily through ongoing certification activities that were performed under the guidance of American Nuclear Society standard ANSI/ANS-3.5-2009, "Nuclear Power Plant Simulators for Use in Operator Training and Examination," which was endorsed for compliance by the NRC under Regulatory Guide 1.149. The standard's requirements for fidelity testing fell generally into four areas:

- Transient Testing - the comparison of simulator indications during transients to design documents or actual plant data
- Physics Testing - the performance of reactor physics testing in the simulator compared to the results to data from physics testing performed in the actual plant
- Steady-State Testing - the performance of the simulator when held at steady state power levels compared to the results to actual plant data
- Scenario-Based Testing - the performance of the simulator when running training examination scenarios when compared to crew and instructor expectations and experience

The above tests were required to be conducted and documented during every

plant refueling cycle, and DCP's simulator was up to date in successfully completing all of the required certification tests.

DCP's Control Room Simulator was performing well in supporting operator training and examinations. The simulator was being properly certified and updated, and simulator reliability was high.

Learning Services Department Update (Volume II, [Exhibit D.6](#), Section 3.12)

The DCISC reviewed Learning Services (Training) Department Programs and Performance. In late 2019 and early 2020, the Learning Services Department successfully completed reaccreditation of all twelve of its Institute of Nuclear Power Operations (INPO) training programs without any issues. DCP was the first plant to be reaccredited using a modified process by INPO, and DCP was working to provide lessons learned from the modified process to the rest of the industry. As the reaccreditation was normally required every six years, DCP would not need to undergo another reaccreditation prior to the cessation of power operations in 2025. Also, in the last two years DCP successfully completed two classes of Initial License Training (ILT) for new licensed operators with a 100% pass rate on the NRC examinations. In general, DCP was able to continue effective training programs during the COVID-19 Pandemic. Major program changes made in order to continue training during the pandemic included:

- Using remote presentations for training
- Using remote proctoring for training examinations (other than for licensed operators)
- Rescheduling and splitting ILT and Licensed Operator Continuing Training between on site (simulator and in-plant walk-throughs) and remote sessions (classroom)
- Beginning a new class of Non-Licensed Operators primarily on site (with appropriate safety precautions)
- Continuing engineering, maintenance and technical training activities primarily using remote training techniques

The 2020 ILT class was the largest in the history of DCP and included 16 Reactor Operator students and 5 Senior Reactor Operator students. Four of the students were external hires, with two coming from other nuclear power plants. The class was scheduled to begin its NRC operating examinations in mid-January 2021 with the NRC written examinations to be conducted in February 2021. Following the ILT class, approximately 45 staff would be left in the Department, down from about 60 staff several years ago.

The Learning Services Department was carefully monitoring the number of qualified technicians to ensure that an adequate number remained at DCP through the cessation of power operations in 2025. To meet that goal, the staff had created a matrix of technician qualification needs along with planned retirements to help identify any specific gaps that required action to ensure

replacement technicians were trained and qualified in a timely manner. The station was also watching the numbers of qualified electrical maintenance technicians in particular as those types of technicians could most easily transfer to other non-DCPP jobs in PG&E.

Going forward, the Department needed to work hard to ensure that the correct training was being performed with regards to the unique situation that was presented by the planned shutdown. Additionally, the Department needed to ensure that Operations Training remained engaging and useful for the Operations staff throughout the period leading up to the planned shutdown.

Learning Services Department overall performance was good, and the Department was appropriately focused on ensuring that staff remaining on site through the cessation of power operations were adequately qualified.

4.22.3 Conclusions and Recommendations

Conclusions: DCPP's Control Room Simulator was performing well in supporting operator training and examinations. The simulator was being properly certified and updated, and simulator reliability was high.

Learning Services Department overall performance was good, and the Department was appropriately focused on ensuring that staff remaining on site through the cessation of power operations were adequately qualified.

Recommendations: None

[31st Annual Report, Volume I, Section 4.23, Beyond Design Basis Events](#)

4.23 Beyond Design Basis Events

4.23.1 Overview and Previous Activities

The purpose of the section is to describe the DCISC's review of "Beyond design basis events," such as occurred at the Japanese Fukushima Daiichi nuclear plant in March 2011. The DCISC reviewed the following topics during the previous reporting period:

- FLEX Program

In the previous reporting period the DCISC concluded that DCP's FLEX Program continues to meet regulatory requirements and equipment is being adequately maintained and tested on a regular basis. DCP has recently taken the position that it would not use its FLEX equipment for other purposes at the plant.

4.23.2 Current Period Activities

During the current period, the DCISC did not review any Beyond Design Basis items because there were no new or unreviewed DCP items.

4.23.3 Conclusions and Recommendations

Conclusions: Although the DCISC did not review any DCP Beyond Design Basis items during the current reporting period, it has found DCP's program acceptable in the past.

Recommendations: None

[31st Annual Report, Volume I, Section 4.24, Joint Proposal and Decommissioning](#)

4.24 Joint Proposal and Decommissioning

4.24.1 Overview and Previous Activities

On June 21, 2016, PG&E announced a Joint Proposal with Friends of the Earth, the Natural Resources Defense Council, Environment California, the International Brotherhood of Electrical Workers Local 1245, Coalition of California Utility Employees, and the Alliance for Nuclear Responsibility to retire DCPD at the expiration of the current operating licenses. On August 11, 2016, PG&E filed an Application with the California Public Utilities Commission (CPUC) for approval of the retirement of DCPD, implementation of the Joint Proposal, and for recovery of associated costs through proposed ratemaking. Under the Joint Proposal, PG&E would continue to operate DCPD at current levels through the current license periods. The application was approved by the CPUC on January 11, 2018, affirming the plan that PG&E would retire Unit 1 in 2024 and Unit 2 in 2025.

In the previous period, the DCISC reviewed the following topics related to the Joint Proposal and Decommissioning Program at one Fact-finding Meeting and one Public Meeting:

- Employee Retention Program
- Potential Role for the DCISC to Review Nuclear Fuel-Related Issues After Expiration of the DCPD Operating Licenses
- Decommissioning Planning Update

The DCISC concluded the following during the previous reporting period:

DCPD appears to be appropriately managing Employee Retention Programs and achieved a signup rate of approximately 86% for its Tier 2 Employee Retention Agreements that extend employee commitments through August 2023. The DCISC approved a draft Second Restated Charter for the Committee and directed counsel to provide the draft to the California Public Utilities Commission Energy Division staff with the recommendation that the Energy Division pursue the most expeditious avenue to bring the second restatement to the attention of the Administrative Law Judge assigned to the 2018 Nuclear Decommissioning Cost Triennial Proceeding with reference to finding a procedure for the

Public Utilities Commission to approve it. DCP's plan for decommissioning continued to be developed around the 2018 Nuclear Decommissioning Cost Triennial Proceeding with the California Public Utilities Commission.

4.24.2 Current Period Activities

During the current period, the DCISC reviewed the Joint Proposal and Decommissioning Program at one Fact-finding Meeting and two Public Meetings. The following topics were reviewed:

- Employee Retention Programs
- Decommissioning Planning Update
- Decommissioning Engagement Panel

Employee Retention Programs (Volume II, [Exhibit D.3](#), Section 3.12)

The DCISC reviewed DCP's Employee Retention Program. With the upcoming plant shutdown in 2025 as specified in the Joint Proposal, DCP offered an employee retention program to keep enough employees to safely operate the plant. Tier 1 of the Employee Retention Program was successfully implemented and ended with a third and final incentive payment of 25% in August of 2019 for employees who were committed to remain with PG&E through the end of August 2020. Approximately 90% of station personnel had signed agreements under the Tier 1 program. Of the remaining portion that had not signed agreements, only about 20 had retired or left the station to date. In general, DCP believed that most employees wanted to stay with PG&E due to the relatively high salaries and reasonable cost of living in the local area.

Signups for Tier 2 of the Employee Retention Program closed in August 2019. Approximately 86% of station personnel had signed agreements under the Tier 2 program, which was a three-year program. Those employees would receive their first Tier 2 incentive payment in September 2020 and would be committed to remain with PG&E through the end of August 2023. In general, DCP management was pleased with the results of the Tier 2 program signups and believed that the Employee Retention Program was working well at this time. A gradual reduction in station positions was underway as the workload at the station was beginning to decline slowly. That reduction was managed at a high level.

There would be a third phase of employee retention that would need to be managed after the Tier 2 program ended. That phase would cover the period after the Tier 2 agreements expired in September 2023 through the last unit shutdown in August 2025, essentially the last two-unit operating cycles. During that final phase, the station would need to manage a ramp down in staffing that corresponded to reductions in plant maintenance and other activities that would naturally occur as the cessation of operations approached. Program plans were already in place to support employees whose positions would be eliminated and

help them to identify other job opportunities within PG&E, the decommissioning organization, other nuclear power plants, non-nuclear industries, or to retire.

Experience with employees leaving was as follows:

- Approximately 50 employees left DCPD before the end of the first retention period
- Approximately 24 employees left following the first retention period end
- About 50 were expected to leave after September 1, 2020 or later
- After January 1, 2021, more IBEW-represented employees were expected to leave
- About 40 employees were in the process of retiring

Overall, this was not as large a drop in staffing as originally projected. DCPD was not losing many operators or Instrumentation and Controls Technicians, who were particularly needed and difficult to replace through the end of plant life.

The DCPD Employee Retention Program was proceeding generally as planned. Most operators and instrumentation and controls technicians, who are especially needed through the end of generation, were remaining.

The following is a summary of the DCISC's discussions on this topic at its June 2021 Public Meeting: The Joint Proposal Agreement. which provided for the retirement of DCPD by 2025, included a provision for a 25% retention payment for each year for seven years through a two-tiered program offered to all station personnel which numbered approximately 1,200. This program was structured to allow individuals to leave employment at DCPD after four years under Tier 1. Tier 1 saw a high retention rate with a 98% of the participants staying through the entire four-year period. Tier 1 had completed, and the enrollment in Tier 2 was approximately 93%. Tier 2 would complete at the end of 2023. The plant was currently in-between the two retention periods with the next retention period payment expected in November 2021. During this period, individuals may terminate employment without penalty of pay-back commitments and 79 persons left DCPD (50 retirements and 16 resignations). The Tier 1 incentive resulted in persons who might have departed earlier remaining at the plant longer and facilitated the transfer of knowledge to other personnel and the planning and hiring for future staffing needs. DCPD continued to track the attrition rate and the results, except for retirements which were postponed for Tier 1, looked very similar to the attrition rate experienced before the announcement that the plant would be closing in 2025.

In 2019, DCPD hired its largest licensed operator class in anticipation of expected attrition and to ensure sufficient staffing levels through the end of operations.

During 2021, the NRC issued 4 senior reactor operator and 16 reactor operator licenses to DCPD personnel. The class was timed to allow those newly licensed individuals to go on shift and gain experience prior to the overlap period between

Tier 1 and Tier 2. DCPD had the highest number of active senior reactor operator and reactor operator licenses of any two-unit plant in the U.S. and nearly the same number of operators as the Palo Verde Generating Station in Arizona which was a three-unit site. In December 2020, DCPD completed an initial non-licensed operator class with ten graduates, all of whom were placed on shifts and were expected to be fully qualified by September 2021. A second non-licensed operator class was scheduled to commence by the end of 2021 and there was no shortage of non-licensed operator applicants both from within the local community and from other areas of the country. In August 2021, DCPD planned to begin radiation protection and chemistry technician classes containing for four to five technicians which would likely be one of the final classes at the station.

Generation leadership reviewed with the directors of each department hiring requests, staffing needs assessments, and staffing adequacy on a weekly basis. This review included rotational opportunities for personnel in other parts of the Generation organization. Most of the turnover that was currently occurring was due to individuals taking new positions within PG&E.

DCPD partnered with the International Brotherhood of Electrical Workers (IBEW) union in Letters of Agreement to provide for workforce flexibility during outages for decontamination specialists, electrical maintenance technicians, instrument and controls technicians and administrative specialists. This would allow DCPD to bring workers in and expeditiously hire persons who have qualifications already in place whether from within or outside the local community. DCPD continued to explore further opportunities to work with the IBEW.

DCPD's retraining programs, for which \$113 million was available for the period 2021-2025 would provide:

- Enhanced Education - including up to \$10,000 in tuition assistance per employee per year. DCPD was working with Cal Poly to develop a masters' program in business administration that was coordinated with outage timelines to permit employees to take an advanced degree while remaining available during outage periods.
- Employee Retraining Certificates - the DCPD Human Resources organization was identifying job availability within PG&E in and after 2025 and creating a certificate program to support employees in applying for jobs within other areas of PG&E such as safety, compliance, risk management, and cyber security.
- IBEW Apprenticeships - to create advanced placement and transfer opportunities within PG&E for IBEW-rated personnel including for non-licensed operators. Many of the skills acquired by a non-licensed nuclear operator would be transferable to a hydrogenation facility.
- Employee Support Program - consisting of programs and services to support career change by DCPD employees including career counselors, skilled development workshops, resume and interview techniques and training.

DCPP's retention efforts were going well and better than expected for the period 2016-2020. The Joint Proposal had been successful, and advanced hiring and monitoring by the leadership team provided the ability for mitigation and intervention at an early stage when challenges were identified.

Decommissioning Planning Update (Volume II, [Exhibit B.3](#))

The following is a summary of the DCISC's discussions on this topic at its October 2020 Public Meeting: The California Public Utility Commission's (CPUC's) Nuclear Decommissioning Cost Triennial Proceedings (NDCTP) represented the vehicle by which annual revenue requirements and three-year budgets for the decommissioning of DCP (and Humboldt Bay Power Plant) were established.

Participants in the NDCTP proceedings included interveners and some of the participants in the Joint Proposal. The 2018 NDCTP hearings concluded in September 2019 and the CPUC had not extended the statutory deadline for issuance of a final decision. A proposed decision would be issued and circulated for comment prior to that deadline.

The pending approval of the 2018 NDCTP would result in PG&E having detailed project descriptions for state and local permitting and for submission of License Amendment Requests (LARs) to the NRC. Because the NRC did not adopt generic rulemaking for decommissioned plants, DCP was now at the stage where it was going to need to file LARs in the next six to nine months. The goal of the Decommissioning Project was to proceed directly from electric power generation operations into decommissioning and this would require obtaining all necessary permits in a timely fashion. For the next NDCTP in 2021, the plant would need to provide updated information and to determine if a new dry cask storage system provider was to be selected. A decision on contracting strategy would also need to be made regarding how the work of decommissioning the power plant would be performed. For the NDCTP to be filed in 2024, which would be the last update prior to license expiration, all licenses and permits should be obtained, and decommissioning mitigation costs and activities should be well informed.

A working group was established between DCP and the County of San Luis Obispo, the California State Lands Commission, and the California Coastal Commission as those agencies would be taking the majority of the discretionary actions including the preparation of the environmental impact report.

Ongoing decommissioning activities which would occupy the next 18 months were as follows:

- Permitting.
- NRC Submittals.
- Spent Fuel Transfer Request for Proposal
- Contracting Strategy
- Indicative Bids

Public Engagement

- Planning/Scheduling
- Procedures/Processes
- Benchmarking
- NDCTP Filing Support

The orderly transition from DCPD power generation activities to other possible power generation and/or energy conservation would be a part of the decommissioning process. This would require a public stakeholder outreach process as how the lands will be dispositioned and that process proceeded through the third quarter of 2020, with the Diablo Canyon Decommissioning Engagement Panel playing a key role. Repurposing of the site and of its transmission corridor for production of solar, wind or wave energy generation had been discussed.

PG&E intends to maintain the transmission lines which now serve DCPD regardless of repurposing as the 500kV lines serve as an important part of the transmission system connecting the cities of Fresno and Bakersfield, California.

Decommissioning Engagement Panel (Volume II, [Exhibit B.3](#))

The following is a summary of DCPD's presentation on this topic at DCISC's October 2020 Public Meeting: The mission and purpose of the Decommissioning Engagement Panel, which was created by PG&E in 2018, centers on the need for PG&E and the local community to talk to each other and on the need to establish a conduit for information on PG&E's decommissioning planning and the implications involved as well as for the community to convey its concerns and to make recommendations to PG&E concerning decommissioning. Three new members were recently selected to replace members who have either retired or whose terms on the Decommissioning Engagement Panel ended.

Topics considered during the meeting of the Decommissioning Engagement Panel held on March 11, 2020, included:

- The process for San Luis Obispo County's review under the California Environmental Quality Act (CEQA) and the requirement that an environmental impact report (EIR) be prepared for the decommissioning of DCPD, including the public process before the County Planning Commission, the County Board of Supervisors and the State of California Coastal Commission.
- The CPUC's Tribal Land Transfer Policy whereby whenever excess lands are to be disposed of by an investor-owned utility the utility was required to offer a right of first refusal to obtain the land to recognized Native American tribes with ancestral claims to such lands. The ultimate disposition of DCPD lands was likely to be an important aspect of the Decommissioning Engagement Panel's activities in the years ahead.
- The Request for Proposal (RFP) process for dry cask storage of spent nuclear fuel. Approximately 110 new casks will be required, and the RFP issued by PG&E to potential vendors for those casks was sent to manufacturers in

March of 2020. PG&E's cost for the new casks was estimated to be in excess of \$200 million. The Decommissioning Engagement Panel made several recommendations to PG&E concerning this topic and all were incorporated into the RFP. The California Energy Commission also reviewed the RFP and provided input to PG&E. The procurement criteria for new casks included the ability to transfer all spent fuel from the spent fuel pools to dry cask storage within four years following shutdown of the reactor as well as a requirement that they be capable of accommodating high burn-up fuel.

Topics considered during the meeting of the Decommissioning Engagement Panel held on June 24, 2020, included:

- Transportation from DCPD of non-radiological and low-level radiological materials. The Decommissioning Engagement Panel also received a presentation from The B. John Garrick Institute on the UCLA Spent Fuel Risk Study. Three potential routes for transporting this material were identified and include: (1) a southern route through Avila Beach, (2) a northern route through Montana de Oro, and (3) an ocean route involving barges which would utilize a retained marina facility with further overland transport to an ultimate destination. With the use of trucks to transport the materials, the southern route was found to have a lower risk than the northern route; however, the route with the lowest overall risk would be created by leaving the Intake Cove facilities intact and to use barges for the first leg of the route. The Decommissioning Engagement Panel's review during the June 2020 meeting was focused only on non-radiological and low-level radiological materials and not on the transport of spent fuel.

Topics identified for future meetings of the Panel included the CPUC ruling on the 2018 NDCTP and the management, storage and transportation of spent nuclear fuel, concerning which the panel's responsibility might in some ways align with the responsibilities of the DCISC.

The work and mission of the Decommissioning Engagement Panel was captured in its Strategic Vision document which was described as a document that has been and will be periodically updated as the Decommissioning Engagement Panel continues its work. The panel had three distinct audiences for its work - PG&E, the CPUC, and the local community.

4.24.3 Conclusions and Recommendations

Conclusions: The DCPD Employee Retention Program was proceeding generally as planned. Most operators and instrumentation and controls technicians, who are especially needed through the end of generation, were remaining. Planning for the decommissioning of DCPD was proceeding well, and the Decommissioning Engagement Panel was serving well to represent the interests of the community and other stakeholders.

Recommendations: None

[31st Annual Report, Volume I, Section 4.25, Other DCISC Reviews](#)

4.25 Joint Proposal and Decommissioning

4.24.1 Overview and Previous Activities

This report section includes other DCISC reviews, which do not fall into the other categories of the report. This includes meetings with plant officers and directors and reviews of the status of COVID-19 at DCP.

4.25.2 Current Period Activities

During the current period, the DCISC met at each fact-finding meeting with either Jim Welsch, DCP Chief Nuclear Officer or Paula Gerfen, Site Vice President or select directors to discuss fact finding agenda items and other items of mutual interest. Additionally, the DCISC performed the following other reviews:

- COVID-19 Pandemic Planning & Response
- Meet with DCP Officer or Director
- Drone Sightings

[COVID-19 Pandemic Planning & Response](#) (Volume II, [Exhibit D.2](#), Section 3.11; and [Exhibit D.6](#), Section 3.11; and [Exhibit D.9](#), Section 3.5; and [Exhibit B.6](#))

The DCISC was specifically interested in DCP's response in two specific areas: 1) how would DCP maintain the ability to operate the facility safely, and 2) how would DCP maintain the ability to adequately respond to an emergency event.

DCP's response planning for the COVID-19 virus threat began formally on February 27, 2020, when an initial pandemic response coordination meeting was held. That meeting focused on implementing the facility's Pandemic Response Plan. Initiating an EI (Emerging Issue) provided a structured process under existing station procedures for coordinating the collection of information, management reviews, generating and tracking action items, and communicating plans and actions to affected personnel. DCP personnel also worked closely with PG&E corporate personnel through the corporate Emergency Operations Center which was virtually activated to coordinate the company's overall response to the pandemic. DCP was also working to maintain open communications and close coordination with local San Luis Obispo County authorities primarily by maintaining a company employee on site at the San Luis Obispo County Emergency Operations Center.

Regarding DCP's efforts and plans to maintain the ability to effectively respond to an emergency, DCP had made it clear to employees that in the case of an actual emergency, responding to an emergency would take priority over social distancing. The regular system for designating and tracking personnel available to respond to an emergency was being maintained, and the expectations for the time frame during which responders were required to report to emergency response facilities had not been changed. Should a designated emergency responder be unable to perform their function, they were required to report their inability to respond and a qualified replacement would be designated in accordance with existing station procedures and practices.

The Emergency Planning organization was reviewing training requirements and working on a plan for virtually holding training and "muster meetings" (which typically occur every two weeks).

Regarding plans for responding to a forced outage, safe operation of the facility would remain a priority using whatever reduced number of personnel were available. Management had concluded that any forced outage response would likely be more limited in scope than is typical and could take longer to return the unit to operation.

DCP was following industry and regulatory guidance with their virus prevention program. They provided weekly updates to the NRC, San Luis Obispo County, and California state officials. DCP's Emergency Response Organization (ERO) was ready to respond with masks, sanitizers, etc., and they verified minimum ERO staff were available daily.

Quality Verification (QV) performed an assessment of work deferred due to the reduced staffing levels at the plant in response to the COVID-19 pandemic. This assessment involved reviews of various processes, including the Schedule Change Request (SCR) process, Preventive Maintenance (PM) deferral process, PM grace process, and Surveillance Test Procedure (STP) grace process in order to verify work was being managed in accordance with the applicable procedural guidance.

The assessment concluded that work was effectively being managed within existing processes. In most cases, work is rescheduled using the SCR process within existing due dates. The STP grace process, PM grace process, and PM deferral process are effectively being used to manage work activities that are rescheduled outside of existing due dates.

Meet with DCP Officer or Director (various fact-finding meeting reports in Volume II)

The DCISC met regularly with either plant officers or directors at each of its nine fact-finding meetings. This is a good practice with useful information sharing.

Drone Sightings (Volume II, [Exhibit D.4](#), Section 3.10 and Exhibit B.6)

History of Drone Sightings at Diablo Canyon and Implications Upon Nuclear Safety.

In 2014, in response to the sighting of a drone above the Indian Point Energy Center, a nuclear power plant in Buchanan New York, the NRC enhanced its existing advisories on suspicious aircraft and established voluntary reporting guidelines. Suspicious aircraft including drones are categorized as unmanned aerial systems (UAS) and unmanned aerial vehicles (UAV). Guidance included contacting the Federal Aviation Administration (FAA), local law enforcement and NRC Headquarters. The use of drones by the nuclear plants themselves is not included within the guidance and many plants including DCPD use drones to conduct inspections of power transmission lines and plant structures.

The NRC believes there are no risk significant vulnerabilities at nuclear power plants that could be exploited by adversarial use of currently available commercial drones. Working with the Nuclear Energy Institute (NEI) the NRC has concluded nuclear plants remain safe from drones as the plants are among the most robust structures in the nation, they employ comprehensive defense strategies and these are thoroughly tested even against drones, the plants are protected from cyberattacks and a unified industry response is already in place. These considerations apply to the ISFSIs as well as to the power plants. DCPD recently received a restricted air space designation from the FAA and such designation was previously not in place at any nuclear power plant in the country. This airspace restriction includes drones and covers the area of the ISFSI at DCPD.

Prior to 2014 when the NRC put its guidance in place the nuclear industry through the NEI had formed a task force, of which DCPD is a member, under the auspices of the of the Department of Homeland Security's Critical Infrastructure Partnership Advisory Council on Unmanned Aircraft Systems (CIPAC UAS) to identify risk and develop solutions. As a result all U.S. nuclear power plants now have protocols and standards in place to respond promptly to suspicious aircraft activity including reporting to the FAA, local law enforcement, the FBI and the NRC. The details of these protocols and standards are security related information and therefore cannot be publicly shared.

The NRC issued Information Advisory 14-03, "Updated Suspicious Flight Activity Voluntary Reporting Procedures - Unmanned Aircraft Systems." The advisory initiated a voluntary reporting system among nuclear power plants in the U.S. through which any drone sightings were reported to the NRC. The system was somewhat akin to existing reporting mechanisms for small boats that might inadvertently wander into and out of restricted areas near nuclear power plants. This reporting system has remained in place to date and was the mechanism by which the NRC was able to track the overall nature of the potential threat and provide nuclear power plants with updated threat information when needed. This NRC reporting system was also the source of drone sighting data that were published in several recent media reports on the topic. In 2018, the Nuclear Energy Institute also published a technical report, NEI 18-05, "Guidance for Responding to an Unmanned Aerial System/Unmanned Aerial Vehicle within the

Owner Controlled Area." The NEI report was prepared in coordination with various federal agencies and provided additional reporting guidelines, recommended site action checklists, and a list of references and resources.

Regarding sightings specifically at DCP, observed multiple (approximately ten) sightings in the winter of 2017-2018 which were reported to the NRC and included in their database. In the years since 2018, there had been only a few individual and infrequent sightings at DCP. All of the sightings at DCP were over the Owner-Controlled Area (OCA), and only a few were sighted near to the plant's Protected Area. DCP continually works to be aware of and assess any new potential threats from drone activity near nuclear power plants or other critical infrastructure facilities throughout the world.

DCP monitors any drone activity near the power plant and has acted appropriately when such activity was observed in the past. In general, drone intrusions do not seem to pose a substantial risk to nuclear safety at DCP.

4.25.3 Conclusions and Recommendations

Conclusions: DCP's response to and actions for dealing with effects arising from the COVID-19 pandemic are based on maintaining safe, reliable operations with a healthy staff. Their initiatives appeared appropriate for handling normal operations as well as potential responses to emergencies. DCP's COVID-19 actions did not appear to adversely affect operational safety.

DCP monitors any drone activity near the power plant and has acted appropriately when such activity was observed in the past. In general, drone intrusions do not seem to pose a substantial risk to nuclear safety at DCP.

Recommendations: None

[31st Annual Report, Volume I, Exhibit 8.1, E-mails Received by the DCISC](#)

8.1 E-mails Received by the DCISC

Email correspondence was received by the DCISC Legal Counsel's office with questions, concerns, information and requests for information. During this reporting period 34 emails were received from members of the public. The breakdown of these emails is as follows:

Number of E-mails	Reason for Contact
26	DCPP issues or nuclear information requests
8	Other (administrative, document requests, tour requests and miscellaneous)

When requested, answers, responses or documents from the Committee's records were provided by email or in some cases during a public meeting. The DCISC Correspondence Log which provides a memorandum of contacts initiated by members of the public, citizen or public interest groups, the media or similar organizations is included as [Exhibit G.1](#) and correspondence is included with [Exhibit G.2](#).

The Committee maintains a California toll-free telephone number (800-439-4688), an email address (dcsafety@dcisc.org) and a site on the worldwide web at www.dcisc.org for receiving questions, concerns or information to and from the public. The DCISC has developed an information pamphlet and an informational video describing the Committee and its activities (see Volume II, [Exhibit I](#)). The pamphlet is provided to attendees at DCISC public meetings and plant tours and the informational video is shown in connection with the public tours and on the Committee's website.

[31st Annual Report, Volume I, Exhibit 8.2, DCISC Internet - Worldwide Web Page Activity](#)

8.2 DCISC Internet - Worldwide Web Page Activity

The DCISC maintains a frequently updated web page on the worldwide web at <https://www.dcisc.org/>. Since the DCISC established its web page and presence on the internet in 1999 the Committee's goal has been to provide a convenient and accessible forum for interested members of the public to learn about the Committee, its history, background and role in safety oversight at Diablo Canyon as well as its current and past members, technical consultants and legal staff. Volumes I and II of the Committee's latest and its past Annual Reports are available on the website as is the current schedule of future DCISC public meetings and plant tours and the agendas, legal notices, PG&E informational presentations and the entire agenda packet are posted to the website before each of the Committee's public meetings.

The web page also provides visitors with an opportunity to download or print pages from the DCISC website and its Annual Reports and offers a convenient email link to permit interested persons to communicate directly with the Committee and to receive an expedited response to questions and concerns. When the Annual Report is finalized it is also published and distributed as a CD to local public libraries and interested persons.

During the period of this Annual Report the Committee engaged Sun Star Media of Monterey to redesign and update the DCISC website. As part of this update a new visual interface for the website was created. The new website has been redesigned to be easy to navigate and to be friendly to users of mobile phones and computer tablets as well as to be compliant with the requirements of the Americans with Disabilities Act. The website now includes a photo gallery showing the Committee during its public meetings and the members and technical consultants at work during fact finding. The new website also features a video gallery with videos with information about the Committee and its activities, the Diablo Canyon used fuel storage project and used fuel management, the replacement of the steam generators, and seismic safety at Diablo Canyon. A topical library has also been created to feature information concerning a possible post-shutdown role for the Committee, the committee's review of decommissioning-related issues, review of seismic safety issues, the tsunami hazard and risk at Diablo Canyon and its environs, as well as the Committee's evaluation of safety issues for alternate cooling technologies or modifications to Diablo Canyon's once-through cooling

system.

The Committee continues to post the agendas and the agenda packets for all its public meetings on the website prior to its public meetings as well as general information about the Committee, its members and consultants. A section on Resources provides links to websites for the NRC, PG&E-Diablo Canyon, the California Public Utilities Commission, the International Atomic Energy Agency, the Diablo Canon Decommissioning Engagement Panel and to San Luis Obispo County's Nuclear Incidents webpage. Links are provided to indexed streaming video of its past public meetings through electronic archives at <https://slo-span.org/static/meetings-DCISC.php> and to the public meetings in real time when in session.

The website also provides access to a convenient glossary of nuclear power terms and a list of acronyms in common use in the nuclear industry and an animated depiction of the operation of a pressurized water nuclear reactor such as those in operation at Diablo Canyon.

During the DCISC's October 22-23, 2020 and February 16-17, 2021 public meetings, both conducted remotely in their entirety as Zoom webinars, the live-streaming video of the meeting was accessed by visitors 41 and 33 times respectively. During the DCISC's public meeting on June 23-24, 2021, conducted both in person and as a Zoom webinar there were 42 livestream viewers. This data represent the total number of times "live visitors" entered the site during the meeting including those visitors who may have come and gone from the site more than once.

During this annual report period www.dcisc.org was hosted by two different website hosting entities, Stormer Hosting and Sun Star Media. The statistics provided for July 1, 2020 through February 2021 by Stormer Hosting were the actual visits, that is, the "unique visitor" numbers, regardless of how many pages that visitor actually viewed on the DCISC's website during that period of this report included the following:

Month	Visits
July 2020	516
August 2020	474
September 2020	509
October 2020	727
November 2020	524
December 2020	671
January 2021	601
February 2021	314

Statistics provided for February 1 through June 20, 2021, were reported by SunStar Media using Google Analytics which provides information on users, new

users and sessions, as follows:

	Users	New Users	Sessions
February 2021	238	127	333
March 2021	148	141	167
April 2021	125	120	133
May 2021	90	83	105
June 2021	68	63	93

Top ten countries from which visitors accessed the site as of June 2020 were: United States, South Korea, China, Pakistan, Belgium, Brazil, Canada, Mexico, Russia and Sweden.

[31st Annual Report, Volume I](#), Exhibit 8.3, Comments Received at DCISC public meetings

8.3 Comments Received at DCISC Public Meetings

During this period (July 1, 2020 - June 30, 2021), the Diablo Canyon Independent Safety Committee (DCISC) held one public meeting in the vicinity of Diablo Canyon Power Plant (DCPP) and two meetings were held entirely virtually as webinars. These two-day public meetings included numerous informational, programmatic and plant status presentations by PG&E and by Committee Consultants and questions and comments from the public. The Committee held an evening session on the first day of its February and June 2021 public meetings.

The DCISC encourages members of the public to attend and speak at its public meetings. Times are set aside throughout the meetings for public questions and comments. During the reporting period July 1, 2020 - June 30, 2021 fourteen different individuals spoke a total of seventy-three times. Seven individuals participated as Zoom attendees and spoke at the October 22-23, 2020, meeting; eight individuals participated as Zoom attendees and spoke at the February 16-17, 2021, meeting; and ten individuals attended in person or via Zoom and spoke at the Junes 23-24, 2021, meeting. Seven persons addressed the Committee during more than one of its public meetings.

The comments and questions, together with the Committee's and PG&E's responses, are contained in the public meeting minutes included in Volume II, Exhibits [B.3](#), [B.6](#), and [B.9](#).

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface](#) | [Executive Summary](#)

[Volume I TOC](#) | [Volume II TOC](#) | [PG&E Response](#) | [Contact the DCISC](#)

[31st Annual Report, Volume I](#), Exhibit 8.4, DCISC Public Tours of DCP

8.4 DCISC Public Tours of DCP

Due to restrictions imposed by the coronavirus pandemic, the DCISC did not conduct tours of the power plant with members of the public in conjunction with any of its public meetings during this annual report period.

[31st Annual Report, Volume I, Exhibit 8.5, DCISC Evaluation](#)

8.5 DCISC Evaluation

The DCISC has been relatively successful to date in implementing its Public Outreach Program as demonstrated by the descriptions above. The DCISC will continue to review its outreach programs including concerning future public tours during the next reporting period. The website update during this annual report period was a successful effort to create an updated and interesting format for public outreach and to provide information on the Committee and its activities as well as an email channel for communication.

Attending one or more public DCISC public meetings during this report period were representatives of the Nuclear Regulatory Commission, the California Energy Commission, the California Public Utilities Commission, U.S. Representative Salud Carbajal's District Office, and the Diablo Canyon Decommissioning Engagement Panel. Also attending were representatives of the San Luis Obispo Mothers for Peace and the Alliance for Nuclear Responsibility, non-profit organizations concerned with the local and nationwide dangers involving Diablo Canyon and with the dangers of nuclear power, weapons and radioactive waste on national and global levels, and a representative of Californians for Green Nuclear Power, a group dedicated to promoting the peaceful use of safe, carbon-free nuclear power, and to keeping Diablo Canyon Nuclear Power Plant open after 2025.

The Committee Members recognize the important mandate from the California Public Utilities Commission that the Committee conduct public outreach in the local San Luis Obispo area and will continue to explore and develop opportunities for interaction between the Diablo Canyon Independent Safety Committee and the public.

[31st Annual Report, Volume II, Exhibit B.1, Notice of Public Meeting](#)

THE DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

(<https://www.dcisc.org>)

NOTICE OF PUBLIC MEETING

Zoom Webinar Meeting ID : 843 2403 6610

Zoom Webinar Meeting Passcode: 059467

[https://us02web.zoom.us/j/84324036610?](https://us02web.zoom.us/j/84324036610?pwd=UIB6U3NWaEZUMG1IZkNBWjQvdTZuZz09)

[pwd=UIB6U3NWaEZUMG1IZkNBWjQvdTZuZz09](https://us02web.zoom.us/j/84324036610?pwd=UIB6U3NWaEZUMG1IZkNBWjQvdTZuZz09)

Zoom Webinar Meeting Telephone Only Participation:

1(408)638-0968; 1(669)900-6833; 1(253)215-8782; 1(346)248-7799;

1(646)876-9923; 1(301)715-8592; and 1(312)626-6799

NOTICE IS HEREBY GIVEN that on October 22-23, 2020, a public meeting will be held by the Diablo Canyon Independent Safety Committee (DCISC) in four separate sessions at the times indicated to consider the following matters. You may participate in the DCISC's public meeting in real-time by accessing the Zoom webinar meeting via the weblink or meeting ID given above or by calling any of the phone numbers provided at the top of this notice. Instructions on how to access, view and participate in remote meetings are also provided by visiting the DCISC's home page at <https://www.dcisc.org>. Attendees can make oral comments or ask questions of the Committee Members during the webinar meeting by using the "Raise Your Hand" feature or by pressing *9 on your telephone keypad if joining by telephone only. If you are unable to participate in real-time, you may email to dcsafety@dcisc.org with the subject line "Public Comment Item# ____" (insert the item number relevant to your comment) or "Public Comment – Non Agenda Item." Comments will be reviewed and distributed before the meeting if received by 5:00 p.m. on Wednesday, October 21, 2020. Comments received after that will be addressed during the item and/or at the end of the meeting. All comments received will be read into and become part of the record, subject to a time limit determined by the presiding officer. The Committee will have the option to modify its actions on items based on comments received.

1. **Morning Session - (10/22/2020) – 9:00 A.M.** Opening comments and remarks; receive public comments and communications to the Committee; receive informational presentations from PG&E on topics relating to Diablo Canyon Power Plant (DCPP) safety and operation requested by the Committee from PG&E, including the "State of the Plant" concerning key events, highlights, organizational changes, Retention Tier 2 update, response to COVID-19 pandemic, Unit 1 refueling outage activities, recent wildfires, recent human performance in Operations and other station activities since July 2020; update on NRC Performance Indicators, recent Licensee Event Reports, NRC

Inspection Reports and Notices of Violation and issues raised by NRC Resident Inspectors, open compliance issues and License Amendment Requests and other regulatory issues/requests; and the causes and corrective action for the February 2020 Unit 2 forced outage to repair the Rod Control System.

2. **Afternoon Session - (10/22/2020) - 1:30 P.M.** Committee member comments; receive public comments and communications to the Committee; receive informational presentations requested by the DCISC of PG&E related to plant safety and operations, including decommissioning planning update, including status of the spent fuel cask request for proposals; informational discussion by the Committee on spent fuel pool risk evaluation and consideration of a possible recommendation by the Committee; further informational presentation by PG&E including an update on Emergency Preparedness programs including changes made in response to the COVID-19 pandemic.

3. **Reconvene Public Meeting for Morning Session - (10/23/2020) - 8:30 A.M.** Comments by Committee members; receive public comments and communications to the Committee; discussion of administrative matters, including review and approval of the DCISC 30th Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations for the period July 1, 2019 - June 30, 2020, an update on financial matters and activities during 2020-2021, review of the Open Items List, reports and scheduling of future activities by Committee Members; receive informational update on the activities of the PG&E's Diablo Canyon Decommissioning Engagement Panel; and receive, approve and authorize transmittal of fact-finding report to PG&E for the July 2020 fact-finding WebEx conference with DCPD representatives; and review of administrative, regulatory and legal matters.

4. **Afternoon Session - (10/23/2020) - 1:15 P.M.** Comments by Committee Members; receive public comments and communications to the Committee; process; approve and authorize transmittal of fact-finding reports to PG&E for the August and September 2020 fact-finding WebEx conferences with DCPD; and review of administrative, regulatory and legal matters including acceptance of Minutes of the DCISC's July 1-2, 2020 public meeting; wrap-up discussion by Committee members and confirmation of future site visits, study sessions and public meetings.

The meeting will be webcast in real time at: <http://www.slo-span.org/> and through <https://www.dcisc.org>.

The specific meeting agenda and the staff reports and materials regarding the above meeting agenda items will be available for public review commencing Monday, October 19, 2020, at the Reference Department of the Cal Poly Library in San Luis Obispo and online at www.dcisc.org. **For further information regarding the public meeting, please contact Robert Wellington, Committee Legal Counsel, 857 Cass Street, Suite D, Monterey, California, 93940; telephone: 1-800-439-4688 or read the agenda on line by visiting the Committee's website at www.dcisc.org.**

Dated: October 12, 2020.

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface](#) | [Executive Summary](#)

[Volume I TOC](#) | [Volume II TOC](#) | [PG&E Response](#) | [Contact the DCISC](#)

31st Annual Report, Volume II, Exhibit B.2, DCISC Agenda for the October 22-23, 2020 Public Meeting

DIABLO CANYON
INDEPENDENT SAFETY COMMITTEE

(www.dcisc.org)

Committee Members:	Robert J. Budnitz Peter Lam Per F. Peterson	
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Zoom Webinar Meeting ID : 84324036610

Zoom Webinar Meeting Passcode: 059467

[https://us02web.zoom.us/j/84324036610?](https://us02web.zoom.us/j/84324036610?pwd=UIB6U3NWaEZUMG1IZkNBWjQvdTZuZz09)

[pwd=UIB6U3NWaEZUMG1IZkNBWjQvdTZuZz09](https://us02web.zoom.us/j/84324036610?pwd=UIB6U3NWaEZUMG1IZkNBWjQvdTZuZz09)

Zoom Webinar Meeting Telephone Only Participation:

1(408)638-0968; 1(669)900-6833; 1(253)215-8782; 1(346)248-7799;

1(646)876-9923; 1(301)715-8592; and 1(312)626-6799

AGENDA

Thursday & Friday, October 22-23, 2020

In response to Governor Newsom's Executive Order N.29-20 related to the COVID-19 (coronavirus) pandemic, public participation in the DCISC public meetings shall be electronic only and without a physical location for public participation in compliance with California state guidelines on social distancing. This meeting is being produced by AGP Video Inc. and webcast "live" on SLO-SPAN at <http://www.slo-span.org> and through <https://www.dcisc.org> and will be broadcast subsequently on San Luis Obispo local government access television, Channel 21.

PARTICIPATION

You may participate in the DCISC's public meeting in real-time by accessing the Zoom webinar meeting via the weblink or meeting ID and Passcode given above or by calling any of the phone number provided at the top of this agenda. Instructions on how to access, view and participate in remote meetings are also provided by visiting the DCISC's

home page at <https://www.dcisc.org>. Attendees can make oral comments or ask questions of the Committee Members during the webinar meeting by using the "Raise Your Hand" feature or by pressing *9 on your telephone keypad if joining by telephone only. If you are unable to participate in real-time, you may email to dcsafety@dcisc.org with the subject line "Public Comment Item#____" (insert the item number relevant to your comment) or "Public Comment - Non Agenda Item." Comments will be reviewed and distributed before the meeting if received by 5:00 p.m. on Wednesday, October 21, 2020. Comments received after that will be addressed during the item and/or at the end of the meeting. All comments received will be read into and become part of the record, subject to a time limit determined by the presiding officer. The Committee will have the option to modify its actions on items based on comments received.

AGENDA MATERIALS

The agenda, staff reports and background information distributed to the Committee are public records and will be available for public review on the DCISC's website (www.dcisc.org) on or before Monday, October 19, 2020, Supplemental materials received after the close of the final agenda and through noon on the days of the scheduled meeting will be available for public review at the meeting. Materials related to an item on this agenda submitted to the Committee after distribution of the agenda packet will be made available on the DCISC website subject to the ability of the Committee staff to post the documents before the meeting.

Morning Session - 10/22/2020 – 9:00 A.M.

I CALL TO ORDER - ROLL CALL

II INTRODUCTIONS

ADVISEMENT

The Committee may consider at any time requests to change the order of a listed agenda item. Information distributed to the Committee during a public meeting becomes part of the public record of the DCISC. A copy of written material, pictures, etc. must be provided to the Committee's Legal Counsel for this purpose. Correspondence received and sent by the Committee is on file with the Office of the DCISC Legal Counsel and copies are available upon request.

III PUBLIC COMMENTS AND COMMUNICATIONS

Anyone wishing to address the Committee on matters not appearing on the Agenda may do so only at this time. The public may comment on any matter listed on the Agenda immediately following the time the matter is considered by the Committee. There may be a time limit established by the Presiding Officer for each speaker. *No action will be taken by the Committee on matters brought up under this item but they may be referred to staff for further study,*

response or action.

IV INFORMATION ITEMS BEFORE THE COMMITTEE

1. Informational Presentations Requested by the Committee of PG&E Representatives:	
1. State of the Plant Update including Key Events, Highlights, Organizational Changes, Retention Tier 2 Update, COVID-19 Pandemic, Unit 1 Outage Activities, Recent Wildfires, Recent Human Performance in Operations and other Station Activities Since the DCISC July 2020 Public Meeting.	
2. Update on the Status of NRC Performance Indicators, Licensee Event Reports, NRC Inspection Reports and Notices of Violation, Issues Raised by NRC Resident Inspectors, Open Compliance Issues, and License Amendment Requests. And Other Significant Regulatory Issues/Requests.	
3. Cause and Corrective Action for the February 2020 Unit 2 Forced Outage to Repair the Rod Control System.	

V ADJOURN MORNING MEETING

Afternoon Session – 10/22/2020 - 1:30 P.M.

VI RECONVENE FOR AFTERNOON MEETING

VII COMMITTEE MEMBER COMMENTS

VIII PUBLIC COMMENTS AND COMMUNICATIONS

Anyone wishing to address the Committee on matters not appearing on the Agenda may do so only at this time. The public may comment on any matter listed on the Agenda immediately following the time the matter is considered by the Committee. There may be a time limit established by the Presiding Officer for each speaker. *No action will be taken by the Committee on matters brought up under this item but they may be referred to staff for further study, response or action.*

IX INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

2. Informational Presentations Requested by the Committee of PG&E Representatives:

4. Decommissioning Planning Update, Including Status of Spent Fuel Cask Request for Proposals.

X INFORMATIONAL DISCUSSION BY DCISC MEMBERS & TECHNICAL CONSULTANTS

1. Committee Discussion on Spent Fuel Pool Risk Evaluation And Possible Recommendation.

XI INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

3. Informational Presentations Requested by the Committee of PG&E Representatives:
5. Update on Emergency Preparedness Programs Including Changes Made in Response to the COVID-19 Pandemic.

XII ADJOURN AFTERNOON MEETING

Morning Session - 10/23/2020 - 8:30 A.M.

XIII RECONVENE FOR EVENING MEETING

XIV COMMITTEE MEMBER COMMENTS

XV PUBLIC COMMENTS AND COMMUNICATIONS

Anyone wishing to address the Committee on matters not appearing on the Agenda may do so only at this time. The public may comment on any matter listed on the Agenda immediately following the time the matter is considered by the Committee. There will be a time limit established by the Presiding Officer for each speaker. *No action will be taken by the Committee on matters brought up under this item but they may be referred to staff for further study, response or action.*

XVI ACTION ITEMS

1. DCISC 30th Annual Report on Safety of Diablo Canyon Operations; July 1, 2019 - June 30, 2020.	Discussion/Approval
2. Update on Financial Matters and Committee Activities during 2020-2021.	Discussion/Action
3. Discussion of Open Items List.	Discussion/Action

XVII COMMITTEE MEMBER REPORTS AND DISCUSSION

1. Public Outreach, Site Visits and Other Committee Activities; Agenda Items, Scheduling and Confirmation of Future Fact-findings and Public Meetings.
2. Documents Provided to the Committee.

XVIII INFORMATIONAL DISCUSSION BY REPRESENTATIVE OF THE DIABLO CANYON DECOMMISSIONING ENGAGEMENT PANEL

1. Update on the Activities of the Diablo Canyon Decommissioning Engagement Panel.

XIX TECHNICAL CONSULTANT & LEGAL COUNSEL REPORT; RECEIVE, APPROVE AND AUTHORIZE TRANSMITTAL OF FACT-FINDING REPORT TO PG&E

1. Consultant R. Ferman Wardell.
Fact-finding Topics; Report on and Approval of July 21-22, 2020 Fact Finding Report.
2. Robert Rathie:
Administrative, Regulatory, including CPUC Interactions, and Legal Matters.

XX ADJOURN EVENING MEETING

Afternoon Session - 10/23/2020 - 1:15 P.M.

XXI RECONVENE FOR AFTERNOON MEETING

XXII COMMITTEE MEMBER COMMENTS

XXIII PUBLIC COMMENTS AND COMMUNICATIONS

Anyone wishing to address the Committee on matters not appearing on the Agenda may do so now. The public may comment on any matter listed on the Agenda at the time the matter is being considered by the Committee. There will be a time limit established by the Presiding Officer for each speaker. *No action will be taken by the Committee on matters brought up under this item but they may be referred to staff for further study, response or action.*

XIV TECHNICAL CONSULTANT REPORTS; RECEIVE, APPROVE AND AUTHORIZE TRANSMITTAL OF FACT-FINDING REPORTS TO PG&E

3. Consultant Richard D. McWhorter Jr:
Fact-finding Topics; Report on and Approval of the August 19-20, 2020 Fact Finding Report.
4. Consultant R. Ferman Wardell.
Fact-finding Topics; Report on and Approval of September 9-10, 2020 Fact Finding Report.

XXV APPROVAL OF MINUTES

1. Minutes of July 1-2, 2020, Meeting.	Accept
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XXVI CONCLUDING REMARKS & DISCUSSION BY COMMITTEE MEMBERS OF FUTURE DCISC ACTIVITIES

1. Future Actions by the Committee.
2. Further Information to Obtain/Review.
3. Scheduling of Future Site Visits,
Study Sessions and Meetings.

XXVII ADJOURNMENT OF NINETY-SEVENTH PUBLIC MEETING

A person who needs a disability-related accommodation or modification in order to participate in the meeting may make a request by contacting the DCISC office at (800) 439-4688 or by sending a written request to the DCISC office at 857 Cass Street, Ste. D., Monterey, CA 93940. Providing your request at least five business days before the meeting will help ensure availability of the requested accommodation

[31st Annual Report, Volume II, Exhibit B.4, Notice of Public Meeting](#)

The Diablo Canyon Independent Safety Committee Notice of Public Meeting

THE DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

(<https://www.dcisc.org>)

NOTICE OF PUBLIC MEETING

Zoom Webinar Meeting ID : 894 9533 0513

Zoom Webinar Meeting Passcode: 212061

Zoom Webinar Meeting Telephone Only Participation:

1(669) 900-6833; 1(408) 638-0968; 1(346) 248-7799; 1(253) 215-8782;

1(312) 626-6799; 1(646) 876-9923; 1(301) 715-8592

NOTICE IS HEREBY GIVEN that on February 16-17, 2021, a public meeting will be held by the Diablo Canyon Independent Safety Committee (DCISC) in five separate sessions at the times indicated to consider the following matters. You may participate in the DCISC's public meeting in real-time by accessing the Zoom webinar meeting via the weblink and meeting ID given above or by calling any of the phone numbers provided at the top of this notice. Instructions on how to access, view and participate in remote meetings are also provided by visiting the DCISC's home page at <https://www.dcisc.org>. Attendees can make oral comments or ask questions of the Committee Members during the webinar meeting by using the "Raise Your Hand" feature or by pressing *9 on your telephone keypad if joining by telephone only. If you are unable to participate in real-time, you may email to dcsafety@dcisc.org with the subject line "Public Comment Item# ____" (insert the item number relevant to your comment) or "Public Comment – Non Agenda Item." Comments will be reviewed and distributed before the meeting if received by 5:00 p.m. on Monday, February 15, 2021. Comments received after that will be addressed during the item and/or at the end of the meeting. All comments received will be read into and become part of the record, subject to a time limit determined by the presiding officer. The Committee will have the option to modify its actions on items based on comments received.

1. **Morning Session - (02/16/2021) – 9:00 A.M.** Opening comments and remarks; receive public comments and communications to the Committee; acceptance of the Minutes of the DCISC's October 22-23, 2020 public meeting; discussion of administrative matters, including receipt of PG&E's response to the DCISC 30th Annual Report on the Safety of Diablo Canyon Nuclear Power Plant (DCPP) Operations for the period July 1, 2019 - June 30, 2020, an update on financial matters and activities, review of the Open Items List, reports by Committee Members including

scheduling of future fact-finding visits and public meetings, review of documents received, a report by a DCISC Technical Consultant and acceptance of November 2020 fact finding report, and a report by Assistant Legal Counsel.

2. **Afternoon Session - (02/16/2021) - 1:30 P.M.** Committee member comments; receive public comments and communications to the Committee; receive informational presentations related to plant safety and operations requested by the Committee from PG&E, including the "State of the Plant" regarding key events, highlights, outages including Unit 2 forced outages to address main generator issues, organizational changes, response to the COVID-19 pandemic and other station activities since October 2020, an update on NRC Performance Indicators, recent Licensee Event Reports, NRC Inspection Reports and Notices of Violation, issues raised by NRC Resident Inspectors, open compliance issues and license amendment requests, and an informational presentation on plant performance during the 1R22 Unit-1 refueling outage including key activities, results achieved, fuel and steam generator inspection results, unexpected equipment issues and open items; and a report by a DCISC Technical Consultant and acceptance of December 2020 fact-finding report.

3. **Evening Session - (02/16/2021) - 5:30 P.M.** Committee member comments; receive public comments and communications to the Committee; receive informational presentation related to plant safety and operations requested by the Committee from PG&E, including the history of drone sightings at DCPD and implications upon nuclear safety, and a report concerning monitoring and reporting of radiological effluent releases and radiological environmental impacts.

4. **Morning Session - (02/17/2021) - 9:00 A.M.** Comments by Committee members; receive public comments and communications to the Committee; receive further informational presentations requested by the Committee from PG&E relating to plant safety and operations, including the results of the 2020 Operating Plan and key elements of the 2021 Operating Plan, and a report concerning the causes and corrective actions for the Unit 2 Auxiliary Feedwater System leak that occurred during shutdown in July 2020 and actions taken to inspect Unit 1 for similar issues; and a report by a DCISC Technical Consultant and acceptance of January 2021 fact-finding report.

5. **Afternoon Session - (02/17/2021) - 1:30 P.M.** Comments by Committee members; receive public comments and communications to the Committee; consider informational presentation from PG&E on a topic relating to plant safety and operations, including an update on the Engineering Department including the purposes and results of the 2018-2020 reorganization, the Excellence Plan and current significant work activities; and wrap-up discussion by Committee members, and confirmation of future site visits, study sessions and public meetings.

The meeting will be webcast in real time at: <http://www.slo-span.org/> and through <https://www.dcisc.org>.

The specific meeting agenda and the staff reports and materials regarding the above meeting agenda items will be available for public review commencing Friday,

February 12, 2021, at the Reference Department of the Cal Poly Library in San Luis Obispo and online at www.dcisc.org. **For further information regarding the public meeting, please contact Robert Wellington, Committee Legal Counsel, 857 Cass Street, Suite D, Monterey, California, 93940; telephone: 1-800-439-4688 or read the agenda on line by visiting the Committee's website at www.dcisc.org.**

Dated: February 6, 2021.

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface | Executive Summary](#)

[Volume I TOC | Volume II TOC | PG&E Response | Contact the DCISC](#)

[31st Annual Report, Volume II](#), Exhibit B.5, DCISC Agenda for the February 16-17, 2021 Public Meeting

DCISC Agenda for the next Public Meeting

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

(www.dcisc.org)

The meeting will be webcast in real time at:

http://www.slo-span.org/local_webcast/DCISC/stream_index.htm and through <https://www.dcisc.org>.

Committee Members: Robert J. Budnitz
 Peter Lam
 Per F. Peterson

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Zoom Webinar Meeting ID : 894 9533 0513

Zoom Webinar Meeting Passcode: 212061

Zoom Webinar Meeting Telephone Only Participation:

**1(669) 900-6833; 1(408) 638-0968; 1(346) 248-7799; 1(253) 215-8782;
1(312) 626-6799; 1(646) 876-9923; 1(301) 715-8592**

AGENDA

Tuesday & Wednesday, February 16-17, 2021

In response to Governor Newsom's Executive Order N.29-20 in response to the COVID-19 (coronavirus) pandemic, public participation in the DCISC public meetings shall be electronic only and without a physical location for public participation in compliance with California state guidelines on social distancing. This meeting is being produced as a Zoom webinar by AGP Video Inc. and is webcast live on SLO-SPAN at <http://www.slo-span.org> and through <https://www.dcisc.org> and will be broadcast subsequently on San Luis Obispo local government access television, Channel 21.

PARTICIPATION

You may participate in the DCISC's public meeting in real-time by accessing the Zoom webinar meeting via the weblink and the meeting ID and Passcode given above or by calling any of the phone number provided at the top of this agenda. Instructions on how to access, view and participate in remote meetings are also provided by visiting the DCISC's home page at <https://www.dcisc.org>. Attendees can make oral comments or ask questions of the Committee Members during the webinar meeting by using the "Raise Your Hand" feature or by pressing *9 on your telephone keypad if joining by telephone only. If you are unable to participate in real-time, you may email to dcsafety@dcisc.org with the subject line "Public Comment Item# ____" (insert the item number relevant to your comment) or "Public Comment - Non Agenda Item." Comments will be reviewed and distributed before the meeting if received by 5:00 p.m. on Monday, February 15, 2021. Comments received after that will be addressed during the item and/or at the end of the meeting. All comments received will be read into and become part of the record, subject to a time limit determined by the presiding officer. The Committee will have the option to modify its actions on items based on comments received.

AGENDA MATERIALS

The agenda, staff reports and background information distributed to the Committee are public records and will be available for public review on the DCISC's website (www.dcisc.org) on or before Friday, February 19, 2021, Supplemental materials received after the close of the final agenda and through noon on the days of the scheduled meeting will be available for public review at the meeting. Materials related to an item on this agenda submitted to the Committee after distribution of the agenda packet will be made available on the DCISC website subject to the ability of the Committee staff to post the documents before the meeting.

Morning Session - 2/16/2021 - 9:00 A.M.

I CALL TO ORDER OF THE NINETY-EIGHTH DCISC PUBLIC MEETING - ROLL CALL

II INTRODUCTIONS

ADVISEMENT

The Committee may consider at any time requests to change the order of a listed agenda item. Information distributed to the Committee at a public meeting becomes part of the public record of the DCISC. A copy of written material, pictures, etc. must be provided to the Committee's Legal Counsel for this purpose. Correspondence received and sent by the Committee is on file with the Office of the DCISC Legal Counsel and copies are available upon request.

III PUBLIC COMMENTS AND COMMUNICATIONS

Anyone wishing to address the Committee on matters not appearing on the Agenda may do so only at this time. The public may comment on any matter

listed on the Agenda immediately following the time the matter is considered by the Committee. *There may be a time limit established by the Presiding Officer for each speaker. No action will be taken by the Committee on matters brought up under this item but they may be referred to staff for further study, response or action.*

IV ACCEPTANCE OF MINUTES

- | | |
|---|--------|
| 1. Minutes of October 22-23, 2020, Meeting: | Accept |
|---|--------|

V ACTION ITEMS

- | | |
|--|-------------------|
| 1. Receive PG&E's Response to DCISC's 30th Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019- June 30, 2020. | Accept |
| 2. Update on Financial Matters & Committee Activities. | Discussion/Action |
| 3. Review and Discussion of the Open Items List. | Discussion/Action |

VI COMMITTEE MEMBER REPORTS AND DISCUSSION

- A. Public Outreach, Site Visits and Other Committee Activities; Agenda Items, Scheduling and Confirmation of Future Fact-findings and Public Meetings.
- B. Documents Provided to the Committee.

VII TECHNICAL CONSULTANT & LEGAL COUNSEL REPORT; RECEIVE, APPROVE AND AUTHORIZE TRANSMITTAL OF FACT-FINDING REPORT TO PG&E

- A. Consultant Richard D. McWhorter Jr: Fact-finding Topics; Report on and Approval of the November 10, 12 & 19, 2020 Fact Finding Report.
- B. Robert Rathie: Administrative, Including Website, Regulatory and Legal Matters.

VIII ADJOURN MORNING MEETING

Afternoon Session – 2/16/2021 - 1:30 P.M.

IX RECONVENE FOR AFTERNOON MEETING

X COMMITTEE MEMBER COMMENTS

XI PUBLIC COMMENTS AND COMMUNICATIONS

Anyone wishing to address the Committee on matters not appearing on the Agenda may do so only at this time. The public may comment on any matter listed on the Agenda immediately following the time the matter is considered by the Committee. *There may be a time limit established by the Presiding Officer for each speaker. No action will be taken by the Committee on matters brought up under this item but they may be referred to staff for further study, response or action.*

XIV INFORMATION ITEMS BEFORE THE COMMITTEE

A. Informational Presentations Requested by the Committee of PG&E Representatives:

1. State of the Plant Update Including Key Events and Highlights, Outages Including Unit 2 Forced Outages to Address Main Generator Issues, Organizational Changes, Response to the COVID-19 Pandemic, and Other Station Activities since DCISC's October 2020 Public Meeting.
2. Update on the Status of NRC Performance Indicators, Licensee Event Reports, NRC Inspection Reports and Notices of Violation, Issues Raised by NRC Resident Inspectors, Open Compliance Issues and License Amendment Requests and Other Significant Regulatory Issues/Requests.
3. Performance During the 22nd Refueling Outage for Unit 1 Including Key Activities, Performance Indicators, Results Achieved, Fuel and Steam Generator Inspection Results, Unexpected Equipment Issues and Open Items.

XIII TECHNICAL CONSULTANT REPORT & RECEIVE, APPROVE AND AUTHORIZE TRANSMITTAL OF FACT-FINDING REPORT TO PG&E (Cont'd.)

- ##### B. Consultant R. Ferman Wardell: Fact-finding Topics; Report on and Approval of the December 8-9, 2020 Fact Finding Report.

XV ADJOURN AFTERNOON MEETING

Evening Session - 2/16/2021 - 5:30 P.M.

XVI RECONVENE FOR EVENING MEETING

XVII COMMITTEE MEMBER COMMENTS

XVIII PUBLIC COMMENTS AND COMMUNICATIONS

Anyone wishing to address the Committee on matters not appearing on the Agenda may do so only at this time. The public may comment on any matter listed on the Agenda immediately following the time the matter is considered by the Committee. *There may be a time limit for each speaker as designated by the presiding officer. No action will be taken by the Committee on matters brought up under this item but they may be referred to staff for further study, response or action.*

XIX INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

- B. Informational Presentations Requested of PG&E Representatives by the Committee:
4. History of Drone Sightings at Diablo Canyon and Implications Upon Nuclear Safety.
 5. Monitoring and Reporting of Radiological Effluent Releases and Radiological Environmental Impacts.

XX ADJOURN EVENING MEETING

Morning Session - 2/17/2021 - 9:00 A.M.

XXI RECONVENE FOR MORNING MEETING

XXII COMMITTEE MEMBER COMMENTS

XXIII PUBLIC COMMENTS AND COMMUNICATIONS

Anyone wishing to address the Committee on matters not appearing on the Agenda may do so only at this time. The public may comment on any matter listed on the Agenda immediately following the time the matter is considered by the Committee. *There may be a time limit for each speaker as designated by the presiding officer. No action will be taken by the Committee on matters brought up under this item but they may be referred to staff for further study, response or action.*

XXIV INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

- C. Informational Presentations Requested by the Committee of PG&E Representatives:
6. Results of the 2020 Operating Plan and Key Elements of the 2021 Operating Plan
 7. Causes and Corrective Actions for the Unit 2 Auxiliary Feedwater System Leak that Occurred During Shutdown in July and Actions Taken to Inspect Unit 1 for Similar Issues

XXV TECHNICAL CONSULTANT REPORT & RECEIVE, APPROVE AND AUTHORIZE TRANSMITTAL OF FACT-FINDING REPORTS TO PG&E (Cont'd.)

- D. Consultant Richard D. McWhorter Jr: Fact-finding Topics; Report on and Approval of the January 13-14, 2021 Fact Finding Report.

XXVI ADJOURN MORNING MEETING

Afternoon Session - 2/17/2021 - 1:30 P.M.

XXVII RECONVENE FOR AFTERNOON MEETING

XXVIII COMMITTEE MEMBER COMMENTS

XXIX PUBLIC COMMENTS AND COMMUNICATIONS

Anyone wishing to address the Committee on matters not appearing on the Agenda may do so only at this time. The public may comment on any matter listed on the Agenda immediately following the time the matter is considered by the Committee. *There may be a time limit for each speaker as designated by the presiding officer. No action will be taken by the Committee on matters brought up under this item but they may be referred to staff for further study, response or action.*

XXX INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

D. Informational Presentations Requested by the Committee of PG&E Representatives:

8. Engineering Department Update Including 2018-2020 Reorganization (Purposes, Actions and Results), Excellence Plan, and Current Significant Work Activities.

XXXI CONCLUDING REMARKS & DISCUSSION BY COMMITTEE MEMBERS OF FUTURE DCISC ACTIVITIES

- A. Future Actions by the Committee.
- B. Further Information to Obtain/Review.
- C. Scheduling of Future Site Visits, Study Sessions and Meetings.

XXXIV ADJOURNMENT OF THE NINETY-EIGHTH PUBLIC MEETING

A person who needs a disability-related accommodation or modification in order to participate in the meeting may make a request by contacting the DCISC office at (800) 439-4688 or by sending a written request to the DCISC office at 857 Cass Street, Ste. D., Monterey, CA 93940. Providing your request at least five business days before the meeting will help ensure availability of the requested accommodation.

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface | Executive Summary](#)

[Volume I TOC | Volume II TOC | PG&E Response | Contact the DCISC](#)

31st Annual Report, Volume II, Exhibit B.7, Notice of Public Meeting

The Diablo Canyon Independent Safety Committee Notice of Public Meeting

THE DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

(<https://www.dcisc.org>)

NOTICE OF PUBLIC MEETING

NOTICE IS HEREBY GIVEN that on June 23-24, 2021, at the Avila Lighthouse Suites Point San Luis Conference Facility located at First & San Francisco Streets, Avila Beach, California, a public meeting will be held by the Diablo Canyon Independent Safety Committee (DCISC) in five separate sessions, at the times indicated, to consider the following matters. You may also participate in the DCISC's public meeting in real-time by accessing the Zoom webinar meeting via the weblink or meeting ID given below or by calling any of the phone numbers provided. Webinar attendees can make oral comments or ask questions of the Committee Members during the webinar meeting by using the "Raise Your Hand" feature or by pressing *9 on your telephone keypad if joining by telephone only. If you are unable to attend or participate in real-time, you may email to dcsafety@dcisc.org with the subject line "Public Comment Item#____" (insert the item number relevant to your comment) or "Public Comment - Non Agenda Item." Comments will be reviewed and distributed before the meeting if received by 5:00 p.m. on Tuesday, June 22, 2021. Comments received after that will be addressed during the item and/or at the end of the meeting. All comments received will be read into and become part of the record, subject to a time limit determined by the presiding officer. The Committee will have the option to modify its actions on items based on comments received.

Zoom Webinar Meeting ID: 819 8391 6513 - Zoom Webinar Meeting Passcode: 558340

<https://us02web.zoom.us/j/81983916513?pwd=cVZqZXhxdStyNjNIbk44U1hpSVpqZz09>

Zoom Webinar Meeting Telephone Only Participation:

**1(669) 900-6833; 1(408) 638-0968; 1(346) 248-7799; 1(253) 215-8782;
1(301) 715-8592; 1(312) 626-6799; 1(646) 876-9923**

FACE COVERINGS ARE REQUIRED OF ALL ATTENDEES

1. **Morning Session - (06/23/2021) - 9:00 A.M.** Opening comments and remarks; receive public comments and communications to the Committee; discussion of administrative matters, including acceptance of Minutes of the DCISC's February 16-17, 2021 public meeting, an update on financial matters and activities during 2021, review of the Open Items List, nomination and election of Chair and Vice

Chair to serve for the July 1, 2021 to June 30, 2022 term, reports and scheduling of future activities by Committee Members; receive, approve and authorize transmittal of a fact-finding report to PG&E for the March 2021 fact-finding; and review of administrative, regulatory and legal matters.

2. **Afternoon Session - (06/23/2021) - 1:30 P.M.** Committee member comments; receive public comments and communications to the Committee; receive informational presentations on topics relating to Diablo Canyon Power Plant (DCPP) safety and operation requested by the Committee from PG&E, including an update on NRC Performance Indicators, recent Licensee Event Reports, NRC Notices of Violation, issues raised by NRC Resident Inspectors, current and future license amendment requests, cross-cutting aspects of performance and other significant regulatory issues/requests, and an update on emergency preparedness during decommissioning; and receive, approve and authorize transmittal of fact-finding reports to PG&E for the April and May 2021 fact-findings.

3. **Evening Session - (06/23/2021) - 5:30 P.M.** Committee member comments; receive public comments and communications to the Committee; receive informational presentations requested by the DCISC from PG&E, including an update on the Unit 2 Main Generator outages and repairs, and on the "State of the Plant" concerning key events, organizational changes, the COVID-19 pandemic response and other station activities since February 2021.

4. **Morning Session - (06/24/2021) - 8:30 A.M.** Comments by Committee members; receive public comments and communications to the Committee; including remarks by the NRC Senior Resident Inspection for DCPP; and further informational presentations requested by the Committee from PG&E relating to plant safety and operations, including an update on the efforts to retain qualified staff including those with critical skills, an update on the Performance Improvement Program, and a presentation on the Station Excellence Plan and the Station Oversight Committee

5. **Afternoon Session - (06/24/2021) - 1:00 P.M.** Comments by Committee Members; receive public comments and communications to the Committee; receive further informational presentations requested by the Committee from PG&E relating to plant safety and operations, including performance during the 22nd refueling outage for Unit 2 (2R22) including key activities, Main Generator repairs and modifications, performance indicators, results achieved, unexpected equipment issues and open items, and a presentation on the Quality Verification Organization's perspective on plant performance, top issues, and the Quality Performance Assessment Report; wrap-up discussion by Committee members and confirmation of future site visits, study sessions and public meetings.

The meeting will be webcast in real time at: <http://www.slo-span.org/> and through <https://www.dcisc.org>.

The specific meeting agenda and the staff reports and materials regarding the above meeting agenda items will be available for public review commencing Monday,

June 21, 2021, at the Reference Department of the Cal Poly Library in San Luis Obispo and online at www.dcisc.org. **For further information regarding the public meeting, please contact Robert Wellington, Committee Legal Counsel, 857 Cass Street, Suite D, Monterey, California, 93940; telephone: 1-800-439-4688 or read the agenda on line by visiting the Committee's website at www.dcisc.org.**

Dated: June 13, 2021.

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

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31st Annual Report, Volume II, Exhibit B.8, DCISC Agenda for the June 23-24, 2021 Public Meeting

DCISC Agenda for the next Public Meeting

DIABLO CANYON
INDEPENDENT SAFETY COMMITTEE
(www.dcisc.org)

Committee Members: Robert J. Budnitz
 Peter Lam
 Per F. Peterson

* * * * *
* * * * *

Wednesday & Thursday, June 23-24, 2021
Point San Luis Conference Room
Avila Lighthouse Suites, First & San Francisco Streets, Avila Beach, California

PUBLIC MEETING AGENDA

This public meeting will be webcast in real time at:
http://www.slo-span.org/local_webcast/DCISC/stream_index.htm and through
<https://www.dcisc.org>

FACE COVERINGS ARE REQUIRED OF ALL ATTENDEES

This meeting is also being produced as a Zoom webinar by AGP Video Inc. and is webcast live

on SLO-SPAN at <http://www.slo-span.org> and through <https://www.dcisc.org> and will be broadcast subsequently on San Luis Obispo local government access television, Channel 21.

Zoom Webinar Meeting ID: 819 8391 6513
Zoom Webinar Meeting Passcode: 558340

<https://us02web.zoom.us/j/81983916513?pwd=cVZqZXhxdStyNjNIbk44U1hpSVpqZz09>

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1(301) 715-8592; 1(312) 626-6799; 1(646) 876-9923

WEBINAR PARTICIPATION

In lieu of attending in person you may participate in the DCISC's public meeting in real-time by accessing the Zoom webinar meeting via the weblink and the meeting ID and Passcode given above or by calling any of the phone number provided above.

Instructions on how to access, view and participate in remote meetings are also provided by visiting the DCISC's home page at <https://www.dcisc.org>. Attendees can make oral comments or ask questions of the Committee Members during the webinar meeting by using the "Raise Your Hand" feature or by pressing *9 on your telephone keypad if joining by telephone only. If you are unable to participate in real-time, you may email to dcsafety@dcisc.org with the subject line "Public Comment Item# ____" (insert the item number relevant to your comment) or "Public Comment - Non Agenda Item." Comments will be reviewed and distributed before the meeting if received by 5:00 p.m. on Tuesday, June 22, 2021. Comments received after that will be addressed during the item and/or at the end of the meeting. All comments received will be read into and become part of the record, subject to a time limit determined by the presiding officer. The Committee will have the option to modify its actions on items based on comments received.

Morning Session - 06/23/2021 - 9:00 A.M.

I CALL TO ORDER - ROLL CALL

II INTRODUCTIONS

ADVISEMENT

The Committee may consider at any time requests to change the order of a listed agenda item. Information distributed to the Committee at a public meeting becomes part of the public record of the DCISC. A copy of written material, pictures, etc. must be provided to the Committee's Legal Counsel for this purpose. Correspondence received and sent by the Committee is on file with the Office of the DCISC Legal Counsel and copies are available upon request. Devices for attendees who may be hearing impaired are available upon request. The meeting will be webcast in real time.

III PUBLIC COMMENTS AND COMMUNICATIONS

Anyone wishing to address the Committee on matters not appearing on the Agenda may do so only at this time. The public may comment on any matter listed on the Agenda immediately following the time the matter is considered by the Committee. *There will be a time limit for each speaker as designated by the presiding officer. No action will be taken by the Committee on matters brought up under this item but they may be referred to staff for further study,*

response or action.

IV ACCEPTANCE OF MINUTES

1. Minutes of February 16-17, 2021, Public Meeting. Accept

V ACTION ITEMS

1. Update on Financial Matters and Committee Activities during 2021. Discussion/Action
2. Discussion of Open Items List. Discussion/Action
3. Nomination and Election of Chair and Vice-Chair for the July 1, 2021 - June 30, 2022 Term Discussion/Action

VI COMMITTEE MEMBER REPORTS AND DISCUSSION

- A. Public Outreach, Site Visits and Other Committee Activities; Agenda Items, Scheduling and Confirmation of Future Fact-findings and Public Meetings.
- B. Documents Provided to the Committee.

VII STAFF & CONSULTANT REPORTS & RECEIVE, APPROVE AND AUTHORIZE TRANSMITTAL OF FACT-FINDING REPORT TO PG&E

- A. Consultant R. Ferman Wardell.: Fact-finding Topics; Report on and Approval of March 17-18, 2021 Fact Finding Report.
- B. Assistant Legal Counsel Robert W. Rathie: Administrative, Regulatory and Legal Matters.

VIII ADJOURN MORNING MEETING

Afternoon Session – 06/23/2021 - 1:30 P.M.

IX RECONVENE FOR AFTERNOON MEETING

X COMMITTEE MEMBER COMMENTS

XI PUBLIC COMMENTS AND COMMUNICATIONS

Anyone wishing to address the Committee on matters not appearing on the Agenda may do so only at this time. The public may comment on any matter listed on the Agenda immediately following the time the matter is considered

by the Committee. *There will be a time limit for each speaker as designated by the presiding officer. No action will be taken by the Committee on matters brought up under this item but they may be referred to staff for further study, response or action.*

XII INFORMATION ITEMS BEFORE THE COMMITTEE

B. Informational Presentations Requested by the Committee of PG&E:

1. Update on the Status of NRC Performance Indicators, Licensee Event Reports, NRC Inspections Reports and Notices of Violation, Issues Raised by NRC Resident Inspectors, Open Compliance Issues, Current and Future License Amendment Requests, cross-cutting aspects of performance, and Other Significant Regulatory Issues/Requests.
2. Update on Emergency Preparedness During Decommissioning.

XII TECHNICAL CONSULTANT REPORT & RECEIVE, APPROVE AND AUTHORIZE TRANSMITTAL OF FACT-FINDING REPORT TO PG&E (Cont'd.)

- C. RichardMcWhorter: Fact-finding Topics; Report on and Approval of the April 27-28, 2021 Fact Finding Report.
- D. Consultant R. Ferman Wardell.: Fact-finding Topics; Report on and Approval of May 18-19, 2021 Fact Finding Report

XIV ADJOURN AFTERNOON MEETING

Evening Session - 06/23/2021 - 5:30 P.M.

XV RECONVENE FOR EVENING MEETING

XVI COMMITTEE MEMBER COMMENTS

XVII PUBLIC COMMENTS AND COMMUNICATIONS

Anyone wishing to address the Committee on matters not appearing on the Agenda may do so only at this time. The public may comment on any matter listed on the Agenda immediately following the time the matter is considered by the Committee. *There may be a time limit for each speaker as designated by the presiding officer. No action will be taken by the Committee on matters brought up under this item but they may be referred to staff for further study, response or action.*

XVIII INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

C. Informational Presentations Requested by the Committee of PG&E:

3. Update on Unit 2 Main Generator Outages and Repairs.
4. Presentation on the State of the Plant: including Key Events, Outages, Highlights,

Organizational Changes, COVID-19 Pandemic Response and other Station Activities since February 2021.

XIX ADJOURN EVENING MEETING

Morning Session - 06/24/2021 - 8:30 A.M.

XX RECONVENE FOR MORNING MEETING

XXI COMMITTEE MEMBER COMMENTS

XXII PUBLIC COMMENTS AND COMMUNICATIONS

Anyone wishing to address the Committee on matters not appearing on the Agenda may do so only at this time. The public may comment on any matter listed on the Agenda immediately following the time the matter is considered by the Committee. *There will be a time limit for each speaker as designated by the presiding officer. No action will be taken by the Committee on matters brought up under this item but they may be referred to staff for further study, response or action.*

XXIII PRESENTATION TO THE COMMITTEE

A. Informational Presentation Requested by the Committee:

1. Remarks by the NRC Senior Resident Inspector for Diablo Canyon Power Plant

XXIV INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

D. Informational Presentations Requested by the Committee of PG&E.

5. Update on the Efforts to Retain Qualified Staff Including Those with Critical Skills (Such as Licensed Operators, Senior Maintenance Technicians, Etc.)
6. Update on Performance Improvement Programs.
7. Station Excellence Plan and Station Oversight Committee.

XXV ADJOURN MORNING MEETING

Afternoon Session - 06/24/2021 - 1:00 P.M.

XXVI RECONVENE FOR AFTERNOON MEETING

XXVII COMMITTEE MEMBER COMMENTS

XXVIII PUBLIC COMMENTS AND COMMUNICATIONS

Anyone wishing to address the Committee on matters not appearing on the Agenda may do so only at this time. The public may comment on any matter

listed on the Agenda immediately following the time the matter is considered by the Committee. There will be a time limit for each speaker as designated by the presiding officer. No action will be taken by the Committee on matters brought up under this item but they may be referred to staff for further study, response or action.

XXIX INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

E. Informational Presentations Requested by the Committee of PG&E:

8. Performance During 22nd Refueling Outage for Unit-2 including Key Activities, Main Generator Repairs and Modifications, Performance Indicators, Results Achieved, Unexpected Equipment Issues, and Open Items.
9. Quality Verification's Perspective on Plant Performance, Top Issues, Quality Performance Assessment Report.

XXX REMARKS & DISCUSSION BY COMMITTEE MEMBERS OF FUTURE DCISC ACTIVITIES

- A. Future Actions by the Committee.
- B. Further Information to Obtain/Review.
- C. Confirmation of Future Site Visits, and Public Meetings.

XXXI ADJOURNMENT OF NINETY-NINTH PUBLIC MEETING

The DCISC's policy is to schedule its public meetings in locations that are accessible to people with disabilities and to remain in compliance with federal, state and local guidelines on COVID-19 prevention. The Avila Lighthouse Suites Point San Luis Conference Facility is a wheelchair accessible facility. All persons in attendance at the meeting will be required to wear face masks and social distancing protocols will be in place. A person who needs a disability-related accommodation or modification in order to participate in the meeting may make a request by contacting the DCISC office at (800) 439-4688 or by sending a written request to the DCISC office at 857 Cass Street, Ste. D., Monterey, CA 93940. Providing your request at least five business days before the meeting will help ensure availability of the requested accommodation.

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**DIABLO CANYON INDEPENDENT SAFETY COMMITTEE
OFFICE OF LEGAL COUNSEL - 2020 MAILING LIST FORM**

The Diablo Canyon Independent Safety Committee (DCISC), Office of Legal Counsel, maintains a mailing list pursuant to Section 14911 of the California Government Code. This mailing list is comprised of parties that have requested to receive notices of the public meetings held by the DCISC. You are receiving this notice because you or your organization is currently included on the mailing list.

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Electronic delivery of public notices will include an e-mail with a hyperlink to the DCISC's home page on the internet which includes the notice for meetings. Please add info@dcsafety.org to your "safe senders" list to ensure that you receive e-mail notification of the DCISC's public meetings.

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[31st Annual Report, Volume II, Exhibit D.1, Diablo Canyon Independent Safety Committee Report on Fact Finding Meeting at DCPD on July 21-22, 2020 by Per F. Peterson, Member, and R. Ferman Wardell, Consultant](#)

1.0 SUMMARY

The results of the DCISC Fact-finding meeting held on July 21-22, 2020, for the Diablo Canyon Power Plant (DCPP) in Avila Beach, CA are presented. Due to travel and attendance restrictions resulting from the COVID-19 virus, all meetings were conducted remotely via MS Teams. The subjects addressed and summarized in Section 3 are as follows:

1. Meet with NRC Senior Resident Inspector
2. Compressed Air System Review with System Engineer
3. Observe Plant Health Committee Meeting (Canceled)
4. 2019 Radioactive Effluent Release Report & Radiological Environmental Operating Report
5. Containment Concrete Inspection with Camera Drone
6. Equipment Reliability Process Update
7. Operations Issue on Misposition Errors (Equipment Control Status)
8. DCPD Use of Social Media in Context of Emergency Response
9. Buried Piping and Tanks Program
10. Slight Rise in Unit 1 Power Operation Just Prior to its Curtailment to 89% Power Operation to Address an Issue with Supplemental Grid Protection
11. Update on INPO Evaluation Actions
12. Meet with DCPD Officer

2.0 INTRODUCTION

This Fact-Finding meeting with DCPD was made to evaluate specific safety matters for the DCISC. The objective of the evaluation was to determine if Pacific Gas and Electric's (PG&E's) performance is appropriate and whether any areas revealed observations, which are important enough to warrant further review, follow-up, or presentation at a public meeting. These safety matters include follow-up and/or continuing review efforts by the Committee, as well as those identified as a result of reviews of various safety-related documents.

Section 4-Conclusions highlights the conclusions of the Fact-Finding Team based on items reported in Section 3-Discussion. These highlights also include the team's suggested follow-up items for the DCISC, such as scheduling future Fact-Finding Meetings on the topic, presentations at future public meetings, and requests for future updates or information from DCPD on specific areas of interest, etc.

Section 5-Recommendations presents specific recommendations to PG&E proposed by the Fact-Finding Team. These recommendations will be considered by the DCISC. After review and approval by the DCISC, the Fact-Finding Report, including its recommendations, will be provided to PG&E. The Fact-Finding Report will also appear in the DCISC Annual Report.

3.0 DISCUSSION

3.1 Meet with NRC Senior Resident Inspector

The DCISC Fact-Finding Team (FFT) had a remote (virtual) meeting with Chris Newport, NRC Senior Resident Inspector assigned to DCPD and with Don Krause, the new Senior Resident Inspector. The DCISC last met with the NRC resident inspectors in May 2020 (Reference 6.1) and concluded the following:

The meeting with the NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.

The following topics were discussed:

1. Mr. Newport will be leaving DCPD in September or October of 2020 and starting his new assignment at the Seabrook Nuclear Station in New Hampshire. Mr. John Reynoso, the DCPD NRC Resident Inspector, left DCPD in June for his new plant assignment. This is part of the NRC's normal practice of moving resident inspectors on a periodic, usually seven-year, basis. Mr. Newport's replacement, Don Krause, is experienced in nuclear plant operations and with the NRC inspection process.
2. Unit 2 was recently shut down due to a hydrogen leak in the main generator. Troubleshooting was under way. Operators shut down the unit without a problem using their normal procedures.
3. Mr. Newport was following three issues:
 - a. Debris was found in a battery cell, and Maintenance temporarily jumpered the cell, awaiting a replacement. There was concern that DCPD hadn't properly addressed operability concerns.
 - b. Scaffold in an Emergency Diesel Generator (EDG) room was placed too close to an EDG fuel line, which was a seismic interaction concern.
 - c. DCPD has had several COVID cases, but otherwise good COVID performance.
4. There is an NRC Resident Inspector on-site every day and on weekends.

Conclusions: The meeting with the NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.

Recommendations: None

3.2 Compressed Air System Review with System Engineer

The DCISC FFT had a remote (virtual) meeting with Mark Moren, Compressed Air System (CAS) Engineer; Janis Bailey, Engineering Supervisor; and Dustin Platt, Backup CAS Engineer, for an update on the system. The DCISC last reviewed the CAS in March 2017 (Reference 6.2), when it concluded the following:

The Compressed Air System is currently in Yellow (needs improvement) health status due mainly to aging and obsolesce. Plans are in place to improve health to White in June 2017 with a leaking air line replacement and to Green in 2018 with replacement of the five main compressors. The DCISC should follow up in the second quarter of 2018.

The DCISC looked into follow-up in 2018; however, the status had not changed sufficiently to support a review.

The Compressed Air System is common to and serves both units and is divided into two subsystems: Instrument Air System (IAS) and Service Air System (SAS). The IAS is Safety Class 2, having redundancy and high-quality components typical of Class 1, but it is not designed for seismic loads nor supplied by emergency electrical power. IAS consists of three primary full-capacity air compressors, Plant Air Compressors (PACs) 0-5, 0-6, and 0-7, which supply clean, dry, pressurized air primarily to air-operated valves (AOVs) and instruments needed to operate the plant and to safely shut the plant down. Normally one compressor is required for plant operation. Operation of each of these three compressors is rotated in succession to serve the plant with each compressor operating for a week at a time.

Four additional full-capacity reciprocating air compressors (PACs 0-1 through 0-4) are maintained on site and, although not normally used, could serve the IAS if needed and could also serve in a secondary role during refueling outages.

Because the IAS is not fully safety-related, the IAS-supplied air operated valves required for safe shutdown are supplied with an additional source of assured air from the Backup Air/Nitrogen System (BANS), a Class 1 design. The BANS is a passive pressure system with air or nitrogen accumulators located with and dedicated to each safe-shutdown valve. They are seismically designed, fabricated, and installed to resist earthquakes and require no electrical power. Each is designed with capacity adequate for valve operation to assure safe shutdown. There appear to be no design or operational problems with the BANS.

In 2017 the overall System Health was rated "Yellow," due to component aging

and parts obsolescence, and a compressor replacement plan had been initiated.

Compressors 1 through 4 were being replaced at the time of this fact-finding meeting, and Compressor 7 had already been replaced. Plans to replace the two plant air dryers were delayed to 2021. Compressors 8 and 9, outdoor non-safety-related Service Air Compressors, were showing some corrosion, but were functioning properly. The CAS, currently a Tier 2 system no longer requiring a formal health report, was considered healthy.

Conclusions: The DCPD Compressed Air System, with its new compressors and soon-to-be replaced air dryers, was in good health and operating properly. The system engineer appeared knowledgeable and proactive about his system.

Recommendations: None

3.3 Observe Plant Health Committee Meeting

The July 21, 2020 Plant Health Committee (PHC) meeting was canceled, and the DCISC did not have the opportunity to observe it. The DCISC last observed a PHC meeting in May 2020 (Reference 6.3), when it concluded the following:

The DCISC Fact-finding Team concluded that the May 13, 2020 meeting of the DCPD Plant Health Committee was effectively run with crisp, clear presentations and good participation and discussion by attendees.

Conclusions: The July 21, 2020 Plant Health Committee meeting was canceled, and the DCISC did not have the opportunity to observe it.

Recommendations: None

3.4 2019 DCPD Radioactive Effluent Release Report & Radiological Environmental Operating Report

The DCISC FFT had a remote (virtual) meeting with Clint Gans, Senior Chemical Engineer, and Marty Wright, Radiation Protection Principal Engineer, to review the 2019 Annual Radiation Release Report and the 2019 Annual Radiological Environmental Monitoring Report. The DCISC last reviewed these topics in July 2019 (Reference 6.4), when it concluded the following:

Conclusions: The [2018] DCPD Radioactive Effluent Release Program and the Radiological Environmental Monitoring Program appeared satisfactory in calculating, monitoring and measuring radioactivity in the environment surrounding DCPD. There were no abnormal releases of radioactivity or abnormal levels of radioactivity detected.

2019 Annual Radioactive Effluent Release Report

DCPP submitted its 2019 Annual Radioactive Effluent Release Report (ARERR) to NRC on April 30, 2020. This report described the measured/calculated quantities of radioactive gaseous effluents, liquid effluents, and direct radiation released from the plant in 2019. The descriptions below represent selected, representative excerpts from the report.

The 2019 Annual Radioactive Effluent Release Report (ARERR) summarizes gaseous and liquid radiological effluent releases from Diablo Canyon Power Plant's (DCPP) Units 1 and 2. The report includes the dose due to release of radioactive liquid and gaseous effluents and summarizes solid radwaste shipments. The report contains information required by Units 1 and 2 Technical Specification (TS) 5.6.3 and is presented in the general format of Regulatory Guide (RG) 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water Nuclear Power Plants," Revision 1, 1974, Appendix B, "Effluent and Waste Disposal Report." In all cases, the doses associated with plant effluent releases during the report period were much less than the respective TS limits.

Results of the monitoring program reflect continued effort to maintain the release of radioactive effluents to the environment as low as reasonably achievable (ALARA). Results presented in this report were calculated in accordance with the DCPP Offsite Dose Calculation Manual (ODCM) and (when applicable) using the Canberra OpenEMS software.

Overall, the gaseous radioactivity releases from DCPP are well-controlled and maintained as low as reasonably achievable (ALARA). 2019 results from DCPP were well below all applicable limits for gaseous releases. There were no abnormal or uncontrolled releases during 2019.

Due to the terrain surrounding the plant, DCPP has no offsite direct radiation receptors with significant occupancy. Therefore, a bounding value for dose from direct radiation has been calculated for a receptor location that is onsite and close to both the sources and the nearest site boundary. Note that calculated doses from direct radiation have all been well below 40 CFR 190 limit of 25 mrem/year.

Based on records of 2019 radioactive liquid and gaseous releases, the following off-site radiation doses to the total body of a hypothetical individual at the closest point on the northwest site boundary full-time and the corresponding percent of Technical Specifications limits for the year 2019 were reported in the ARERR as:

Effluent Type	Calculated Radiation Dose	Percent of Tech. Spec. Limit
Liquid	0.000157 millirem	0.0010%
Gaseous	0.000031 millirad	0.0010%

ARERR Conclusions

During 2019, the doses associated with plant effluent releases were much less than the respective DCPD Technical Specification limits. Overall, the liquid and gaseous radioactivity releases from DCPD were well-controlled and maintained as low as reasonably achievable (ALARA) and were well below all applicable limits for liquid and gaseous releases.

2019 Annual Radiological Environmental Operating Report

The 2019 Annual Radiological Environmental Operating Report, submitted to NRC on April 30, 2020, described the results of the Radiological Environmental Monitoring Program (REMP), which measures and assesses the levels of radiation or radioactivity in the environment related to operation of DCPD. This report contained results from the operational Radiological Environmental Monitoring Program (REMP) for Diablo Canyon Power Plant (DCPD) compiled for calendar year 2019. The purpose of the REMD was to assess the levels of radiation or radioactivity in the environment and to verify that DCPD was operating within its design parameters. The descriptions below represent selected, representative excerpts from the report.

Approximately 267 environmental samples, 884 air samples, and 1440 thermoluminescent dosimeter (TLD) phosphors were collected over the course of the 2019 REMD monitoring period. Approximately 1777 radionuclide analyses were performed on the environmental samples.

The types of samples (matrix ID) collected for this monitoring period were as follows:

- Air Particulate (AP)
- Air Cartridge for I-131 monitoring (AC)
- Air Carbon-14 (AC14)
- Direct Radiation (TLD)
- Milk (MK)
- Meat (MT)
- Vegetation (VG)
- Drinking Water (DW)
- Groundwater (GW)
- Monitor Well (GW)
- Surface Water (SW)
- Aquatic Vegetation (AV)
- Fish (FH)
- Mussels (IM)
- Sediment (SD)

The annual offsite radiological dose received by the general public from plant operations was less than one millirem (mrem) which is insignificant when

compared to the 620 millirem average annual radiation exposure to people in the United States from natural and man-made background radiation sources (e.g. cosmic, terrestrial, radon, medical, etc).

The ambient direct radiation levels in the DCPD offsite environs did not change and were within the pre-operational background range. An evaluation of direct radiation measurements indicated all Federal Environmental Protection Agency 40CFR190 criteria were conservatively met. The ambient onsite direct radiation levels within the DCPD plant site boundary near the Independent Spent Fuel Storage Installation (ISFSI) were elevated due to dry cask spent fuel storage. The remaining onsite REMP environmental TLD locations were not affected by the ISFSI due to ISFSI topographical elevation and placement within an onsite hillside which provided shielding to the rest of the site. An evaluation of direct radiation measurements and member-of-public occupancy times within the site boundary indicated all Federal criteria for member-of-public dose limits (10CFR20.1301) were conservatively met.

Groundwater isotopic monitoring was conducted in accordance with the Nuclear Energy Institute 07-07 Rev 1 Groundwater Protection Initiative. Concentrations of tritium were detected in two shallow monitoring wells (stations DY1 and OW1) near the power block. This tritium was evaluated and attributed to rain-washout of gaseous tritium exiting the plant vent system via an approved isotopic-effluents discharge path. No groundwater tritium was attributed to DCPD system leaks or spills. It should also be noted that studies of the DCPD site groundwater gradient indicated that any subsurface groundwater flow beneath the DCPD power block was not used as a source of drinking water. Due to topography and site characteristics, this groundwater gradient flow discharged into the Pacific Ocean which is approximately 100 yards from the power block.

An Old Steam Generator Storage Facility (OSGSF) long term storage vault was constructed within the DCPD site boundary in 2007 for storage of eight retired DCPD steam generators and two retired DCPD reactor heads. This OSGSF did not cause any changes to the ambient direct radiation levels within the DCPD environs during 2019. The OSGSF in-building sumps were inspected quarterly by REMP personnel. One OSGSF sump was found to contain approximately 8 gallons of rain water during 1Q19. This OSGSF sump water was analyzed and found to contain approximately 1,010 pCi/L of tritium with no other isotopes identified. The 8 gallons of sump water were removed and processed via the site's liquid radwaste system.

REMP Conclusions

The results of the 2019 REMP showed no unusual environmental isotopic findings from DCPD site operations. These results were compared to DCPD preoperational isotopic data and showed no unusual trends. The REMP reported that operation of DCPD continued to have no detectable offsite radiological impact. Samples analyzed from the offsite sampling stations continued to show no radiological contribution from plant operations. Diablo Canyon site operations had no

significant impact on the health and safety of the public or the environment.

Conclusions: The DCPD Radioactive Effluent Release Program and the Radiological Environmental Monitoring Program appeared satisfactory in calculating, monitoring and measuring radioactivity in the environment surrounding DCPD. There were no abnormal releases of radioactivity or abnormal levels of radioactivity detected.

Recommendations: None

3.5 Containment Concrete Inspection with Camera Drone

The DCISC FFT had a remote (virtual) meeting with David Wilson, Senior Advising Engineer for Inservice Inspection (ISI), and Dave Gonzales, Supervisor, ISI, to review how DCPD performs its periodic Containment concrete inspections using Remote Un-Manned Aerial Systems (drones). This was the first review of this subject, which was initially raised in the February 2020 DCISC Public Meeting (Reference 6.5) as follows:

Mr. Wardell reported a number of inspections are conducted of the Containment structure including of its concrete surface every five years and the plant is now using a drone with a very high-resolution camera for these inspections. Dr. Peterson inquired whether the camera has stereoscopic visualization capabilities and Mr. Wardell reported the DCISC could follow up on that question.

Until recently, DCPD had been performing its 10-year exterior Containment inspections visually using personnel rappelling down the vertical sides of the building. The Containment buildings are approximately 140 feet in diameter and 165 feet high above grade. During July 2020, DCPD's contractor changed to using a drone-mounted high-resolution camera with a telephoto lens. The acceptability of this method is supported by research by the Electric Power Research Institute. The drone/camera method is used for inspections above the 140-foot level, and direct visual inspections below 140 feet. Concrete not exposed, e.g., behind the plant vent, is exempted by the applicable code, the American Society of Mechanical Engineers Boiler and Pressure Vessel Code.

The drone camera takes high-resolution photos, which are used to create three dimensional models, which are reviewed by qualified inspectors for cracks in the concrete. A Registered Professional Engineer is in charge of the process. Security reviews all images before the inspectors begin their review. To date, no significant cracks have been detected using either inspection method.

The comprehensive DCPD inspection specification appeared to the DCISC FFT to be appropriate for this work. Similarly, the DCPD inspection procedure was appropriately extensive and detailed.

Conclusions: The use of drone-mounted cameras for exterior

Containment concrete inspection appears satisfactory.

Recommendations: None

3.6 Equipment Reliability Process Update

The DCISC FFT had a remote (virtual) meeting with Chris Boyce, Equipment Reliability Engineer, and Mark Baker, Supervisor of Engineering Programs, for an update on DCPD Equipment Reliability (ER). The DCISC last reviewed ER in March 2019 (Reference 6.6), when it concluded the following:

The DCPD Equipment Reliability Process appears to be a successful, effective process to improve and maintain high Equipment Reliability, ranking high in industry measures. The process measures have been upgraded effective January 1, 2019 to provide more of a look ahead capability and to better reflect actual equipment reliability. DCPD's Equipment Reliability Index shows Green (good).

DCPD ER performance remains Green, and its ER combined score is in the top industry quartile. Unit 1 ER has returned to industry 1st quartile, and near top decile. Unit 2 ER is industry 3rd quartile and stable due to a recent critical component failure (rod control), with expected return to 2nd quartile in 4Q20. An NSOC (Nuclear Safety Oversight Committee) concern regarding ER is tracked as an Executive Summary Issue (ESI) and actions are incorporated into the ER Excellence Plan as follows:

ER Excellence Plan Actions:

- Improve trending and detection of declining equipment performance and increasing organizational awareness of equipment performance - Complete
- Create System Health Action Plan (SHAP) indicator in SAP and communicate to engineering population for use on Tier 2 systems. Complete
- Revise monthly System Engineering Supervisors meeting agenda to review monitoring/trending results, Tier 1 health issues, Tier 2 SHAPs, and oversight of action plan implementation. Complete
- Update MEOW (Maintenance Engineering Operations Work Management) agenda to review non-green Tier 1 systems and Tier 2 SHAPs for broader department awareness. Complete

The charts below represent DCPD ER performance through mid-2020.

Indicator Detail Report (Monthly)

Diablo Canyon (Station)

Equipment Performance Index

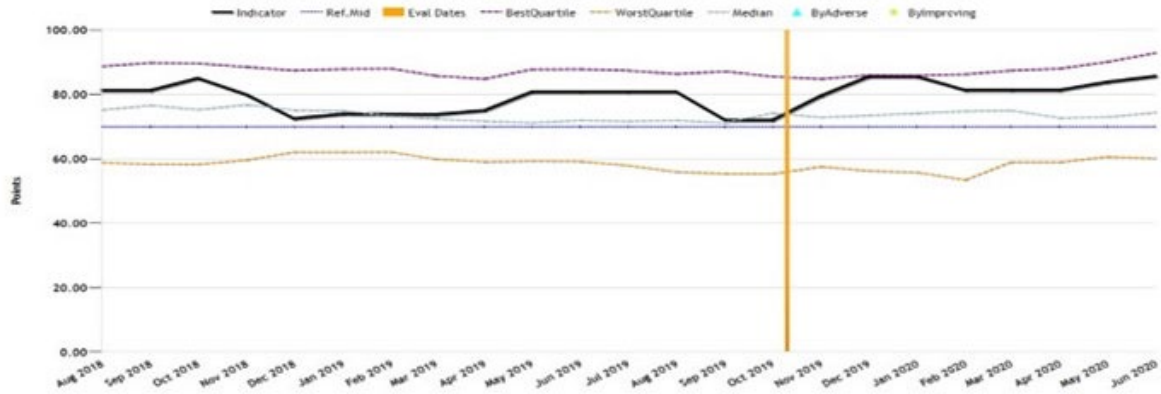
The Time Weighted Equipment Performance Index

Good Performance 

Data Date 07/15/2020

Current Color Green 

Current Trend Much better than the Reference



		2018					2019												2020					
	Period	08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06
Equipment Performance Index	Index	81.3 0	81.3 0	85.0 6	79.9 3	72.5 4	73.9 6	73.8 8	73.8 0	75.0 6	80.8 1	80.8 1	80.8 1	80.8 1	72.0 6	72.0 6	79.6 2	85.5 6	85.5 6	81.3 6	81.3 6	81.3 8	83.8 8	85.7 0
Reference	Index	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0	70.0 0
Equipment Performance Index	1mo																							
Contributing Indicators																								
Equipment Performance 12M	Index	81.4 0	81.4 0	87.0 3	83.0 7	74.1 2	74.1 2	74.0 2	73.9 1	73.9 3	79.8 4	79.8 5	79.8 5	79.8 5	70.4 7	70.4 7	79.8 5	88.7 5	88.7 5	83.9 4	83.9 4	83.9 7	83.9 7	83.8 3
Equipment Performance 18M	Index	81.1 0	81.1 0	81.1 2	73.6 6	69.4 0	73.6 5	73.6 1	73.5 6	77.3 1	82.7 3	82.7 3	82.7 3	82.7 3	75.2 3	75.2 4	79.1 7	79.1 8	79.1 9	76.1 9	76.1 9	83.6 9	83.6 9	89.4 4

Equipment Performance Index – 2Q20

Owner: P. Nugent

Red or Yellow Performance Indicators Recovery Matrix

Unit 1 Score: 88

Unit 2 Score: 72

Unplanned Equipment Related Scrams

PI Owner: R. Waltos

U1 (0 point loss)

U2 (3.3 point loss)

- 12/1/2018 (51006788) Automatic Reactor Trip due to Load Rejection from Transmission Special Protection Scheme (SPS) actuation

Actions:

- Root Cause Evaluation completed. All Corrective Actions to Prevent Recurrence completed, including SPS Remote Outage Detection system modification in 2R21, and the system returned to unrestricted service.

Goal: U2 expected return to green 3Q20

Operationally Impactful Equipment Failure

PI Owner: R. Waltos

U1 (10 point loss)

- 11/30/2018, 50977213 - Extended power reduction for MFWP 1-1 bearing vibration

U2 (22.5 point loss)

- 11/14/2018, 51004429 – Auxiliary Saltwater (ASW) pump motor excess vibrations
- 9/4/2019, 51044449 - Residual Heat Removal pump recirculation valve cycling
- 9/18/2019, 51046217 - Auxiliary Saltwater (ASW) Pump motor Tripped due to supply breaker failure

Actions:

- MFWP 2-1 bearing vibration: Refer to analysis below under Online Reliability Loss Factor
- ASW motor vibration: Lower bearing found with multiple points of degradation. Failure analysis performed by SKF lab and Root Cause Evaluation completed. All corrective actions are complete, except the training of personnel holding the Large Motor Qualification (ECD: 6/30/20).
- RHR pump 2-1 recirc valve cycling: Valve started to cycle open and closed after pump was shut-down. Work Group Evaluation complete and all corrective actions and Extent of Condition actions are complete.
- ASW motor trip: A normal red light and starting current was observed in the Control room upon start actuation, followed shortly by the motor shutting off. A cause evaluation performed and all corrective actions are complete including inspection of spare breakers.

Goal: Expected return to green 4Q20

Online Reliability Loss Factor (ORLF)

PI Owner: R. Waltos

U1 (0.6 point loss)

- 11/30/2018, 50977213 – Extended power reduction or MFWP bearing vibration

U2 (4.0 point loss)

- 2/13/2020, 51066564 - Forced Shutdown Due to Control Rod Drive System Malfunction

Actions:

- A cause evaluation was performed. Immediate corrective actions to replace the bearing were completed during the extended shutdown. All corrective actions have been completed, which included clean-up of the MFWP 1-1 Lube Oil System in 1R21.

Goal: Expected return to full points 3Q20

Consequential Equipment Failures – 2Q20

Owner: P. Nugent

Red or Yellow Performance Indicators Recovery Matrix

Consequential Equipment Failures	PI Owner: R. Waltos
<p>Analysis: This PI is a rolling cycle indicator of all consequential equipment failures. This includes equipment/component failures that result in power reductions, unplanned entry into TS shutdown limiting operation (LCO) less than or equal to 72 hours, failure to meet or control a critical safety function, unplanned initiation of engineered safeguards features, or MSPI component failures. The <u>current performance is 1.7 event per year</u> and the PI color is determined by the following:</p> <p>Green: <7.5 events/year/# units Yellow: 7.5-10 events/year/# units Red: >10 events/year/ # units</p> <p>Events:</p> <p><u>Unit 1:</u></p> <ul style="list-style-type: none">11/30/2018, 51026389, 51007024 - Extended power reduction for MFWP 1-1 bearing vibration <p><u>Unit 2:</u></p> <ul style="list-style-type: none">11/14/2018, 51004429 - Auxiliary Saltwater (ASW) Pump motor excessive vibration6/27/2019, 51035842 - Inadvertent bus transfer during undervoltage relay calibration6/27/2019, 51035842 - Residual Heat Removal (RHR) Pump recirculation valve cycling9/17/19, 51045953 - Auxiliary Building Ventilation System charcoal filter sample exceeded acceptance criteria9/18/2019, 51046217 - Auxiliary Saltwater (ASW) Pump tripped due to supply breaker failure2/13/2020, 51066564 - Forced Shutdown Due to Control Rod Drive System Malfunction <p>Actions:</p> <ul style="list-style-type: none">NoneCorrective actions to all events are described under Actions for Equipment Performance and Plant Equipment Indices (EQP and PEI) <p>Goal:</p> <ul style="list-style-type: none">Maintain current performance	

Conclusions: DCPPE Equipment Reliability (ER) overall is Green (Healthy) with Unit 1 showing strong performance, and Unit 2 needing some corrective actions to meet plant expectations. DCPPE has a plan to improve Unit 2 ER by the end of 2020. The DCISC should review DCPPE ER performance in the first quarter of 2021.

Recommendations: None

3.7 Operations Misposition Issue (Equipment Status Control)

The DCISC FFT had a remote (virtual) meeting with Dennis Peterson, Operations Director, for an update on the Operations mispositioning (equipment status control) issue. The DCISC last reviewed this item at the July 1, 2020 DCISC

Public Meeting (Reference 6.7) and the April 15-16, 2020 Fact-finding Meeting (Reference 6.8), when it concluded the following:

DCPP Operations overall performance continues to be Yellow (performance is not meeting expectations) due primarily to status control (component mispositioning) events. This issue was escalated to management in mid-2019, and an Operations Plant Status Control Action Plan was initiated. The Plan appears promising. Performance remains Yellow and stable. It is suggested that future DCISC Fact-finding teams place this issue on their agenda for examination and inquiry until the issue is resolved to GREEN Status and to the DCISC's satisfaction.

Weaknesses detracting from overall performance effectiveness include challenges with plant status control performance, which continued during the remainder of 2019. Plant status control performance was escalated to the Station Director on July 16, 2019. Despite multiple action plans to improve plant status control performance, events have continued to occur. Operations has developed a Plant Status Control Action Plan to address this performance decline which has included a common cause evaluation, increased observations and communications, and a site-wide video to demonstrate strong component positioning behaviors. The failure to effectively address these challenges, including two station level events (SLE) that occurred the remainder of 2019, contributed to a yellow window for operations. The DCISC previously reviewed the SLEs in its March 2020 Fact-finding meeting.

Operations was beginning work on its Action Plan and will be performing an effectiveness review when it completes the Plan. The effectiveness review had not begun at the time of this fact-finding meeting. The DCISC should review the Plan and the effectiveness review in a fourth quarter fact-finding meeting.

Conclusions: DCPP Operations has developed a Status Control Action Plan and was beginning to implement it and initiate an effectiveness review later. The DCISC should follow up on this in a fact-finding meeting the fourth quarter 2020.

Recommendations: None

3.8 DCPP Use of Social Media in Context of Emergency Preparedness

The DCISC FFT had a remote (virtual) meeting with Suzanne Hosn, Media Specialist; Samantha Caldwell, Emergency Preparedness Coordinator; and Mike Ginn, Manager of DCPP Emergency Preparedness, for an update on how DCPP is using social media in Emergency Preparedness. The DCISC last reviewed this item in January 2016 (Reference 6.9), when it concluded the following:

PG&E employs a number of social media to expand and enhance communications within PG&E, with outside

organizations including response organizations, and with the general public. The purpose of this enhanced communication network is to provide clear, timely, consistent information to needed parties with regard to conditions at the station so that appropriate actions can be taken by the appropriate parties, including the public, in responding to an event. DCP's selection of the social media networks to employ appears to be well conceived, dovetails well with SLO County networks, and appears to be manageable. Likewise, PG&E's network of staffed, social media trained employees appears to be reasonable.

The County of San Luis Obispo Emergency Services Group appears to be well prepared for using social media as a helpful tool to aid in responding to nuclear plant events requiring evacuation and/or sheltering of the public.

PG&E's use of social media (primarily Instagram, Facebook, and Twitter) is controlled by the Corporate Office in San Francisco. DCP's emergency use of social media from the Emergency Operations Center (EOC) and Joint Information Center (JIC) is coordinated with that office. The PG&E corporate computer system experienced significant challenges when it was overloaded during Public Safety Power Shutdown blackouts during the summer of 2019 and has subsequently been upgraded to have substantially greater capacity. In the event of a DCP's emergency, the corporate website would be replaced with a pre-staged DCP's emergency website. DCP's coordinates its social media with San Luis Obispo County Emergency Services and has made available to the County its EOC and JIC for COVID-19 activities.

Conclusions: DCP's uses social media for normal and emergency operations in coordination with the PG&E Corporate Office. The DCISC should review the actual use of DCP's social media during the next emergency drill it observes.

Recommendations: None

3.9 Buried Tanks and Piping Program

The DCISC Fact-Finding Team had a remote (virtual) meeting with Jack Cheek, Supervisor of Mechanical Component Engineering, for an update on the DCP's Buried Piping and Tanks Program. The DCISC last reviewed this program in July 2019 (Reference 6.10), when it concluded the following:

DCP's Buried Piping and Tanks Program appeared to be effectively designed and implemented, and there were no open issues with inspections. The DCISC should review the revised Asset Management Plan and governing procedure after they

are approved for use in early 2020.

The purpose of the Buried Piping and Tanks Program is to provide increased assurance of structural and leakage integrity of buried piping and tanks. Special emphasis is placed on safety-related systems and those tanks and piping containing licensed (radioactive) material or environmentally hazardous material.

In 2009 the US nuclear industry committed to implement an industry initiative to manage buried piping integrity contained in document Nuclear Energy Institute (NEI) 09-14, "Guideline for the Management of Underground Piping and Tank Integrity." DCP's program is based on NEI 09-14 and described in Procedure TS5.ID3, "Buried Piping and Tanks Program," a copy of which was provided to the Fact-Finding Team. As described in the procedure, the scope of this program is "to provide a reasonable assurance of structural and leakage integrity of all piping and tanks located outside of buildings and below grade elevation (whether or not they are in direct contact with the soil)." DCP has a relatively small amount of buried piping on site compared to most other nuclear power plants.

NEI 09-14 requires the following types of systems to be included:

- Safety related
- Contain licensed material or are known to be contaminated with licensed material
- Contain environmentally hazardous material

For DCP these systems are as follows:

- Condensate Polishing
- Auxiliary Saltwater
- Liquid Radwaste
- Diesel Fuel Oil
- Oily Water and Turbine Sump

Additionally, the program also monitored and opportunistically inspected other systems, including:

- Spent Fuel Pool Cooling and Cleanup
- Service Cooling Water
- Makeup Water
- Fire Protection
- Compressed Air
- Nitrogen/Hydrogen

The Buried Piping and Tanks Program is a program that prioritizes inspections based on risk. An industry-standard software program and database (referred to as MapPro) contains all buried piping and tanks parameters (i.e. material,

coatings, external environment, internal fluid, consequence of failure, and inspection results) and is used to determine the likelihood of degradation and the consequences of its failure. The combination of the likelihood and consequences is then used to form the priority ranking of the piping and allows inspection efforts to be focused on the most significant sections of piping. The overall plan for inspections is documented in an Asset Management Plan (AMP) which is maintained as an engineering calculation and controlled by administrative procedures applicable to engineering calculations.

The AMP had recently undergone a major revision (Revision 3, approved December 2, 2019), the review of which was the primary purpose of this fact-finding meeting. The revisions included the following:

- Update of the inspection plan
- Incorporation of inspection results
- Risk rank update
- Update of operating experience

The DCCP risk model was updated for this AMP revision using the most current risk ranking algorithms and data from BPWorks. The latest inspections and operating experience information available were added to the model to enhance the model's accuracy in risk ranking.

Each buried system is described in detail, including location drawings and inspection plans and results. The following excerpt from the AMP of the Auxiliary Saltwater System buried piping is one example:

The Auxiliary Saltwater (ASW) System is a safety-related system that supplies cooling water from the ultimate heat sink, the Pacific Ocean, to the component cooling water (CCW) heat exchangers. The buried piping is composed of 24" Carbon Steel with a non-safety related coal-tar epoxy external coating and a safety-related internal PVC-like par liner. The piping from the intake structure to about 30 feet before entering the turbine building is protected by an induced current cathodic protection (ICCP) system. The discharge portion, turbine building to ocean was not cathodically protected but a project was funded and cathodic protection installed in a portion of the Unit 1 discharge line following pipe external inspections in 1R20. A majority of the system is risk rated to be medium risk. However, the ASW discharge piping contains high risk piping segments because it is the licensed discharge path for radiological waste material delivered by the Liquid Radwaste System.

Every sixth refueling outage, each unit's ASW system piping (intake and discharge) is visually inspected. This inspection utilizes a robotic crawler equipped with a High Definition camera to inspect nearly 100% of the piping internally. A report is generated which compares

any findings to previous inspections to monitor for new anomalies or changes in anomalies for trending. Together with an engineering evaluation of the data, recommendations are made for future inspections or repairs. These inspections provide a reasonable assurance of no leakage. The most recent Unit 1 internal and external ASW inspections were completed in 1R20 with the Unit 2 inspection coming up in 2R22. The ASW system as a whole will continue to be monitored and inspected to maintain reasonable assurance that the safety related system will retain its pressure boundary function. The total intake piping length is approximately 3,000-ft for Unit 1 and 2,800-ft for Unit 2. Each unit's discharge piping is approximately 400-ft long.

At this time, the ASW system is the highest priority for the Buried Piping and Tanks Program. The in-soil discharge portion of the ASW piping has developed small blisters on the internal liner. This portion of pipe is considered high risk primarily because it contains licensed material, is buried in soil and has a safety-related function. Hence the detailed inspections performed in 1R20 and the installation of Cathodic protection installed in portions of the ASW discharge piping in the Unit 1. The previous Unit 2 internal inspection was performed in 2R16. The next Unit 2 inspection will be performed in 2R22 after the frequency to perform this inspection was extended by the PMCR process.

Similarly, all of the other following buried systems and components have been tested, inspected, or have leak detection systems, all of which show no leakage or structural degradation, but some minor corrosion or coating degradation. None of the corrosion or degradation was deemed to warrant correction to maintain reasonable assurance of leak tightness.

- Liquid Radwaste Buried Piping
- Diesel Fuel Oil (Underground Piping & Buried Tanks)
- Oily Water Separator, Turbine Building Sumps, and Wastewater Holding & Treatment Buried Underground Piping
- Condensate Polishing System (Buried Piping)

The AMP concludes that it complies with all reasonable assurance guideline document recommendations and fully satisfies all initiative requirements. It includes long range planning up to the end of the Unit 1 and Unit 2 licenses.

Conclusion: The DCPM Asset Management Plan for Buried Piping and Tanks appears to meet all requirements and to be implemented properly with satisfactory results assuring the leak tightness and structural integrity of buried components.

Recommendations: None

3.10 Slight Rise in Unit 1 Power Operation Just Prior to its Curtailment to 89% Power Operation to Address an Issue with Supplemental Grid Protection

The DCISC had a remote (virtual) meeting with Hector Garcia, Liaison to DCISC, who reported that the slight rise was an instrumentation error and not an actual rise in power; therefore, the DCISC FFT did not review the item further.

3.11 Update on INPO Evaluation Actions

(Because of its privacy agreement with DCP, the DCISC cannot share the details of the evaluation or subsequent corrective actions.)

The DCISC FFT had a remote (virtual) meeting with Jeff Bryant, Assistant Manager of Management Services, for an update on DCP's actions on the 2017 INPO evaluation of DCP. The DCISC last reviewed this topic in November 2018 (Reference 6.11) when it concluded the following:

Corrective actions for Areas for Improvement (AFIs) identified during the Institute of Nuclear Power Operations (INPO) biennial August 2017 evaluation of DCP appeared to have been appropriately initiated with the majority being complete as of the time of the meeting. (Because of its privacy agreement with DCP, the DCISC cannot share the details of the evaluation or subsequent corrective actions.)

After reviewing and discussing the status of resolving INPO AFIs, the DCISC Fact-finding Team concluded that the appropriate corrective actions had been initiated with the majority being complete as of the time of the meeting.

Additionally, the Fact-finding Team observed that DCP recently completed its INPO Mid-cycle Assessment with generally positive results.

Conclusions: Corrective actions for Areas for Improvement (AFIs) identified during the Institute of Nuclear Power Operations (INPO) biennial August 2017 evaluation of DCP appeared to have been appropriately initiated with the majority being complete as of the time of the meeting. (Because of its privacy agreement with DCP, the DCISC cannot share the details of the evaluation or subsequent corrective actions.)

Recommendations: None

3.12 Meet with DCP Officer

The DCISC FFT had a remote (virtual) meeting with Jim Welsch, DCP Senior Vice President and Chief Nuclear Officer, to discuss items from this fact-finding meeting and other items of mutual interest. The DCISC last met with a DCP Officer or Director in May 2020 (Reference 6.12), concluding the following:

The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

Conclusions: *The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.*

Recommendations: *None*

4.0 CONCLUSIONS

4.1 *The meeting with the NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.*

4.2 *The DCPD Compressed Air System, with its new compressors and soon-to-be replaced air dryers, was in good health and operating properly. The system engineer appeared knowledgeable and proactive about his system.*

4.3 *The July 21, 2020 Plant Health Committee meeting was canceled, and the DCISC did not have the opportunity to observe it.*

4.4 *The DCPD Radioactive Effluent Release Program and the Radiological Environmental Monitoring Program appeared satisfactory in calculating, monitoring and measuring radioactivity in the environment surrounding DCPD. There were no abnormal releases of radioactivity or abnormal levels of radioactivity detected.*

4.5 *The use of drone-mounted cameras for exterior Containment concrete inspection appears satisfactory.*

4.6 *DCPD Equipment Reliability (ER) overall is Green (Healthy) with Unit 1 showing strong performance, and Unit 2 needing some corrective actions to meet plant expectations. DCPD has a plan to improve Unit 2 ER by the end of 2020. The DCISC should review DCPD ER performance in the first quarter of 2021.*

4.7 *DCPD Operations has developed a Status Control Action Plan and was beginning to implement it and initiate an effectiveness review later. The DCISC should follow up on this in a fact-finding meeting the fourth quarter 2020.*

4.8 *DCPD uses social media for normal and emergency operations in coordination with the PG&E Corporate Office. The DCISC should review the actual use of DCPD social media during the next emergency drill it observes.*

4.9 *The DCPD Asset Management Plan for Buried Piping and Tanks appears to meet all requirements and to be implemented properly with*

satisfactory results assuring the leak tightness and structural integrity of buried components.

4.10 DCPD Operations overall performance continues to be Yellow (performance is not meeting expectations) due primarily to status control (component mispositioning) events. This issue was escalated to management in mid-2019, and an Operations Plant Status Control Action Plan was initiated. The Plan appears promising. Performance remains Yellow and stable. It is suggested that future DCISC Fact-finding teams place this issue on their agenda for examination and inquiry until the issue is resolved to GREEN Status and to the DCISC's satisfaction.

4.11 Corrective actions for Areas for Improvement (AFIs) identified during the Institute of Nuclear Power Operations (INPO) biennial August 2017 evaluation of DCPD appeared to have been appropriately initiated with the majority being complete as of the time of the meeting. (Because of its privacy agreement with DCPD, the DCISC cannot share the details of the evaluation or subsequent corrective actions.)

4.12 The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

5.0 RECOMMENDATIONS

5.1 None

6.0 REFERENCES

6.1 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.9, Section 3.1, "Meet with the NRC Senior Resident Inspector."

6.2 "Diablo Canyon Independent Safety Committee Twenty-Seventh Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2016 - June 30, 2017", Approved October 13, 2017, Volume II, Exhibit D.8, Section 3.7, "Compressed Air System Health."

6.3 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.9, Section 3.7, "Observe Plant Health Committee Meeting."

6.4 Ibid., Exhibit D.1, Section 3.2, "Annual Radiological Release Report and Annual Radiological Environmental Monitoring Report."

6.5 Ibid., and [Exhibit B.2](#), "November 6-7", 2019 Fact-finding Report, Containment Structure Review."

6.6 *"Diablo Canyon Independent Safety Committee Twenty-Ninth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2018 - June 30, 2019", Approved October 12, 2019, Volume II, Exhibit D.7, Section 3.6, "Equipment Reliability Process Update."*

6.7 *"Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit B.9, "Operations Update."*

6.8 *Ibid., Exhibit D.8, Section 3.10, "Operations Department Update."*

6.9 *"Diablo Canyon Independent Safety Committee Twenty-Sixth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2015 - June 30, 2016", Approved October 14, 2016, Volume II, Exhibit D.8, Section 3.4, "DCPP Use of Social Media in Emergency Preparedness."*

6.10 *"Diablo Canyon Independent Safety Committee Twenty-Ninth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2018 - June 30, 2019", Approved October 12, 2019, Volume II, Exhibit D.1, Section 3.9, "Buried Tanks and Piping Program."*

6.11 *Ibid., Exhibit D.4, Section 3.3, "Tracking and Resolution of INPO Areas for Improvement. "*

6.12 *"Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.9, Section 3.6, "Meet with DCPP Officer."*

[31st Annual Report, Volume II, Exhibit D.2, Diablo Canyon Independent Safety Committee Report on Fact Finding Meeting at DCPD on August 19-20, 2020 by Peter Lam, Member, and Richard D. McWhorter, Consultant](#)

1.0 SUMMARY

The results of the August 19-20, 2020, Fact-Finding Meeting for the Diablo Canyon Power Plant (DCPP) in Avila Beach, CA are presented. Due to travel and attendance restrictions resulting from the COVID-19 pandemic, all meetings were conducted remotely via WebEx. The subjects addressed and summarized in Section 3 are as follows:

1. Meet with Nuclear Regulatory Commission (NRC) Senior Resident Inspector
2. License Amendment Request to Facilitate Auxiliary Feedwater Inspections
3. Unit 2 Forced Outage
4. Fire Protection and Detection Systems
5. Attend Corrective Action Review Board Meeting
6. Evaluation for Extending the Unit 1 Steam Generators Secondary Side Inspections
7. Containment Ventilation and Hydrogen Mitigation Systems
8. DCISC Member Meet with DCPD Officer
9. Employee Concerns Program
10. NRC Inspection Finding on Emergency Siren Maintenance
11. Status of Responding to the COVID-19 Pandemic
12. Self-Assessment Program
13. Attend Plan of the Weekend Review Meeting

2.0 INTRODUCTION

This Fact-Finding Meeting for the DCPD was made to evaluate specific safety matters for the DCISC. The objective of the evaluation was to determine if Pacific Gas and Electric's (PG&E's) performance is appropriate and whether any areas revealed observations, which are important enough to warrant further review, follow-up, or presentation at a public meeting. These safety matters include follow-up and/or continuing review efforts by the Committee, as well as those identified as a result of reviews of various safety-related documents.

Section 4-Conclusions highlights the conclusions of the Fact-Finding Team based on items reported in Section 3-Discussion. These highlights also include the team's suggested follow-up items for the DCISC, such as scheduling future Fact-Finding Meetings on the topic, presentations at future public meetings, and requests for future updates or information from DCPD on specific areas of interest, etc.

Section 5-Recommendations presents specific recommendations to PG&E proposed by the Fact-Finding Team. These recommendations will be considered by the DCISC. After review and approval by the DCISC, the Fact-Finding Report, including its recommendations, will be provided to PG&E. The Fact-Finding Report will also appear in the DCISC Annual Report.

3.0 DISCUSSION

3.1 Meet with NRC Senior Resident Inspector

The DCISC Fact-Finding Team (FFT) met remotely with Chris Newport, NRC Senior Resident Inspector, for an update. The DCISC meets regularly with the Resident Inspectors and last met with them in July 2020 (Reference 6.1), when it concluded the following:

The meeting with the NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.

The participants discussed the following topics:

1. Resident Inspector Assignment Changes
 - A. John Reynoso (Resident Inspector) has been replaced by Ayesha Athar
 - B. Chris Newport (Senior Resident Inspector) will be replaced by Don Krause in October
2. July Unit 2 Forced Outage
3. Unit 2 Auxiliary Feedwater (AFW) Leak and Unit 1 Inspection Plans
4. COVID-19 Pandemic Response

Conclusions: The meeting with the NRC Senior Resident Inspector was beneficial, and the DCISC should continue the meetings.

Recommendations: None

3.2 License Amendment Request to Facilitate Auxiliary Feedwater Inspections

The DCISC FFT met remotely with Michael Richardson, Regulatory Services Supervisor, and Ken Schrader, Principal Engineer Regulatory Services, to review a License Amendment Request that was submitted by PG&E to the NRC on August 12, 2020, for the purpose of facilitating inspections of certain piping associated with the Unit 1 Auxiliary Feedwater System (AFW). This was the DCISC's first

review of this matter.

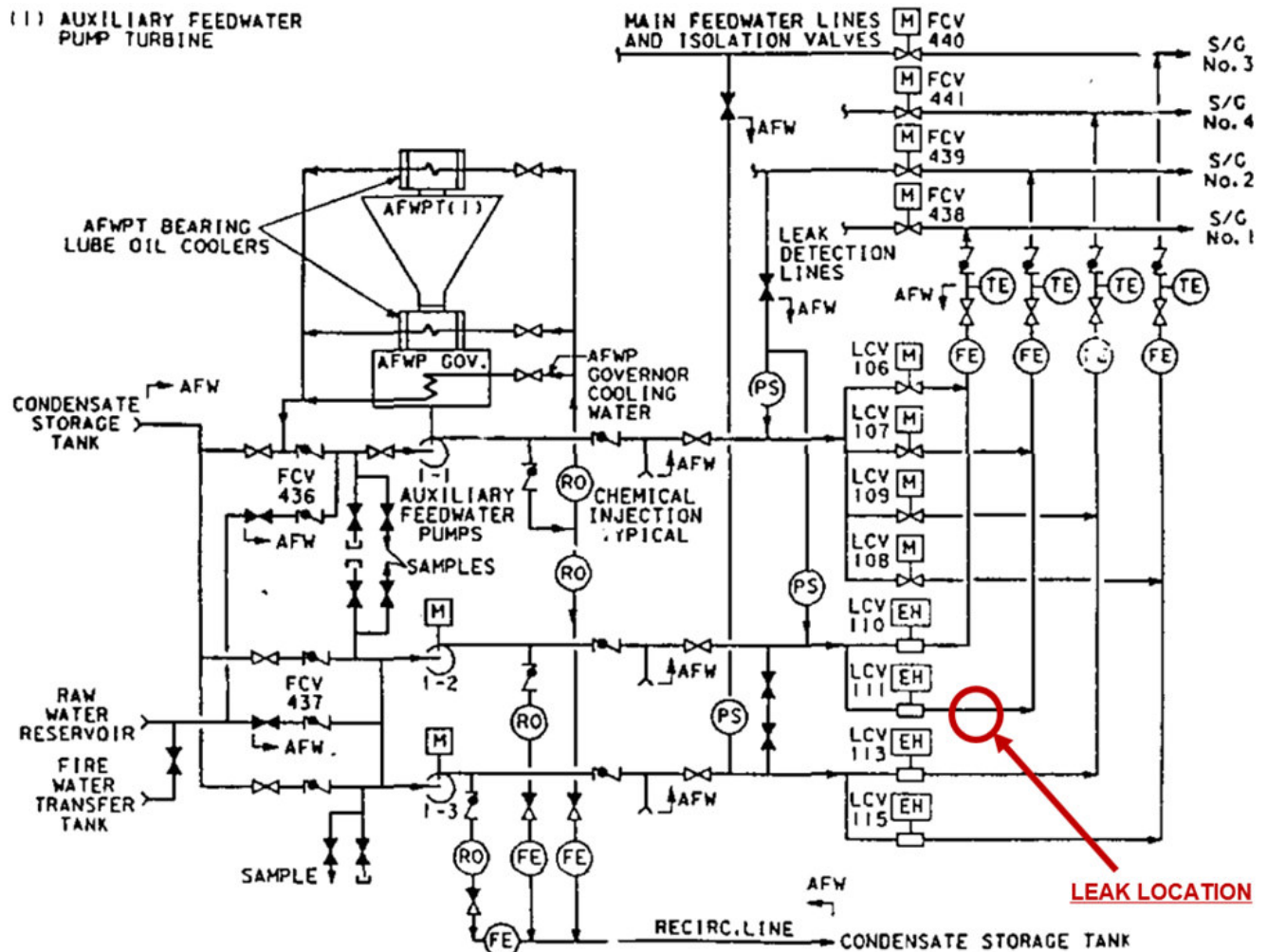
The AFW System is a safety-related system that provides feedwater to the Steam Generators (SGs) under shutdown, startup, low power, and accident conditions.

The AFW System is designed to provide a water source to the SGs during emergencies in order to cool and prevent damage to the nuclear reactor fuel and to prevent overpressurization of the Reactor Coolant System in the event of transients such as a loss of normal Main Feedwater (MFW), a stuck open relief valve, or a pipe rupture on the secondary side. During normal plant shutdown, the AFW System replaces the MFW System and serves to remove heat in hot standby or to cool down the unit to a point where the Residual Heat Removal System (RHR) can be placed in operation (when Reactor Coolant System temperature becomes less than 350 °F). The AFW System is also used during normal plant startup prior to placing the MFW System in service. The AFW System consists of three feedwater supply trains with diverse means of powering the pumps that draw water from the Condensate Storage Tank. One train consists of a full-capacity steam turbine-driven pump, which can be aligned to use steam from and supply feedwater to any of the four SGs. The other two supply trains consist of half-capacity electric-motor-driven pumps, each normally supplying flow to two of the four SGs, with the capability to be aligned to any of the four SGs.

Messrs. Richardson and Schrader explained that on July 23, 2020, during a forced outage on Unit 2 (see Section 3.3 below), operators identified a leak on the discharge piping going from AFW Pumps 2-1 and 2-2 to SG 2-2, downstream of valve LCV 111 (SAPN 50183213). This section of piping was outdoors and insulated. The affected Unit 2 AFW trains were declared inoperable, and the unit was placed on Mode 4 (Hot Shutdown; reactor cooled by RHR system) in accordance with the applicable Technical Specification (TS), Section 3.7.5.

Insulation was removed from the piping and an approximate 3/8-inch diameter hole was found in the piping. The area of the leak was heavily corroded on the exterior of piping which was previously concealed under the insulation. A Root Cause Evaluation (RCE) was initiated and preliminarily concluded that the cause of the leak was moisture trapped under the insulation which accelerated corrosion on the outside of the piping. The section of the piping where the leak occurred appeared to be in a particularly vulnerable position to be routinely wetted both by ocean moisture and by water falling from SG Power Operated Relief Valve drains during their periodic operation in hot standby conditions. Interim Corrective Actions were initiated, and those actions included performing an Extent of Condition (EOC) investigation on both DCPD units. On Unit 2, additional sections of piping that were outdoors and insulated were inspected both visually and using non-destructive examinations to measure pipe wall thicknesses. No additional leaks were found, but six additional locations were identified in the Unit 2 AFW piping where additional repairs were required because pipe wall thickness did not meet minimum code requirements. All of the additional repairs were in the same section of piping as the leak. Repairs were promptly initiated, and approximately four days were required to complete repairs to all of the affected sections of

piping. Below is a simplified diagram of the AFW system annotated to show the location of the leak.



Auxiliary Feedwater Simplified System Diagram Annotated to Show Leak Location

The EOC evaluation also determined that inspections were needed for similar sections of piping on Unit 1, which was operating at full power at the time of the event. It was believed that the Unit 1 piping would be less susceptible to corrosion under the insulation because the ocean spray environment was less corrosive on the Unit 1 piping rack in general. As such, DCPM management did not believe that making an EOC inspection was an urgent matter but at the same time also considered that waiting until the next scheduled shutdown to perform the Unit 1 EOC inspections would not be prudent. Accordingly, DCPM prepared a plan to inspect the corresponding piping on Unit 1 while the unit was online and make repairs as necessary. If inspections found defects on Unit 1, two trains of AFW would be required to be declared inoperable under the existing TS 3.7.5 and the unit would be required to be shut down within six hours. Operations and DCPM management reviewed the inspection and repair plan with the associated TS and concluded that the generic TS-required actions poorly fit the situation.

Specifically, the potential similar leak and repair location on Unit 1 would only effect AFW flow to one of four SGs. Instead of two AFW trains being completely

inoperable as addressed by the TS, one train of AFW would maintain the ability to flow to three of its normal four SGs, one train of AFW would maintain the ability to flow to one of its normal two SGs, and one train of AFW would maintain its full ability to flow to two of its normal two SGs. Also considered was the fact that the AFW system, which is normally in standby while the unit is online, would be required to be started up and used to cool the plant if a shutdown were initiated.

Isolating a part of the system to perform repairs could limit the system's redundancy and ability to cool down the unit after a shutdown and thus possibly increase the risk to operations.

DCPP management then reviewed regulatory alternatives to following TS 3.7.5 during the maintenance should repairs be required. One option was to perform the inspection as soon as possible and then request Enforcement Discretion from the NRC if repairs were needed. Another option would be to request an Emergency License Amendment Request (LAR). These options were ruled out as they were generally both intended to address emergent issues and not inspection and repair activities that could be planned in advance such as was the case in this situation. DCPP discussed submitting an LAR on an exigent basis with the NRC, and the NRC responded that such an LAR could be issued within a few weeks if the basis was appropriate and the change was found to adequately protect the safety of the public. DCPP concluded that this approach was appropriate for the timeliness of corrective actions given the situation.

Mr. Schrader then briefed the FFT on the contents and status of the LAR. The LAR specifically requested the addition of a one-time only TS 3.7.5 Limiting Condition for Operation (LCO) and associated action times that would allow for one or two AFW trains to be inoperable in Modes 1, 2, or 3 due to inoperable AFW piping affecting the AFW flow path(s) to a single SG. The new LCO would include required actions to isolate AFW to the affected SG within two hours and to restore the AFW system to operable status within seven days. The LCO would only be applicable for the current operating cycle which was scheduled to end in October 2020. The LAR's safety evaluation included risk insights in having the affected AFW equipment out of service for seven days using DCPP's Probabilistic Risk Assessment model and concluded that the increase in incremental conditional core damage probability was below 1×10^{-6} per year, the incremental conditional large-early-release probability was below 1×10^{-7} per year, and both increases were not risk-significant. The LAR was submitted to the NRC on August 12, 2020, (PG&E Letter DCL-20-066; NRC ADAMS number ML20225A303), and a copy was obtained and reviewed by the FFT. Following submission of the LAR, a conference call was held between PG&E staff and the NRC, and the NRC made several Requests for Additional Information (RAIs) which were subsequently submitted by PG&E to the NRC. The FFT was also provided copies of and reviewed the NRC RAIs and DCPP's responses. The FFT concluded that there were only minor safety concerns with the approach that DCPP was proposing in the LAR to perform the AFW System EOC inspections and possible repairs on Unit 1.

Following the Fact-Finding Meeting on August 31, 2020, the NRC issued the LAR

with a modification to TS 3.7.5 as requested by PG&E. Later that same day, DCPD removed the insulation from the potentially affected Unit 1 piping and found only minor areas of light corrosion. Visual inspections and ultrasonic non-destructive examinations were performed, and the results found that there was no degradation of pipe walls due to corrosion exceeding that allowed by applicable piping codes. Plans for contingency pipe repairs were cancelled, and no further work was planned prior to the upcoming Unit 1 Refueling Outage scheduled to begin in October. As such, the recently approved LAR modifications to TS 3.7.5 would likely not be used.

Conclusions: The DCISC concluded that there were only minor safety concerns with the approach that DCPD was proposing in a License Amendment Request to perform AFW System Extent of Condition inspections and possible repairs on Unit 1. The DCISC should review the final Root Cause Evaluation for the Unit 2 AFW leak following its completion by DCPD.

Recommendations: None

3.3 Unit 2 Forced Outage

The DCISC FFT met remotely with Ken Pazdan, Strategic Agreement Consultant Principal, to review the cause and corrective actions for a Unit 2 Forced Outage that occurred on July 17 to August 2, 2020. This was the DCISC's first review of this topic.

Mr. Pazdan briefed the FFT regarding the problem that initiated the need to shut down Unit 2 for repairs and provided a copy of the applicable Notifications (SAPNs 51081723 and 50182265). During rounds late on July 16, 2020, the Unit 2 Turbine Building operator noted a slightly low hydrogen pressure on the Unit 2 Main Generator and prepared to add hydrogen, which was not in itself an abnormal condition. Later that same date, an increase in conductivity for the Stator Core Cooling Water (SCCW) system was also noted. The SCCW system serves to cool the hydrogen circulating through the Main Generator. A few hours later in the early morning of July 17, an alarm was received in the Control Room indicating a low hydrogen pressure condition on the Unit 2 Main Generator. Troubleshooting commenced in accordance with Alarm Response Procedures, and technical assistance was obtained from the vendor which had refurbished the Main Generator during Refueling Outage 2R21 in the fall of 2019. Later on July 17, investigations concluded that the most likely cause of the alarm was a leak of hydrogen to the SCCW system at a location internal to the Main Generator. In accordance with Abnormal Procedures for the size and location of the leak, operators initiated a manual Reactor Trip of Unit 2 (in order to promptly remove the Main Generator from service) and placed the plant in a stable condition in Mode 3, Hot Shutdown.

Investigations were initiated into the location and cause of the leak. Hydrogen

was removed from the generator and the SCCW system was pressurized with nitrogen. The results indicated a leak of approximately 492 Standard Cubic Feet per day of nitrogen in the stator section and no leakage in other portions of the system. A generator crawl-through inspection was performed on both the exciter and turbine ends of the generator and one leak at a weld flaw (visible crack) was found on the transition box between the SCCW inlet header and the exciter end SCCW manifold. An Apparent Cause Evaluation was initiated, and Mr. Pazdan provided the FFT with a copy of the Integrated Problem Response Report that summarized investigations and findings as of the date of the FFT's meeting. The flawed weld was found to have been caused by an insufficient weld quality attributed to worker confusion over the thickness of the plate being welded and buckling of the plate during welding. An Extent of Condition was performed, and no additional defective welds were identified. Additionally, hammer tests were performed on the manifolds at both ends of the generator to confirm that there were no vibration nodes that could have contributed to crack initiation. Other possible causes such as design, corrosion, or fatigue were reviewed and eliminated. Repairs to the weld were completed, and pressure testing was performed satisfactorily. Unit 2 was then restarted and returned to service on August 2nd. Mr. Pazdan also reported that the approximately 40 vendor workers who performed the Main Generator investigations and repairs were successfully processed on site using training and screening programs updated to consider methods and procedures for preventing the spread of COVID-19.

The DCISC FFT noted that approximately one week into the outage with Unit 2 in Hot Standby, a leak on the AFW System occurred (see Section 3.3 above).

Following identification of the leak, the unit was placed in Mode 4, Hot Shutdown, and AFW was removed from service.

Conclusions: The FFT concluded that the Unit 2 Forced Outage on July 17, 2020, was properly managed, and corrective actions to identify and repair a hydrogen leak in the Main Generator were appropriate.

Recommendations: None

3.4 Fire Protection and Detection Systems

The DCISC Fact-finding Team met remotely with Carlos Lopez, Fire Protection Engineering Supervisor; John Cote, Fire Protection Program Engineer; and Dan Ensminger, Nuclear Fire Protection Manager, for an update on the health of the Fire Protection and Detection Systems. The DCISC last reviewed this system in March 2017 (Reference 6.2), when it concluded the following:

The level of attention to DCP's Fire Protection Program and Systems has increased significantly, and numerous improvements have been accomplished. The Health of the Fire Protection System in each Unit is rated as Green, or Healthy. DCP has aggressively moved to improve the control of

transient combustible materials at the station. The DCISC should review the status of remaining fire protection systems improvements as well as the implementation of the NFPA-805 Program in late 2017.

The DCISC FFT was provided with copies of the Fire Protection Program Health Report. The program health report included data on the health of Fire Protection Systems, for which specific system health reports were no longer required. The Equipment Performance Indicator in the program health report was rated as White (healthy but needing improvement). The White indicator was being driven primarily by the fact that the Firewater System was being monitored in Maintenance Rule (MR) (a)(1) status. The MR (a)(1) status was driven by recurring failures of deluge valves in the turbine building. All of the subject valves had been replaced, and system performance was in the process of being monitored for a complete cycle to ensure effectiveness of the maintenance following the replacements. If no further failures occurred, the Firewater System was expected to move out of (a)(1) status following the upcoming Unit 1 Refueling Outage scheduled to begin in October 2020.

Messrs. Cote and Ensminger reported that all other portions of the Fire Protection system were generally performing well. Portions of the Firewater System other than the deluge valves and carbon dioxide gaseous systems had very few failures or problems during surveillance testing over the last two years. The good performance of Fire Protection systems was most notably demonstrated by a low number of fire impairments. The number of current impairments was one, which was a significant reduction from an average number of 45 which was typical at the station three to four years ago and the eight impairments that were present at the time of the DCISC's last review in 2017. The single current impairment consisted of an improperly functioning indicator light on a carbon dioxide system control panel which was scheduled for repair by the end of the day of the FFT's meeting.

Mr. Ensminger stated that DCPD continued to strive to achieve a goal of zero impairments and was now routinely achieving that goal. This reduction was made possible by focusing on taking actions to make systems fully functional as opposed to routinely living with impairments. When the number of impairments reached two a few weeks earlier, Mr. Ensminger stated that management attention and station resources focused on prompt resolution of the impairments. The reduction in impairments also reflected the fact that the number of inoperable fire doors and the number of routine fire watches at the station had been significantly reduced.

Finally, it was reported that there were no significant remaining projects planned for implementation on Fire Protection systems prior to the planned cessation of operations in 2025.

The FFT inquired as to the status of fire detection equipment throughout the station. Mr. Cote noted that detection systems were generally performing well despite the fact that they were original equipment for the station. To address possible obsolescence issues, DCPD had stockpiled a large supply of fire detectors to ensure that the supply of replacement detectors would remain adequate

through 2025. He also noted that DCPD was working through reliability issues with the incipient fire detection systems installed in 2018 as a part of the transition to an NFPA-805 Fire Protection Program. The systems appeared to be prone to biological contamination of the sensing chambers, which then required frequent replacements. DCPD was working with the vendor to identify the specific causes and make changes to improve the time between failures of the sensing chambers.

Regarding Fire Protection-related surveillance testing throughout the station, Mr. Ensminger reported that inspections and tests on water systems, barriers, dampers, etc., were generally completed without significant issues. However, recent NRC inspection findings regarding small amounts of paint on fire sprinklers and a minor gap in a fire barrier had driven a recent review of surveillance activities and procedures by DCPD. The purpose of the review was to increase the rigor of inspection activities and improve the details for what constitutes acceptable inspection results. The FFT asked about the use of cameras for inspections in hard to reach locations, and Mr. Ensminger responded that telescoping cameras were sometimes used. If cameras were used for inspections, then two people were required to separately review the camera's findings in order to ensure the pictures were properly interpreted.

Mr. Ensminger reviewed with the FFT the current status of programs to control the amounts of transient combustibles present throughout the station. During 2019, the number of low-level issues (Notifications) related to combustible material increased somewhat. This was attributed in part to the fact that two refueling outages occurred during the year which significantly increased the number of transient combustible permits being managed at the station. During a refueling outage, the number of open transient combustible permits would increase from the typical non-outage number of 30-40 to approximately 300.

Lastly, the FFT inquired regarding the effect of the COVID-19 pandemic on the Fire Protection program. Mr. Ensminger stated that personnel schedules had been modified to reduce the likelihood of COVID-19 spread among fire response personnel. The largest challenge had been the maintenance of training for fire response personnel. DCPD was successful in completing all of its planned fire drills for the second quarter using appropriate personal protective equipment. The performance of live fire training was initially postponed but had now resumed with appropriate precautions at the offsite location normally used for such training. Mr. Cote reported that the four Fire Protection engineers at the station were mostly working remotely with occasional trips to the station primarily to participate in surveillance testing activities.

Conclusions: Over the last few years, an increased level of attention to the health of DCPD's Fire Protection and Detection Systems has improved system performance, and the number of impairments has been significantly reduced. This is excellent performance and a notable contribution to improving overall safety at DCPD.

Recommendations: None

3.5 Attend Corrective Action Review Board Meeting

The DCISC FFT attended via conference call the August 19, 2020, meeting of DCP's Corrective Action Review Board (CARB). The DCISC last attended a CARB meeting during its January 2019 Fact-Finding Meeting (Reference 6.3), when it concluded the following:

The DCP's Corrective Action Review Board (CARB) meeting on January 23, 2019, appeared satisfactory in that the attendees met the intended objectives. Discussion of the significant items was comprehensive.

The CARB is governed by DCP Procedure OM4.ID15, "Corrective Action Review Board," and its purpose is to provide a significant venue for station personnel to demonstrate commitment to Corrective Action Program (CAP) excellence. The CARB fulfills a need for senior management oversight of the CAP, and this oversight function includes:

- Reviewing Root Cause Evaluations (RCEs) for accuracy, completeness and alignment of the problem, causes and corrective actions
- Approving extensions to the due dates for Corrective Actions to prevent recurrence.
- Approving Effectiveness Evaluations for CAP documents
- Periodically reviewing CAP metrics to ensure the CAP is meeting management expectations
- Reviewing and dispositioning requests for Cause Evaluation downgrades
- Reviewing notifications screened by the Notification Review Team

The membership of the CARB consists of regular and alternate members designated in writing by the Station Director. CARB meetings are held as necessary, typically on a weekly basis. This meeting was chaired by Dennis Petersen, the Operations Director.

The agenda for this meeting included the following:

- Safety Assignments
- Facilitative Leadership Minute
- Review Desired Outcomes
- Verify Quorum
- Review of Previous Meeting Action Items and Evaluation
- Review and Approve Previous Meeting Minutes
- Review Cause Evaluation 51080669
- Review Condition Reports

- Emergent New Business - Interim Review of Root Cause Evaluation 51083213
- Review Actions Items and Meeting Evaluation

The CARB reviewed and discussed the following significant items during this meeting:

- Review of Cause Evaluation 51080669, Debris found in Battery 1-1, Cell 47. The CARB reviewed the quality of the Cause Evaluation which the FFT found to be extensive and detailed in evaluating both the cause of the problem and its Extent of Condition for any possible effects on other battery cells.
- Interim Review of Root Cause Evaluation 51083213, Leak on AFW Piping After LCV-111. This was a report on the progress of the RCE for the Unit 2 AFW leak previously reviewed by the FFT (see Section 3.2 above). The CARB reviewed the preliminary RCE results and provided appropriate questions and direction for the RCE team to consider in finalizing its evaluation.

Conclusions: The DCPD Corrective Action Review Board (CARB) meeting on August 19, 2020, appeared satisfactory in that the meeting met the intended objectives. Discussion of the significant items was comprehensive.

Recommendations: None

3.6 Evaluation for Extending the Unit 1 Steam Generators Secondary Side Inspections

The DCISC FFT met remotely with John Ahar, DCPD Steam Generator (SG) System Engineer; Janis Baily, Supervisor Secondary Systems Group; Pat Nugent, Engineering Director; and Mike Quitter, Unit 1 Outage Manager, for an update on an evaluation for extending the Unit 1 SG secondary side inspection intervals. This topic was selected in follow up to the DCISC's review of overall SG health during its March 2020 Fact-finding Meeting (Reference 6.4), when it concluded the following:

The DCPD Steam Generators (SGs) have been performing well since their replacements in 2008 and 2009. The most important SG parameter, tube integrity, has been shown to meet all criteria as a result of regular Eddy Current Test inspections, and very few tubes needed to be plugged. SG secondary side inspections have generally found very little foreign debris and only small amounts of sludge have been removed during cleanings. An evaluation has been initiated to extend the Unit 1 secondary side inspection and cleaning intervals from three to six cycles, and the DCISC should review that evaluation following its planned completion in June 2020.

Historically, the four DCPG SGs per unit were replaced in Refueling Outages 2R14 (Unit 2) in 2008 and 1R15 (Unit 1) in 2009 due to tube degradation and have since been performing very well. One of the most important SG parameters is the integrity of the 4,444, 0.75-inch diameter, Alloy 690 tubes in each SG. The tubes serve as the pressure boundary between the Reactor Coolant System (RCS) and the Main Steam and Feedwater Systems. To ensure the continued integrity of these tubes, they are typically inspected by performing inspections from the primary sides of the SGs using Eddy Current Testing (ECT) inspections every three refueling cycles (every four to five years). At DCPG, 100% of the tubes were last inspected via ECT on Unit 1 during Refueling Outage 1R19 in 2015 and on Unit 2 during Refueling outage 2R21 in 2019. The DCISC previously reviewed the inspection results and found that only minor indications of tube degradation have been detected and only a small number of tubes have been plugged (Reference 6.4).

In addition to ECT inspections on the primary (RCS) side of the SG tubes, the secondary (Main Steam) side of the SG tubes is typically visually inspected and cleaned using a process called "sludge lancing." Sludge lancing was also previously performed on Unit 1 during Refueling Outage 1R19 and Unit 2 during Refueling Outage 2R21. Additionally, during these cleanings, a Foreign Objects Search and Retrieval (FOSAR) activity is performed to identify and remove any foreign objects that may have entered the secondary side of the SGs from the feedwater system. If any foreign objects are found and cannot be removed, an analysis is performed to ensure that there is little or no potential for the objects to cause tube erosion. During past cleanings, the SGs were generally found to be very clean and very little sludge material or foreign objects were removed.

During the DCISC's review in March, Mr. Ahar reported that DCPG management had recently directed that an evaluation be completed to support skipping the inspection and cleaning for the secondary sides of the Unit 1 SGs during the upcoming Refueling Outage 1R22 in October-November of 2020. It was anticipated that an evaluation could probably review the results of past SG secondary side inspections and cleanings and justify extending the frequency of such activities from three cycles to six cycles. If approved, such an extension would mean that the Unit 1 SGs would not have another secondary side inspection and cleaning (sludge lancing and FOSAR) before that unit's cessation of operations. The extension of secondary side work would not affect the primary side inspections (ECT Inspections) planned for Refueling Outage 1R22.

Mr. Ahar informed the FFT that a Preventive Maintenance Change Request (PMCR) was completed and documented in a Notification (SAPN 51070107), a copy of which was provided to and reviewed by the FFT. The evaluation as completed by Engineering included the following high-level points for consideration:

- The current three-cycle periodicity for sludge lancing and FOSAR was based on vendor recommendations made in technical letters received in 2017. In response to a more recent inquiry from DCPG, the vendor recommended

against extending the sludge lancing and FOSAR activities.

- Guidance from nuclear insurers recommended a three-cycle periodicity for the activities.
- The effects of not removing sludge from the SGs was limited to increasing the possibility for pitting and stress corrosion cracking which was generally a long-term issue and would not be a concern prior to the Unit 1 cessation of operations in 2024.
- FOSAR directly detects, precludes and mitigates the potential for SG tube wear from the movement of debris. Therefore, the effects of not performing a FOSAR would be a potential loose part remaining in the SG which in turn could result in a primary to secondary tube leak.
- The probability of a tube leak from a loose part remaining in the SG due to an extension of the FOSAR was low.
- There was a low probability that significant loose parts had entered the SGs since the last inspection. Loose parts could come from aging feedwater heaters which in the past have released small ligaments/fragments to the SGs. Also, it was possible for tube plugs to be released from the feedwater heaters and migrate to the SGs. Although plugs had been released from the feedwater heaters at DCPD in the past, there were no past instances of plugs migrating to the SGs at DCPD. It was noted that any significant loose parts present on the secondary side (such as a tube plug) would likely, but not definitively, be detected by the primary side ECT inspections.
- The consequence of a tube leak could be a forced outage to locate and plug the leaking tube, which would be a high financial risk.
- There was no industry history of any SG tube leaks caused by loose parts on any of the newer replacement SG designs similar to DCPD.
- Overall, the preventive maintenance extension was judged to have a medium risk, based on a low probability of failure in conjunction with a high consequence of failure.

Based on the overall risk assessment of medium as well as the vendor and insurer recommendations, the SG Engineer recommended that the sludge lancing and FOSAR inspections be performed as planned in Refueling Outage 1R22. Of the two activities, the FOSAR was recommended to be performed at a minimum. The engineer's recommendation was reviewed and concurred with by a second engineer.

The FFT was informed that on May 19, 2020, the PMCR was reviewed by the Outage Management Team (OMT, which also acted as and with a quorum for the Plant Health Committee), and the OMT approved the PMCR extending the sludge lancing and FOSAR intervals from three to six cycles. The FFT inquired as to what was the basis for the OMT's decision to approve the extension contrary to engineering's recommendation. The managers stated that they believed that the risk was very low due primarily to the past history of sludge cleaning and FOSAR for the SGs at DCPD. Typically since SG replacement, only very small amounts of

sludge and very few small foreign objects had been removed from the SGs. Also, the managers noted that it was desirable to reduce unnecessary and labor-intensive work in the upcoming outage due to the risk posed by the COVID 19 pandemic. They reported that secondary side work on the SGs was not typically a critical path activity and did not affect schedule; however, it was still resource intensive and would require a significant number of workers to perform.

The FFT team asked how this decision was documented, and DCPD personnel pointed out that it was documented in the PMCR and also in the minutes of the OMT meeting. The FFT found that the decision was documented in both documents; however, management's basis for its decision was not specifically recorded in either document. Specifically:

- The PMCR (SAPN 51070107) recorded, "This PMCR was reviewed by PHC Quorum during an OMT meeting on 5/5/20. Quorum members in attendance were.... This meeting was held via Web ex and sign in sheet is attached to the notification. The PHC final decision is as follows: 5.5 OMTPHC approved frequency from 3RF to 6RF."
- The OMT Meeting Minutes recorded in column labeled as "OMT/PHC Decision, Option 2: Skip Sludge Lancing in 1R22 (never perform again). Develop contingency to perform FOSAR / Hand Hold Covers on secondary side based on results of Eddy Current testing."

The FFT concluded that DCPD's decision to defer SG secondary side cleaning and inspection activities was acceptable because the associated safety risks were found to be low; because those risks were well understood by the station; and because an undetected problem (defect possibly later causing a SG tube leak) would likely lead only to a forced outage, which although undesirable is not in itself a significant safety issue. However, the FFT believed that the basis for significant decisions such as this one should be better documented with more detail, particularly if the decision was counter to recommendations being made by the Engineering Department and/or equipment vendors (as was the case in this situation). Additional detail regarding management's basis for its decision would help avoid possible misinterpretations of the decision by employees as one made counter to key elements of a healthy nuclear safety culture.

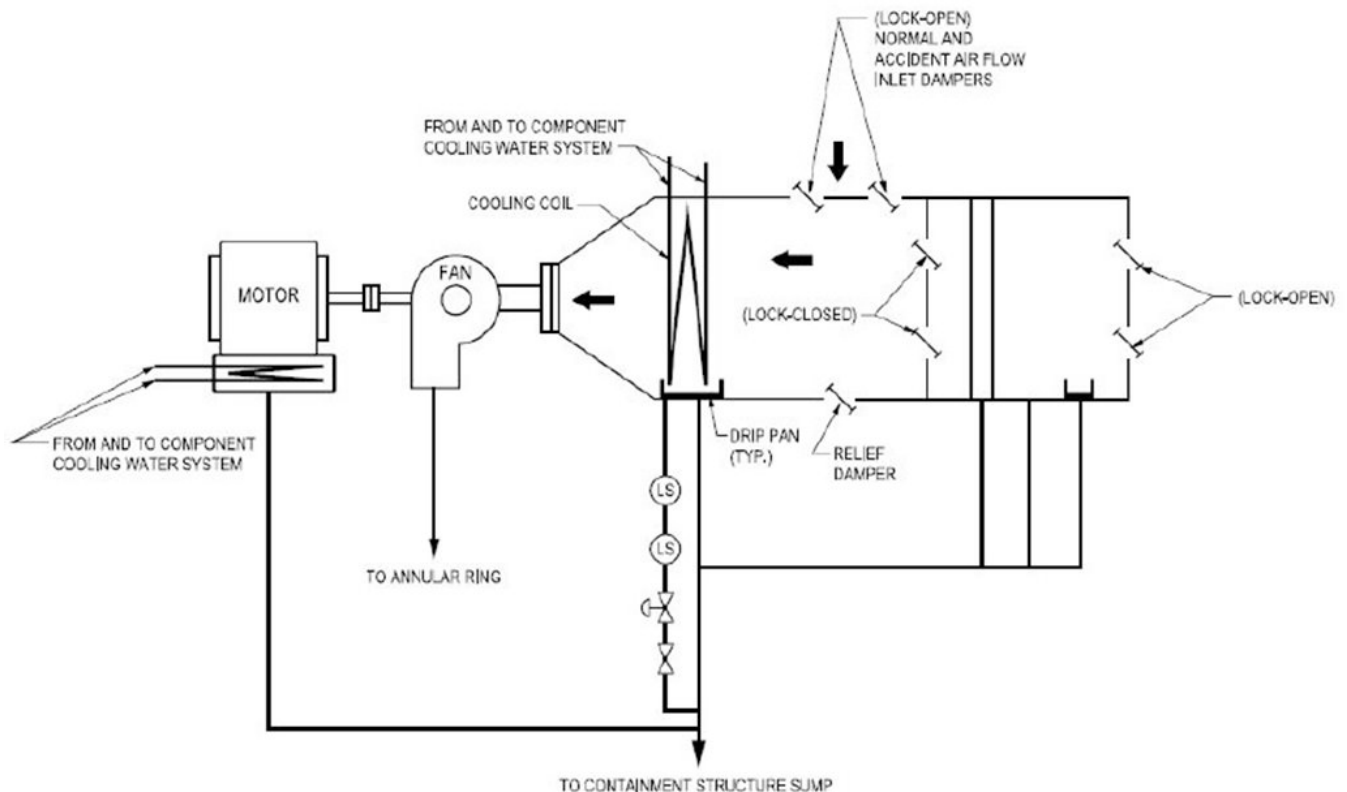
Conclusion: DCPD's decision to defer Steam Generator secondary side cleaning and inspection activities was acceptable, and the associated safety risks were found to be low and well understood by the station. However, the basis for significant decisions should be better documented with more detail, particularly if the decision is counter to recommendations being made by the Engineering Department and/or equipment vendors.

Recommendations: None

3.7 Containment Ventilation and Hydrogen Mitigation Systems

The DCISC FFT met remotely with Greg Porter and Sophia Flumerfelt, System Engineers, to review the health of Containment Ventilation and Hydrogen Purge Systems. Although the DCISC has reviewed related topics in the past, this was the DCISC's first focused review of these systems.

DCPP's Containment Ventilation Systems are Engineered Safety Feature systems that serve in conjunction with the Containment Spray System to limit the temperature and pressure in the Containment Building in the event of a Loss of Cooling Accident or a Main Steam Line Break Accident. The system consists primarily of five Containment Fan Cooler Units (CFCUs) which each contain the ductwork, cooling coils, fans and motors necessary to provide 50% of the cooling needed following an accident. The fans are direct drive, two speed fans, with low speed operation used during post-accident conditions. Two of the five CFCUs are required to provide the heat removal capability necessary to maintain containment post-accident atmospheric pressure and temperature within design limits. During normal operations, two or three CFCUs are run in high speed to cool the Containment Building. The CFCUs are cooled by Component Cooling Water. A simplified CFCU diagram is shown below:



Containment Fan Cooler Unit (one of five per unit)

Containment Ventilation systems were classified as a Tier 2 system and as such, formal system health reporting was not required. However, Tier 2 systems were still assigned System Engineers to monitor the system for adverse trends or degrading conditions and initiate appropriate action plans as required. For the Containment Ventilation systems, Mr. Porter reported that the CFCUs were

generally in good health and that all systems were in (a)(2) status under the Maintenance Rule, meaning that there were no recent functional failures. The most significant system issues historically were corrosion of the CFCU housings due to the collection of moisture on sections of the sheet metal casings when the units were not operating. One CFCU on each unit had been affected by corrosion more than the other four CFCUs, and those units were replaced a few years ago.

Plans to replace any additional CFCUs had been cancelled based on a determination that the remaining CFCUs were in an acceptable condition to continue operating satisfactorily until the planned cessation of operations in 2025.

Currently, the CFCUs were being inspected each outage and any identified corrosion-related degradation was repaired in place.

Other system problems occurring in the past included issues with backward rotation of idle fans, which could then trip upon starting due to high currents.

Backdraft dampers, which were originally installed, were replaced with anti-rotation couplings on the motors. The anti-rotation couplings were unreliable at first, but the station had resolved the technical issues with the couplings and recent performance had been good. Mr. Porter also reported that the CFCUs were tested every cycle to ensure that cooling air flows were adequate for performing accident functions, and recent tests consistently demonstrated satisfactory performance.

The FFT inquired regarding the health of Containment Hydrogen Mitigation Systems. Each DCP unit contained two electric Hydrogen Recombiner units inside containment. The Hydrogen Recombiners at DCP are natural convection, flameless, thermal reactor-type hydrogen-oxygen recombiners. Mr. Porter reported that DCP had experienced no issues with the Hydrogen Recombiners which were tested every outage. Additionally, each containment was provided with piping for purging hydrogen during an accident or for installing and using external recombiners. Mr. Porter reported that DCP had also experienced no recent issues with hydrogen purge piping systems which were normally isolated but tested every cycle.

Lastly, Mr. Porter reported one item of interest to the FFT regarding Reactor Coolant Pump (RCP) seal performance. In spring 2020, increased and variable RCP seal leak off rates were noted on Unit 2. A Notification was initiated (SAPN 51070772), and the problem was designated as an Emerging Issue to make troubleshooting a high priority among all departments. Although the seal leak off rates remained within all applicable limits, the station desired to understand the cause for the leak off variations. Among other findings, investigations revealed that the leakoff of older RCP seals could be sensitive to temperature, and the configuration of running CFCUs could affect RCP seal temperatures and leakoff rates, particularly for RCP 2-2. Mr. Porter provided the FFT with a copy of the notification, and the FFT found that the issue was thoroughly investigated and well documented.

Conclusions: DCP's Containment Ventilation and Hydrogen Mitigation

Systems were in good health and operated properly. The system engineers appeared knowledgeable and proactive about the health of the system.

Recommendations: None

3.8 DCISC Member Meeting with DCPD Officer

DCISC Member Lam met remotely with Jim Welsch, DCPD Chief Nuclear Officer. The DCISC last met with a DCPD Officer in July 2020 (Reference 6.5), concluding the following:

The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

Dr. Lam and Mr. Welsch discussed agenda items from this fact-finding meeting and other subjects of mutual interest.

Conclusions: The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

Recommendations: None

3.9 Employee Concerns Program

The DCISC FFT met remotely with Donna Wells, Manager of the Employee Concerns Program (ECP), and Adam Passion, ECP Investigator, for an update. The DCISC last reviewed the ECP program during its October 2017 Fact-Finding Meeting (Reference 6.6), when it concluded the following:

The DCPD Employee Concerns Program appeared appropriate for receiving and investigating employee concerns in a confidential manner. During 2017, as in past years, there have been no significant concerns regarding nuclear safety.

The ECP group normally consisted of two investigators and a manager. Ms. Wells had been promoted from investigator to manager for the group in May 2020. She reported that during the period that the manager's position was vacant from January to May 2020, Jim Welsch, the Chief Nuclear Officer (CNO), was designated as the manager for the group. She noted that there had been some concerns by employees about the program's effectiveness during the time that the CNO was designated manager. These concerns were mostly based on maintaining the group's independence and the confidentiality of information as the program did not usually share all details of its investigations and/or the identities of concerned individuals with the CNO. Also, Mr. Passion recently joined the group to replace Ms. Wells, and he was previously a member of PG&E's Communications Department at DCPD.

The group's purpose was to be an independent and impartial investigator of concerns raised by employees. The group formed an avenue for employees who for any reason did not wish to report concerns directly to supervisors or managers. A specific purpose of the program was to provide such employees with a method for investigation and resolution of concerns that falls outside of the station's Corrective Action Program. The group reported directly to the CNO and met periodically with the CNO or when warranted by the results of a formal investigation. Two station procedures governed the ECP (OM3.ID3, "Employee Concerns Program," Revision 17, dated April 17, 2017, and OM3.NQ1, "Employee Concerns Investigations and Reporting," Revision 12, dated April 17, 2017), copies of which were provided to and reviewed by the FFT. The procedures contained extensive guidance on implementing the program and for providing all employees an ability to raise quality or safety concerns without fear of retaliation. Confidentiality of any reporting individual's identity was assured, unless precluded by lawful requests for information from the NRC or a court. The primary methods through which concerns were entered into and reviewed by the ECP process were:

- Concerns submitted by employees directly into the ECP program,
- Referral of allegations of wrongdoing from employees to the NRC which were referred to PG&E for further investigation and response,
- Anonymous notifications entered into the Corrective Action Program, and
- Special requests from managers or other departments (for example - any potential safety concerns contained in employee resignation letters).

Statistics for 2019 and year-to-date for 2020 were as follows:

<u>Category</u>	<u>2019</u>	<u>2020 (to date)</u>
Concerns, formal investigation not required	40	25
Concerns, formal investigation performed	6	4
Anonymous Notifications	192	112
NRC Allegations referred to PG&E	5	0

Ms. Wells believed that the 2019 numbers were generally consistent with annual numbers in the past. However, the number of NRC Allegations in 2019 was up significantly and included one NRC Allegation that was submitted by a member of the general public. There were no significant trends or concerns noted from the abnormally high number of NRC Allegations.

The FFT inquired regarding the impact of COVID-19 upon the ECP program, and Ms. Wells stated that the group had been heavily involved in reviewing various aspects of the COVID-19 impacts. She reported that while the number of concerns spiked in early 2020 with several issues related to COVID-19, the overall numbers for the year remained consistent with past years. A large number of anonymous notifications was submitted related to COVID-19, with the bulk (approximately 64 of the 192 received to date) related to concerns within the Security Department.

The concerns included excessive overtime, COVID-19 related policies, pay and incentives, and on-the-job distractions. As a part of the ECP group's initiative to become more engaged in field activities, the group had devised a strategy to perform "pulsing activities." A pulsing activity involved members of the ECP group reaching out to individuals within various departments at the station and informally asking specific questions on topics that had the potential to affect safety. As a part of investigating and tracking COVID-19 related concerns, the ECP group was reaching out to employees via phone calls and asking a series of questions related to work processes at the station and at home for employees who were working from home. Ms. Wells provided the FFT with a copy of the pulsing plan, and the FFT found it to be thorough and a good initiative to gather the opinions of employees regarding the impacts of the COVID-19 Pandemic on the station. Noteworthy was the fact that the plan called for 24 interviews to be completed monthly with employees from various departments during the period from March through December 2020 (240 total interviews planned).

Also during the COVID-19 pandemic, the Nuclear Safety Culture Monitoring Panel (NSCMP) met several times to review concerns related to the pandemic. Ms. Wells provided the FFT with a copy of the Nuclear Safety Culture Review Report which contained a summary of the NSCMP's meetings during the period from February to mid-May. The NSCMP's meetings appeared to be well focused on reviewing concerns expressed by employees at the station and tracking the resulting recommended actions.

Ms. Wells informed the FFT that there was one technical concern which was currently being investigated by the ECP group that was related to a situation where management had not accepted engineering's recommendations regarding changing the periodicity for a preventive maintenance activity. One of the ECP group's responses to this issue was to initiate another pulsing activity to perform an informal survey within the Engineering Department to ascertain if there were broader concerns with the deferral of work activities at the station in general.

Additionally, the ECP group was reviewing selected Preventive Maintenance Change Requests. The FFT inquired as to what would be done should a safety concern be identified, and Ms. Wells responded that a letter would be submitted to the CNO stating the concern and requesting an action plan be developed for resolution. As the investigation was ongoing, the FFT did not inquire further into the details of the concern.

Separately, DCP's Differing Professional Opinions (DPOs) Program provides a formal process for resolving differences in technical opinions between employees and supervision over issues possibly affecting nuclear safety or licensing. The DPO process was governed by procedure OM3.ID6, "Differing Professional Opinion," Revision 2, dated November 15, 2012, a copy of which was also provided and reviewed by the FFT. The DPO process has not been frequently used, with only one DPO case having been processed in the last five years.

Conclusions: The DCP Employee Concerns Program continued to

function well in receiving and investigating employee concerns in a confidential manner. During 2019, as in past years, and to date in 2020, there were no significant concerns regarding nuclear safety. A number of COVID-19 pandemic-related concerns from employees were being thoroughly evaluated by the Employee Concerns Program.

Recommendations: None

3.10 NRC Inspection Finding on Emergency Siren Maintenance

The DCISC FFT met remotely with Mike Ginn, Emergency Planning Manager, and Cameron Christensen, Senior Emergency Planning Coordinator, to review the facts surrounding an NRC inspection finding regarding the maintenance of Early Warning System (EWS) Sirens that was contained an NRC Inspection Report dated January 23, 2020, (Reference 6.7) and was the topic of questions discussed at the DCISC's February 2020 Public Meeting. This was the DCISC's first review of this topic.

In the subject NRCs Inspection Report, an Unresolved Item (URI) was opened related to testing of DCP's offsite EWS Sirens. Specifically, the NRC found that DCP's Procedure EP MT-43, "Early Warning System Testing and Maintenance," had been modified to change the scheduled replacement of siren batteries from three years to five years. The change was based on vendor recommendations for a different type of batteries that were installed in the system during upgrades made to the EWS Sirens in 2014. The NRC's URI focused primarily on the status of the required corresponding changes that should have been made to the Federal Emergency Management Agency (FEMA)-approved design report, the "Alert and Notification System Design Report, Early Warning System." Specifically, it appeared that the current FEMA-approved design report contained a section containing a battery life calculation that still used the three-year replacement interval as its basis for assuring adequate battery life. The URI primarily concerned the fact that FEMA had not been given the proper opportunity to review and approve the replacement interval change due to DCP's failure to update the calculation contained in the FEMA-approved design report.

Mr. Christensen confirmed that the primary issue of concern to the NRC was the fact that an outdated calculation was contained in a section of the current FEMA-approved design report. He stated that neither DCP nor the NRC had any questions regarding the technical adequacy of the evaluation that changed the replacement interval from three to five years. The FFT reviewed the detailed information contained in the Inspection Report and confirmed that this was the case. In addition to the five-year periodic replacements, the batteries were tested annually and replaced if capacity fell below 80%. The type of batteries currently installed in the system had completed five years of service and annual tests without any issues following the 2014 modification through their replacement as scheduled in 2019.

Mr. Ginn informed the FFT that FEMA had completed its review of the issue as requested by the NRC and concluded that DCPD did not properly update the subject section of the design report. FEMA also stated that it did not have any technical concerns with the five-year replacement interval for EWS Siren batteries. It was expected that the NRC would soon close the URI and would likely issue a non-cited minor violation for the failure to update the report.

Conclusions: **The DCISC concurred with FEMA's finding that DCPD failed to properly update all portions of a design report submitted in 2014 to the Federal Emergency Management Agency with regards to the planned periodicity for siren battery replacements. This procedural failure did not degrade safety as there were no issues with the technical adequacy of changing the siren battery replacement interval from three to five years.**

Recommendations: **None**

3.11 Status of Responding to the COVID-19 Pandemic

The DCISC FFT met with Mike Ginn, Emergency Planning Manager, to review DCPD's ongoing actions taken in response to the COVID-19 pandemic. The DCISC last reviewed the DCPD's response to the pandemic during its May 2020 Fact-Finding Meeting (Reference 6.8), when it concluded the following:

DCPD appeared to be responding properly to the many challenges posed by the COVID-19 Pandemic. Appropriate actions were being taken to ensure that the facility would continue to be safely operated and maintained, and planning was in place to assure that adequate numbers of personnel would be available to respond if an emergency were to occur. The DCISC should follow up and continue to monitor the status of DCPD's pandemic response regularly at Fact-Finding Meetings and Public Meetings until such time as the current pandemic threat passes.

Mr. Ginn provided the FFT with an overview of DCPD's status in responding to the COVID-19 Pandemic, which was in its sixth month as of the time of the FFT's meeting. He provided an executive briefing document dated August 20, 2020, which detailed the current situation and actions taken at the station in response to the pandemic. He summarized for the FFT that as of the date of the meeting, eleven employees and six badged contractors had tested positive for the virus and four employees were currently in quarantine status. It was believed that none of the positive tests resulted from an onsite transmission of the virus. However, there were two cases of possible onsite transmission that were under review at the time of the FFT's visit.

The station remained in the 'monitoring' mode under PG&E's pandemic response plans. As such, non-essential personnel continued to work remotely, and it was

forecast that remote work would continue at least through the end of the year.

Employees who were required to work onsite were required to perform a self-screening prior to arrival at the station. The self-screening process involved the use of an application available on smart phones and devices which required the employee to answer several questions verifying that the employee was in good health before reporting to work. The employee's answers to the questions were automatically reported to supervisors who reviewed the results and confirmed that the employee was healthy before beginning work at the station. Other pandemic control measures that continued to be in effect included requirements for mandatory personnel protective equipment (masks or face shields), limited personnel access to critical areas (such as the Control Room), additional sanitizing routines and supplies, and limitations on in-person meetings. Additionally, several walk-through personnel temperature screening devices were being procured and planned for installation at the station prior to the commencement of the upcoming refueling outage. Mr. Ginn noted that the station recently completed a two-week forced outage on Unit 2 without any pandemic-related issues among the contractors who performed the bulk of the repairs (see Section 3.3 above).

To assist employees during the pandemic, PG&E recently instituted a new policy allowing flexibility in time off in order to accommodate parenting of children at home being schooled remotely. The station also initiated ergonomic assessments for remote workers and was assisting employees to resolve potential ergonomic issues with their remote work environments. Currently, the station continued to experience no supply chain disruptions due to the pandemic.

Mr. Ginn then briefed the FFT regarding DCP's plans for emergency response exercises. The biennial emergency response exercise originally scheduled for August 19, 2020, was postponed at the request of local and state officials who stated that the pandemic had adversely impacted their ability to prepare for and participate in the exercise. On July 9, 2020, DCP sent a letter to the NRC (PG&E Letter DCL-20-058; NRC ADAMS number ML2019A204) requesting that the NRC approve a temporary (one-time) exemption to allow the exercise to be conducted in 2021 instead of 2020. As of the date of the FFT meeting, a response had not been received, but it was expected that the NRC would grant the temporary exemption. [Following the FFT meeting on September 18, 2020, the NRC approved extending the exercise performance requirement until September 24, 2021 (NRC ADAMS number ML20247J651)]. Mr. Ginn also reported that PG&E was resuming small-scale onsite exercises using appropriate measures to ensure that personnel were protected from the spread of the COVID-19 virus.

Separately, the FFT inquired regarding the impact of the COVID-19 Pandemic with several DCP personnel throughout this FFT meeting. Most employees who were working from home felt that they were being effective in their jobs.

Conclusions: DCP appeared to be responding properly to the many challenges posed by the COVID-19 Pandemic. Appropriate actions were being taken to ensure that the facility would continue to be safely

operated and maintained. The DCISC should follow up and continue to monitor the status of DCP's pandemic response regularly at Fact-Finding Meetings and Public Meetings until such time as the current pandemic threat passes.

Recommendations: None

3.12 Self-Assessment Program

The DCISC Fact-finding Team met remotely with Ann Shatara, Performance Improvement (PI) Manager; Dustin Yancey, PI Supervisor; and Jana Orlando, Self-Assessment Coordinator, for an update on DCP's Self-Assessment Program. The DCISC last reviewed the Self-Assessment Program during its August 2016 Fact-Finding Meeting (Reference 6.9), when it concluded the following:

DCP's Self-Assessment Program appears to be implemented satisfactorily in that many self-assessments are performed; however, their quality is somewhat questionable as some are determined to need changes by the Performance Improvement Review Board before becoming final. This has caused Program health to be judged Yellow - improvements needed. The DCISC should continue to monitor the S-A Program to see whether program health will improve.

The DCP Self-Assessment Program is controlled by Procedure OM15. ID4, Revision 16, "Self-Assessment and Benchmarking," dated September 12, 2019, a copy of which was provided to and reviewed by the FFT. This procedure describes the various station responsibilities for performing, reviewing, reporting and approving the various types of Self-Assessments to insure consistency in their execution and conduct. It outlines the process and requirements for all types of Self-Assessments, especially formal Self-Assessments. The process was recently revised to incorporate changes recommended by Nuclear Industry Standard Process NISP-PI-02, "Conduct of Self-Assessments and Benchmarks," dated March 1, 2019, in order improve efficiency. The revisions focused primarily upon reducing the administrative burden for non-formal Self-Assessments. The program now includes three general types of self-assessments:

1. Formal Self-Assessment - an evaluation of a particular program, process, system or potential problem area using a structured methodology involving scheduling, planning, one or more industry peers, a team of DCP personnel, training, documentation in written reports and Notifications, and report-outs to management.
2. Quick Hit Self-Assessment (QHSA) - a narrow, snapshot look at a specific program, process, or issue, usually of a one- or two-day duration and not requiring industry peer involvement or report out to management.
3. Benchmarking - a study to identify industry excellence or best practices in an external organization. Compares findings at other organizations to DCP in

order to identify gaps and develop recommendations for improvement. The DCISC separately reviewed DCP's Benchmarking programs during its November 2018 Fact-Finding Meeting (Reference 6.10).

During the twelve-month period from August 18, 2019, to the date of the Fact-Finding Meeting, DCP performed the following numbers of Self-Assessments:

- 8 Formal Self-Assessments
- 41 Quick Hit Self Assessments
- 30 Benchmarking Activities

Self-Assessments were performed in the following functional areas:

- Chemistry
- Cyber Security
- Decommissioning
- Engineering
- Maintenance
- Operations
- Organizational Effectiveness/Learning Services
- Performance Improvement
- Procurement
- Quality Verification
- Radiation Protection
- Safety
- Security
- Work Management

DCP formal Self-Assessments are monitored and reported in the monthly Performance Improvement (PI) Status Summary, copies of which are regularly provided to the DCISC. The PI Status Summary lists all planned formal Self-Assessments with their conduct dates and current statuses. The PI Status Summary is also reviewed by the Corrective Action Review Board (CARB) monthly, and the CARB is responsible for providing senior leadership oversight and guidance as well as performing a final review for all formal Self-Assessments.

The DCISC is regularly provided copies of formal Self-Assessments and QHSAs. In general, both types of assessments were found to be well performed with follow-up actions for improvements clearly identified and tracked. Some examples of assessments the DCISC reviewed and found satisfactory in the last three months prior to this meeting were:

- Formal Self-Assessment for Cyber Security
- Formal Self-Assessment for Problem Identification and Resolution

QHSA for Reactivity Management

- QHSA for Procurement Records Management System Practices
- QHSA for Critical Spares Management
- QHSA for Operability Determinations

Regarding evaluations by external organizations, the NRC performed an inspection of the DCPD Problem Identification and Resolution Program in May 2018, and the World Association of Nuclear Operators reviewed the program in August of 2019.

Both organizations concluded that the program was effective. The NRC was performing another inspection of the program at the time of the FFT's meetings, but the results of that inspection were not yet available.

The FFT inquired about a recent Quality Verification (QV) Department finding regarding failures to document Self-Assessments. Ms. Orlando stated that the finding related to the fact that the Procurement Department failed to perform a recurring Self-Assessment within the two-year periodicity as required by station procedures. As a part of the corrective actions for the QV finding a review of station procedures was initiated to ensure that all formal and informal Self-Assessments were being performed as required by plant procedures. Ms. Orlando provided a copy of the evaluation to the FFT (SAPN 51066112). The evaluation identified that a total of 67 station procedures contained requirements to perform Self-Assessments and found 5 additional cases (deficiencies) where procedurally required Self-Assessments were not completed within the required periodicity.

The evaluation also identified four gaps and three enhancements to ensure that the Self-Assessments would be properly performed in the future. The deficiencies, gaps and enhancements were entered into the Corrective Action System to track their resolution.

Conclusions: DCPD's Self-Assessment Program continues to be an active and effective program for evaluating and improving station performance.

Following the identification that several recurring Self-Assessments had not been completed within the periodicity required by station procedures, appropriate corrective actions were initiated.

Recommendations: None

3.13 Attend Plan of the Weekend Review Meeting

The DCISC FFT attended via conference call DCPD's August 20, 2020, Plan of the Weekend Review (POWER) Meeting. This was the DCISC's first review of this topic.

The POWER Meeting was convened on Thursday afternoon for the purpose of reviewing all work completed for that day as well as work planned for the upcoming weekend (Friday through Sunday). The meeting was led primarily by Matt Anderson, Shift Manager, and approximately 30 persons attended the meeting which was held by conference call. Topics discussed included the

following:

- Desired Meeting Outcome
- Major Changes to Plant Status
- Emergent Work
- Turnover Work Items
- Security Watch Commander Brief
- Work Group Manager Brief
- Night Shift Support
- Priority Work Items
- Emerging Issues
- Industrial Safety Issues/Hazards
- Weekend Work List
- Clearances Needed
- Environmental Concerns
- Operations Focus Questions
- Operations Concerns
- Review of Weekend Priorities

The FFT observed that the discussion was very effectively facilitated with crisp and clear informational exchanges across a large number of planned work activities by a large number of individuals. The discussions appeared to reflect a highly systematic approach to the planning of the upcoming weekend work activities.

Conclusions: The DCISC Fact-finding Team concluded that the August 20, 2020, Plan of the Weekend Review meeting was effectively facilitated with crisp and clear informational exchanges across a large number of planned work activities.

Recommendations: None

4.0 CONCLUSIONS

The meeting with the NRC Senior Resident Inspector was beneficial, and the DCISC should continue the meetings.

4.2 The DCISC concluded that there were only minor safety concerns with the approach that DCPD was proposing in a License Amendment Request to perform AFW System Extent of Condition inspections and possible repairs on Unit 1. The DCISC should review the final Root Cause Evaluation for the Unit 2 AFW leak following its completion by DCPD.

4.3 The FFT concluded that the Unit 2 Forced Outage on July 17, 2020, was properly managed, and corrective actions to identify and repair a hydrogen leak in the Main Generator were appropriate.

4.4 Over the last few years, an increased level of attention to the health of DCP's Fire Protection and Detection Systems has improved system performance, and the number of impairments has been significantly reduced. This is excellent performance and a notable contribution to improving overall safety at DCP.

4.5 The DCP Corrective Action Review Board (CARB) meeting on August 19, 2020, appeared satisfactory in that the meeting met the intended objectives. Discussion of the significant items was comprehensive.

4.6 DCP's decision to defer Steam Generator secondary side cleaning and inspection activities was acceptable, and the associated safety risks were found to be low and well understood by the station. However, the basis for significant decisions should be better documented with more detail, particularly if the decision is counter to recommendations being made by the Engineering Department and/or equipment vendors.

4.7 DCP's Containment Ventilation and Hydrogen Mitigation Systems were in good health and operated properly. The system engineers appeared knowledgeable and proactive about the health of the system.

4.8 The regular meetings between DCISC Members and DCP Officers and Directors continue to be beneficial for both organizations.

4.9 The DCP Employee Concerns Program continued to function well in receiving and investigating employee concerns in a confidential manner. During 2019, as in past years, and to date in 2020, there were no significant concerns regarding nuclear safety. A number of COVID-19 pandemic-related concerns from employees were being thoroughly evaluated by the Employee Concerns Program.

4.10 The DCISC concurred with FEMA's finding that DCP failed to properly update all portions of a design report submitted in 2014 to the Federal Emergency Management Agency with regards to the planned periodicity for siren battery replacements. This procedural failure did not degrade safety as there were no issues with the technical adequacy of changing the siren battery replacement interval from three to five years.

4.11 DCP appeared to be responding properly to the many challenges posed by the COVID-19 Pandemic. Appropriate actions were being taken to ensure that the facility would continue to be safely operated and maintained. The DCISC should follow up and continue to monitor the status of DCP's pandemic response regularly at Fact-Finding Meetings and Public Meetings until such time as the current pandemic threat passes.

4.12 DCP's Self-Assessment Program continues to be an active and

effective program for evaluating and improving station performance.

Following the identification that several recurring Self-Assessments had not been completed within the periodicity required by station procedures, appropriate corrective actions were initiated.

4.13 The DCISC Fact-finding Team concluded that the August 20, 2020, Plan of the Weekend Review meeting was effectively facilitated with crisp and clear informational exchanges across a large number of planned work activities.

5.0 RECOMMENDATIONS

5.1 None

6.0 REFERENCES

6.1 "Diablo Canyon Independent Safety Committee Thirty-First Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June 30, 2021," Approved October 20, 2021, Volume II, Exhibit D.1, Section 3.1, "Meet with NRC Senior Resident Inspector."

6.2 "Diablo Canyon Independent Safety Committee Twenty-Seventh Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2016 - June 30, 2017," Approved October 19, 2017, Volume II, Exhibit D.7, Section 3.2, "Fire Protection Program and System Health."

6.3 "Diablo Canyon Independent Safety Committee Twenty-Ninth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2018 - June 30, 2019," Approved October 23, 2019, Volume II, Exhibit D.6, Section 3.5, "Observe Corrective Action Review Board."

6.4 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020," Approved October 23, 2020, Volume II, Exhibit D.7, Section 3.9, "Steam Generator System."

6.5 "Diablo Canyon Independent Safety Committee Thirty-First Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June 30, 2021," Approved October 20, 2021, Volume II, Exhibit D.1, Section 3.12, "Meet with DCPD Officer."

6.6 "Diablo Canyon Independent Safety Committee Twenty-Eighth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2017 - June 30, 2018," Approved October 24, 2018, Volume II, Exhibit D.4, Section 3.7, "Employee Concerns Program."

6.7 "Diablo Canyon Power Plant, Units 1 and 2 - Integrated Inspection Report 05000275/2019004 and 05000323/2019004," NRC ADAMS number ML20023B809,

Dated January 23, 2020, Page 14, "Failure to Replace Early Warning System Batteries at Periodicity Required by the Alert and Notification System Design Report, URI 05000275,05000323/2019004-02."

6.8 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020," Approved October 23, 2020, Volume II, Exhibit D.9, Section 3.10, "Status of Responding to the COVID-19 Pandemic."

6.9 "Diablo Canyon Independent Safety Committee Twenty-Seventh Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2016 - June 30, 2017," Approved October 19, 2017, Volume II, Exhibit D.3, Section 3.2, "Self-Assessment Program."

6.10 "Diablo Canyon Independent Safety Committee Twenty-Ninth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2018 - June 30, 2019," Approved October 23, 2019, Volume II, Exhibit D.4, Section 3.10, "Benchmarking Programs."

[31st Annual Report, Volume II, Exhibit D.3, Diablo Canyon Independent Safety Committee Report on Fact Finding Meeting at DCPD on September 9-10, 2020 by Robert J. Budnitz, Member, and R. Ferman Wardell, Consultant](#)

1.0 SUMMARY

The results of the DCISC Fact-finding meeting held on September 9-10, 2020, for the Diablo Canyon Power Plant (DCPP) in Avila Beach, CA are presented. Due to travel and attendance restrictions resulting from the COVID-19 virus, all meetings were conducted remotely via MS Teams. The subjects addressed and summarized in Section 3 are as follows:

1. Nuclear Regulatory Commission (NRC) Licensing Issues Status
2. Outage Safety Training
3. Meet with DCPD Site Vice-President Paula Gerfen
4. Auxiliary Feedwater System License Amendment Request
5. Refueling Outage 1R22 Safety Plan
6. Meet with NRC Senior Resident Inspector
7. Control Rod Issues
8. Postponed/Cancelled Projects
9. Nuclear Instrumentation Systems
10. Overall Probabilistic Risk Assessment Program Update
11. Operational Decision-Making Program
12. Employee Retention Participation Update

2.0 INTRODUCTION

This Fact-Finding meeting with DCPD was made to evaluate specific safety matters for the DCISC. The objective of the evaluation was to determine if Pacific Gas and Electric's (PG&E's) performance is appropriate and whether any areas revealed observations, which are important enough to warrant further review, follow-up, or presentation at a public meeting. These safety matters include follow-up and/or continuing review efforts by the Committee, as well as those identified as a result of reviews of various safety-related documents.

Section 4-Conclusions highlights the conclusions of the Fact-Finding Team based

on items reported in Section 3-Discussion. These highlights also include the team's suggested follow-up items for the DCISC, such as scheduling future Fact-Finding Meetings on the topic, presentations at future public meetings, and requests for future updates or information from DCPD on specific areas of interest, etc.

Section 5-Recommendations presents specific recommendations to PG&E proposed by the Fact-Finding Team. These recommendations will be considered by the DCISC. After review and approval by the DCISC, the Fact-Finding Report, including its recommendations, will be provided to PG&E. The Fact-Finding Report will also appear in the DCISC Annual Report.

3.0 DISCUSSION

3.1 NRC Licensing Issues Status

The DCISC Fact-Finding Team (FFT) had a remote (virtual) meeting with Jim Morris, Regulatory Services Supervisor, to discuss the status of significant NRC licensing issues. The DCISC last reviewed this item in January 2018 (Reference 6.1), when it concluded the following:

DCPD has satisfactory plans and actions for 2018 which should resolve its major regulatory issues.

Below in *italics* are the regulatory items status from the previous Fact-finding Meetings with September 2020 updates shown Underlined.

1. The issue of potential debris blockage of a containment sump during a potential Loss of Coolant Accident (LOCA) has been the subject of detailed and lengthy research by the industry and the NRC (Generic Safety Issue 191).

Extensive enlargements and modifications have been made to DCPD's containment sump screens in order to substantially reduce the risk of interrupting recirculation to the Reactor Vessel in the later phases of a LOCA. PG&E's decision to pursue resolution of this long-standing industry issue through a risk informed process appears to be a reasonable and achievable approach, recognizing that the deterministic approach is well established practice.

March 2017 Update: *DCPD has removed/replaced substantial amounts of containment insulation and other materials which could have blocked/clogged sump screens and pumps. It is waiting for the completion and approval of a Westinghouse topical report documenting the final testing performed on the ability of containment sump screens and Residual Heat Removal pumps to handle expected containment sump mixtures. The topical uses a risk-informed approach to the debris problem. The final resolution will require Technical Specification changes.*

January 2018 Update: *No changes. Pending final generic resolution for Technical Specifications.*

September 2020 Update: *This issue has been closed by NRC for DCP.*

2. EDG Health and Performance: DCP has resolved most of the significant issues with its Emergency Diesel Generators (EDGs) and reports the health of Unit 1 as Green and Unit 2 as White (and trending towards Green). This is good progress. Additionally, DCP has implemented an impressive EDG Reliability Improvement Plan, which the DCISC has followed.

March 2017 Update: *The EDGs exhibit good health resulting from DCP's recent and current actions. The DCISC FFR received and reviewed the DCP EDG Reliability Improvement Plan, dated March 10, 2017. The plan is comprehensive and action-based. The Plan implements more targeted maintenance at appropriate intervals, completion of overdue design changes for known deficiencies, increasing critical spare parts stocking levels, and enhancing operating and maintenance procedures.*

January 2018 Update: *No changes. EDG performance indicators for Units 1 and 2 are both NRC Green and meeting plant goals ($MSPI < 3.0 \times 10^{-7}$, NRC Green $< 1.0 \times 10^{-6}$).*

September 2020 Update: *This issue has been closed for DCP.*

3. 230kV Emergency Power: The DCP 230kV System health has improved, and several corrective actions made to date to address system problems have been successfully completed. [December 7-8, 2016 Fact-finding Meeting]

March 2017 Update: *All 230kV disconnect switches have been replaced. Static VAR compensators at the Mesa Substation feeding DCP have been added. Unit 1 circuit switches are being replaced in Outage 1R20, and Unit 2 switches are being replaced in Outage 2R20. This concludes the design and component upgrades for the 230kV System.*

January 2018 Update: *All actions have been completed. This item was closed.*

September 2020 Update: *There have been no further developments.*

4. Open Phase Power: DCP has satisfactorily committed to and added temporary compensatory actions to deal with the Open Phase Electric Power Issue. It has also added permanent solutions for monitoring and trip functions completed in the R21 refueling outages in 2018.

March 2017 Update: *These design modifications will be installed in Outages 1R20 and 2R20. Unit 1 trip functions will be enabled by June 30, 2018. Unit 2 trip functions will be enabled by December 31, 2018.*

January 2018 Update: *The design modification has been installed for Unit 1 and will be installed for Unit 2 in upcoming Refueling Outage 2R20 beginning in*

February 2018. DCPD is considering replacing the power supplies for improved reliability. This may affect the date for full implementation.

September 2020 Update: *All modifications have been installed. The monitoring portion is active, but the trip portion is on hold awaiting NRC approval of DCPD's risk-based analysis. An NRC inspection is expected in 2021.*

5. Control Room Habitability: DCPD has resolved issues with its Control Room Ventilation System (CRVS). The two remaining issues, upgrading the CRVS air conditioning system and NRC approval of Control Room Envelope accident radiation dose calculations using the Alternate Source Term (AST), are complete.

March 2017 Update: DCPD expects NRC approval of its submittal in April 2017. [Note: the NRC approved this submittal on April 27, 2017 for use of the Alternate Source Term.] The Control Room Briefing Room shielding is currently being installed. The new Control Room air conditioning compressors have been funded and are scheduled for installation in 2018.

January 2018 Update: AST is on track to be implemented by the required date of 4/27/18. Procedure changes are in progress and final modifications are being performed in Outage 2R20.

September 2020 Update: *The AST was used for a reanalysis, and this issue has been closed by NRC for DCPD.*

6. NRC White Finding for Inoperability of Valve SI-1-8982B Interlock:

March 2017 Update: DCPD is preparing for the NRC 95-001 inspection in late May or early June 2017. If satisfactory, NRC will move DCPD inspection frequencies back to Column 1 (normal).

January 2018 Update: The NRC 95-001 inspection in June 2017 identified several open items; however, re-inspection in December 2017 resolved these open items, and NRC returned DCPD inspection frequencies to Column 1 (normal).

September 2020 Update: *This issue has been closed by the NRC for DCPD.*

7. NRC Assessment of the DCPD March 2015 Local Intense Precipitation and Tsunami Analysis:

DCPD's Local Intense Precipitation analyses appear satisfactory to assure protection for safety-related equipment in the Auxiliary Building either analytically or by pre-planned mitigation using sandbags. DCPD's tsunami analyses were completed and submitted to NRC in March 2015, and they have received NRC's Final Safety Evaluation. Meanwhile, DCISC has requested a separate analysis for which DCPD is seeking funding.

March 2017 Update: The NRC Final Safety Evaluation is expected by the end of May 2017. The DCISC-requested tsunami analysis should begin in August if funding is approved.

January 2018 Update: As reported in Item 3.6 above, the NRC found the DCPD flood and tsunami analyses acceptable and closed the items.

September 2020 Update: There have been no further developments.

8. Cyber Security (New - January 2018) - DCPD completed implementation of its Cyber Security Program by the NRC's required date of 12/31/17.

September 2020 Update: The NRC inspection has been delayed until March 2010.

9. Spent Fuel Pool Evaluation (New - January 2018) - DCPD submitted on December 18, 2017 its "Spent Fuel Pool Evaluation Report - Response to NRC Request for Information Pursuant to 10CFR50.54, Regarding Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident." The NRC staff is now reviewing this submittal.

September 2020 Update: This issue has been closed by NRC.

10. Auxiliary Feedwater System License Amendment Request - The LAR was submitted to NRC in August 2020 for the purpose of facilitating inspections and potential repairs to the Unit 1 Auxiliary Feedwater System (AFW), which was identified with possible corrosion-generated leaks. DCPD discussed submitting an LAR on an exigent basis with the NRC, and the NRC responded that such an LAR could be issued within a few weeks if the basis was appropriate and the change was found to adequately protect the safety of the public. DCPD concluded that this approach was appropriate for the timeliness of corrective actions given the situation. (This issue is reported in more detail in Section 3.4 below.)

September 2020 Update: The NRC approved the LAR, and DCPD proceeded with inspections. No leaks were found, and no repairs were required.

11. Refueling Water Storage Tank Water Level - The tank water level showed lower than permitted by Technical Specifications - approximately 14 gallons low. This would require plant shutdown within an hour; however, a DCPD analysis concluded the level was acceptable. NRC may issue a minor violation for inadequate water level monitoring.

September 2020 Update: Awaiting NRC action.

12. Scaffolding Issues: Scaffolding was found installed close to Containment air lines, causing potential seismic interaction problems. NRC believed the DCPD Engineering Scaffold Program was not adequately robust to account for potential interaction items.

September 2020 Update: This item was entered into the DCPD Corrective Action Program with a proposed resolution of improving the engineering scaffold process. DCPD is waiting for a response from the NRC.

13. Debris in Battery Cell: Debris was found in a safety-related battery cell, causing it to be declared inoperable.

September 2020 Update: DCPD bypassed the cell temporarily, until the battery was replaced. NRC was concerned about ineffective communication between Operations and Engineering and about not having a timely operability determination. Awaiting NRC action.

Conclusions: The number of DCPD outstanding NRC licensing issues have decreased, and none of them is a major safety issue. DCPD is addressing them responsibly.

Recommendations: None

3.2 Refueling Outage 1R22 Safety Training

The DCISC FFT performed a remote (virtual) observation of DCPD Outage Safety Training for Refueling Outage 1R22 for both licensed and non-licensed operators. The DCISC last observed training in May 2020 (Reference 6.2), when it concluded:

The FFT concluded that DCPD was continuing to implement both Licensed and Non-Licensed Training programs successfully during the COVID-19 Pandemic.

The training was conducted remotely due to the COVID-19 pandemic. The subjects covered were as follows:

Licensed and Non-Licensed Operators (taught by Operations Training)

- Outage Operating Experience
- Outage Operating Procedures
- Outage Safety Schedule and Checklist
- Shutdown Procedures
- Drain to Vessel Flange Procedure
- Human Performance Tools
- Reactor Vessel Refueling Level Instrumentation System

Licensed Operators Only (Taught by Reactor Engineering)

- New Core Design Features
- Moving to Shorter Cycles After Refueling Outage 1R23
- Core Behavior with Time
- All Rods Out Operation
- Fuel Mechanical Design
- Fuel Pellet Design Features

The instructors were knowledgeable and effective with their presentations. Class participation during the lecture phase was low, likely due to the remote nature of the class; however, following the lecture, the instructor asked many questions about the material and received good responses. The class materials and handouts appeared satisfactory.

Conclusions: The remotely held Outage Training to prepare Licensed and Non-Licensed Operators for Refueling Outage 1R22 and subsequent start-up and operation appeared satisfactory.

Recommendations: None

3.3 Meet with Site Vice-President Paula Gerfen

The DCISC FFT had a remote (virtual) meeting with Paula Gerfen, DCPD Site Vice-President to discuss items from this fact-finding meeting and other items of mutual interest. The DCISC last met with a DCPD Officer in August 2020 (Reference 6.3), concluding the following:

The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

Conclusions: The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

Recommendations: None

3.4 Auxiliary Feedwater System License Amendment Request

The DCISC FFT had a remote (virtual) meeting with Michael Richardson, Regulatory Services Supervisor, and Ken Shrader, Regulatory Services Principal Engineer, for an update on DCPD's License Amendment Request (LAR) on performing inspections and repairs of the Unit 1 Auxiliary Feedwater (AFW) System on-line. The DCISC last reviewed this topic in August 2020 (Reference 6.4), when it concluded the following:

The DCISC concluded that there were no safety concerns with the approach that DCPD was proposing in a License Amendment Request to perform AFW System Extent of Condition inspections and possible repairs on Unit 1. The DCISC should review the final Root Cause Evaluation for the AFW leak on Unit 2 following its completion by DCPD.

The AFW System is a safety-related system that provides feedwater to the Steam Generators (SGs) under shutdown, startup, low power, and accident conditions.

The AFW System is designed to provide a water source to the SGs in order to cool

and prevent damage to the nuclear reactor fuel and to prevent overpressurization of the Reactor Coolant System in the event of transients such as a loss of normal Main Feedwater (MFW), a stuck open relief valve, or a pipe rupture on the secondary side. During normal plant shutdown, the AFW System replaces the MFW System and serves as a system to remove heat in hot standby or to cool down to a point where the Residual Heat Removal System can be placed in operation (when Reactor Coolant System temperature becomes less than 350 °F). The AFW System is also used during normal plant startup prior to placing the MFW System in service. The AFW System consists of three feedwater supply trains with diverse means of powering the pumps, which draw water from the Condensate Storage Tanks. One train consists of a full-capacity steam turbine-driven pump, which can be aligned to use steam from any of the four SGs. The other two supply trains consist of half-capacity electric-motor-driven pumps, each normally supplying flow to two of the four SGs, with the capability to be aligned to any of the four SGs.

On July 23, 2020, during a forced outage on Unit 2, operators identified a leak on the discharge piping going from AFW Pumps 2-1 and 2-2 to SG 2-2, downstream of valve LCV 111 (SAPN50183213). This section of piping was outdoors and insulated. The affected Unit 2 AFW trains were declared inoperable, and the unit was placed on Mode 4 in accordance with the applicable Technical Specification (TS), Section 3.7.5. Insulation was removed from the carbon steel piping and an approximate 3/8-inch diameter hole was found in the piping along with heavy corrosion on the outside of the piping under the insulation. The area of the leak was heavily corroded on the exterior of piping which was previously concealed under the insulation. A Root Cause Evaluation (RCE) was initiated and preliminarily concluded that the cause of the leak was moisture trapped under the insulation which accelerated corrosion on the outside of the piping. The section of the piping where the leak occurred appeared to be in a particularly vulnerable position to be routinely wetted both by ocean moisture and by water falling from SG Power Operated Relief Valves during their periodic operations in hot standby conditions. Interim Corrective Actions were initiated, and those actions included performing an Extent of Condition (EOC) investigation on both DCP units. On Unit 2, additional sections of piping that were outdoors and insulated were inspected both visually and using non-destructive examinations to measure pipe wall thicknesses. No additional leaks were found, but six additional locations were identified in the Unit 2 AFW piping where additional repairs were required because pipe wall thickness did not meet minimum code requirements. All of the additional repairs were in the same section of piping as the leak, and approximately four days were required to repair all of the affected sections of piping.

The EOC evaluation also determined that inspections were needed for similar sections of piping on Unit 1, which was operating at full power at the time of the event. It was believed that the Unit 1 piping would be less susceptible to corrosion under the insulation because the ocean spray environment was less corrosive on the Unit 1 piping rack in general. As such, DCP management did not believe that

making an EOC inspection was an urgent matter but at the same time also believed that waiting until the next scheduled shutdown to perform the Unit 1 EOC inspections would not be prudent. Accordingly, DCPD prepared a plan to inspect the corresponding piping on Unit 1 while the unit was online and make repairs as necessary. If inspections found defects on Unit 1, two trains of AFW would be required to be declared inoperable under the existing TS 3.7.5 and the unit would be required to be shut down within six hours.

Operations and DCPD management reviewed the inspection and repair plan with the associated TS and concluded that the generic TS-required actions poorly fit the situation. Specifically, the potential similar leak and repair location on Unit 1 would only affect AFW flow to one of four SGs. Instead of two AFW trains being completely inoperable as addressed by the TS, one train of AFW would maintain the ability to flow to three of its normal four SGs, one train of AFW would maintain the ability to flow to one of its normal two SGs, and one train of AFW would maintain its full ability to flow to two of its normal two SGs. Also considered was the fact that the AFW system, which is normally in standby while the unit is online, would be required to be started up and used to cooldown the plant if a shutdown were initiated. Isolating a part of the system to perform repairs could limit the system's redundancy and ability to cool down the unit after a shutdown and thus possibly increase the risk to operations.

DCPD management then reviewed regulatory alternatives to following TS 3.7.5 during the maintenance should repairs be required. One option was to perform the inspection as soon as possible and then request Enforcement Discretion from the NRC if repairs were needed. Another option would be to request an Emergency License Amendment Request (LAR). These options were ruled out as they were generally both intended to address emergent issues and not inspection and repair activities that could be planned in advance such as was the case in this situation. DCPD discussed submitting an LAR on an exigent basis with the NRC, and the NRC responded that such an LAR could be issued within a few weeks if the basis was appropriate and the change was found to adequately protect the safety of the public. DCPD concluded that this approach was appropriate for the timeliness of corrective actions given the situation.

The LAR specifically requested a one-time only LCO that would allow for one or two AFW trains to be inoperable in Modes 1, 2, or 3 due to inoperable AFW piping affecting the AFW flow path(s) to a single SG. The new LCO included required actions to isolate AFW to the affected SG within two hours and to restore the AFW system to operable status within seven days. The LCO would only be applicable for the current operating cycle which was scheduled to end in October 2020. The LAR's safety evaluation included risk insights in having the affected AFW equipment out of service for seven days using DCPD's Probabilistic Risk Assessment (PRA) model and concluded that the increase in incremental conditional core damage probability was below 1×10^{-6} per year, the incremental conditional large-early-release probability was below 1×10^{-7} per year, and both increases were not risk-significant. The LAR was submitted to the NRC on August

12, 2020, and the NRC made several Requests for Additional Information (RAIs), which were subsequently submitted by PG&E to the NRC.

The NRC License Amendment was approved and issued on August 31.

DCPP completed its interim Root Cause Evaluation (RCE) for the Corrective Action Review Board on August 19, 2020. Key elements of the RCE are as follows:

Direct Cause (proposed):

Insulation damage introduced moisture under the AFW piping insulation, which created a Corrosion Under Insulation (CUI) mechanism that accelerated the external corrosion, resulting in the through wall leak to the AFW piping elbow.

Root Cause 1 (proposed):

Past missed opportunities to remove AFW piping insulation existed in the following areas:

- A 1974 design change added check valves, between the Main Feed Water and AFW systems, which lowered the expected normal operating design temperature below the threshold for requiring insulation.
- A 1984 design change sealed closed the leak detection system, which lowered the enveloping pressure and temperature conditions for AFW downstream of the pump discharge check valves. Assumption that insulation may still be beneficial as an extra safety/external elemental barrier
- Removal may be cost prohibitive
- Design Change process at the time may have not been intrusive enough to address new failure modes, such as CUI.
- Design Change Process Initiative Project 1992

Had these activities addressed insulation removal, corrosion would have been more easily recognized in subsequent inspections. Instead, an assumption that insulation damage observed on AFW piping was merely cosmetic led to missed opportunities, during engineering walkdowns and inspections, to identify the unique vulnerability related to insulated cold piping.

Development of corrective actions is in progress. Examples include, but are not limited to:

- Permanently remove insulation from AFW piping.
- Training solution for understanding of CUI phenomenon has been identified.
- Potential revision to TS5.ID1 "System Engineering" to add more detail to aid the engineer in identifying issues with insulation.
- Perform an Extent of Cause to include CUI vulnerable systems identified in License Renewal.

Interim actions taken

- The Emerging Issue Team's extent of condition actions resumed on August 31 after the NRC has addressed the Exigent License Amendment Request (ELAR).
- The Root Cause Team walked down other outdoor systems for evidence of leaks or corrosion as well as some piping systems indoors that may be susceptible to outside elements (near doors, etc.). SAPNs were written for deficiencies or degradations observed on insulation, coatings, or visual corrosion.

After the NRC LAR was granted, DCPD performed the inspection. DCPD reported that the Unit 1 AFW piping inspection found no significant corrosion or leakage problems which needed repair. The DCISC should request a DCPD presentation in its next Public Meeting in October 2020.

Conclusions: The DCISC concluded in August and at this Fact-finding meeting in September that there were no safety concerns with the approach that DCPD was proposing in a License Amendment Request to perform AFW System Extent of Condition inspections and possible repairs on Unit 1. After the NRC LAR was granted, DCPD performed the inspection, and reported that the Unit 1 AFW piping inspection found no significant corrosion or leakage Problems. The DCISC should review the final Root Cause Evaluation for the AFW leak on Unit 2 following its completion by DCPD.

Recommendations: None

3.5 Refueling Outage 1R22 Outage Safety Plan

The DCISC FFT had a remote (virtual) meeting with Chip Dean, Lead Refueling Senior Reactor Operator, to review the outage safety plan. The DCISC last reviewed an outage safety plan in September 2019 (Reference 6.5), concluding the following:

The DCPD Refueling Outage 2R21 Outage Safety Plan and Safety Schedule appeared comprehensive and effective to prevent the plant safety level from dropping below acceptable safety standards. The Plan and Schedule applied a Defense-in-Depth philosophy to prevent accidents and to mitigate the effects of accidents, if they were to occur during shutdown.

Refueling Outage 1R22 is scheduled to run from October 4 to November 14, 2020. The purpose of the Outage Safety Plan is to provide information on outage safety requirements and highlight risk areas to plant staff. In order to assess outage safety impact, referral to the Outage Safety Plan and Outage Safety Schedule would be made prior to making major schedule or component changes. The intent of the Outage Safety Plan was to provide a concise document for use in evaluating plant conditions during Modes 5 (Cold Shutdown) and 6 (Refueling) to ensure the

key safety functions are in place.

The Outage Safety Plan provided background information for the logic contained in the Outage Safety Checklists. The Outage Safety Checklists are governed by Administrative Procedure AD8.DC55, "Outage Safety Schedule," a copy of which was also provided to the Fact-Finding Team. The Plan, Schedule and Checklists together ensure that the equipment and plant conditions assumed in the abnormal procedures for use during shutdown are met. The abnormal procedures contain guidance for providing passive core cooling as well as guidance on key safety system restoration. Outage Safety planning is based upon being able to cope with a very severe event, which is assumed to be a loss of all AC power. Backup decay heat removal capability can be maintained during such events by assuring that the system remains capable of taking advantage of natural physical laws (natural circulation by gravity or boiling) to maintain passive cooling if Residual Heat Removal (RHR) or Spent Fuel Pool (SFP) cooling is lost. The Outage Safety Checklists are the primary means of verifying that normal and backup decay heat removal capabilities are maintained.

The Outage Safety Plan contains the following sections:

- 1R22 Defense-in-Depth Non-Green Color Descriptions
- Infrequently Performed Test or Evolutions for 1R22
- Contingency Strategies
- Transition Periods and Testing descriptions
- An outline/basis for each of the Outage Safety phases for 1R22
- Mode 5 Loops Filled
- Mode 5 Loops Not Filled
- Mode 6 RCS Level \geq 111 feet
- Core Offloaded

1R22 Defense-in-Depth Non-Green Color Description:

Shutdown Cooling:

Shutdown Cooling will remain green.

Inventory Control:

A 'Yellow' condition will occur when the reactor coolant level is at reduced inventory to perform vacuum refill of the reactor coolant system. Adequate defense-in-depth equipment is available. However due to the reduced margin to maintaining adequate inventory to prevent RHR pump cavitation, reduced inventory operations are treated as a "yellow" inventory control defense in depth window.

Reactivity Control:

A 'Yellow' condition will occur in reactivity control during PEP 14-02 due to no dilution flow paths isolated and CCP 1-2 not being available.

Support Systems (Heat Sink):

Support Systems will have four 'Yellow' time windows. The first 'Yellow' condition will occur when ASW/CCWHX 1-1 is not available during lowered inventory. The second and third 'Yellow' condition occurs when ASW/CCWHX 1-2 is not available during the second lowered inventory window and during mid-loop operations. The fourth 'Yellow' condition occurs during the performance of PEP 14-02

Containment Closure / CFCU:

Containment Closure/CFCU will remain green.

Vital AC power:

Vital AC power will have two 'Yellow' time windows. The first 'Yellow' window occurs when the plant is at lowered inventory with the Main bank transformer cleared. The second 'Yellow' window occurs when the plant is at lowered inventory with the Startup bank cleared.

Spent Fuel Pool Cooling/Support:

Spent Fuel Pool Cooling/Support will remain green.

Infrequently Performed Test or Evolutions (IPTEs):

The following pre-planned IPTEs have been identified. If additional IPTEs are required after the plan has been approved, evaluation should be performed in accordance with OP1.ID4 criteria and documented using AD8.DC55, Attachment 12, Outage Safety Schedule Change Evaluation Form.

Initial drain down from 25% pressurizer level to 112 ft. (Enter Lowered Inventory)

A high decay heat load early in the outage would provide a potential heat up rate of approximately 3.3 degree/minute upon a loss of RHR when Reactor Coolant System (RCS) level is at the vessel flange. Past issues have occurred with Reactor Vessel Refueling Level Instrumentation System (RVRLIS) indications and lineup. Current corrective actions have prevented any issues with RVRLIS for the past several outages. This is the first period in the outage when RVRLIS is relied upon. The high decay heat load, the first use of RVRLIS in the outage and lowered water inventory in the reactor constitute a higher boiling risk period.

Refueling Cavity Drain to 112 ft. after core reload (Enter Lowered Inventory)

After the core is reloaded and the upper internals have been installed, the refueling cavity is drained to a level of 112 ft (2 ft below the reactor vessel flange). This represents a risk to shutdown cooling due to the lowered water inventory in the reactor although the boiling risk is not as high as earlier in the outage because the decay heat load is significantly reduced.

Mid-loop and Vacuum refill

Mid loop at the end of the outage is required for vacuum refill of the RCS. The predicted heat up rate in the reactor coolant system on the loss of RHR at this point in the outage is about 2 degrees/min. RCS levels at mid loop increase the

risk of vortexing or cavitation in the RHR pumps.

STP M-15 and STP M-13F, G & H

Integrated Safeguards testing and associated bus transfer testing (STP M-15, M-13F, G, H) will be performed in Mode 5 at the beginning of the outage. This represents a challenge to core cooling and electrical power. This test momentarily stops RHR, de-energizes 4kV buses, starts Emergency Diesel Generators and isolates CCW to the SFP.

Reactor/Plant Startup

This is the first reactor startup on a new core after maintenance and modifications to several plant systems. Criticality will be achieved by dilution. Mode 2 Physics Testing is included in this reactor startup.

Reactor Head Removal and Installation

This is a heavy load over irradiated fuel in the reactor vessel.

Remove/Install Upper Internals

This is a heavy lift with fuel in the core. There has been industry Operating Experience of fuel and/or control rod damage occurring when the upper internals are removed or reinstalled.

This section is utilized to provide additional information needed for contingency activities not included in the Operations Abnormal Operating Shutdown Procedures. This information provides additional criteria and equipment status requirements to ensure the Outage Safety Plan is met during specific projects containing abnormal lineups or electrical conditions.

With a single source of offsite power out of service with the RCS at lowered inventory; the following contingency action will be required:

- Emergency Diesel Generators 1-2, 1-3 and vital bus crosstie capability will be protected or EDG 1-1, 1-2, and 1-3 will be protected.
- Both RHR pump 1-1 (Bus G), and RHR pump 1-2 (Bus H) will be protected.
- Operations will brief OP AP SD-1, Loss of AC Power.
- Vital Battery 11 Cell Replacement
- Vital Battery 11 will have 1 cell replaced prior to the Vital Bus H work window. Although 125VDC Bus 11 will remain energized from its battery charger, Vital DC bus 11, AC Bus F and DG 1-3 will be inoperable during the cell replacement (as the battery will be disconnected during this work), however Bus F and the equipment powered from Bus F remains 'available.' In order to maintain vital instrument 120VAC loads supplied by Vital IY-11 (fed from DC bus 11) operable during the cell replacement, panels PY-11/11A will be supplied by backup TRY-11 (aligned to its Vital AC Bus G source).

This is an Approved exception to the Outage Safety Checklist.

NOTE: Unit 2 CRVS subtrain (bus F) will be energized from its normal bus G

supply.

The Outage Safety Checklists are provided for each of the four basic plant outage configurations listed and described above (along with the outage configuration of Mode 6 RCS Level Less than 111 feet, which was not planned to be used during Refueling Outage 1R22). The Checklists are completed by Control Room Operators at least once during each shift, any time a piece of equipment was removed from service, and any time the plant entered or exited a transition period. This version of the Safety Plan provides a clearer description of components which can be made available, if needed.

DCPP now uses "Phoenix," a computer-based tool that is used online to analyze changes in risk using the PRA model when equipment is removed from service for maintenance. As the PRA model does not extend to shutdown conditions, Phoenix is used during outages via the loading deterministic fault trees for shutdown conditions based on the Outage Safety Checklists. An "N+1" Defense in Depth (DID) approach, where N generally represents the minimum equipment needed to maintain a key safety function, is then utilized by Phoenix to evaluate the maintenance of the key safety functions. This DID Status is represented by the following four-color definitions:

- Green - represents DID greater than N+1, where N is the minimum equipment needed to maintain a key safety function with more than one backup means of support.
- Yellow - represents DID equals N+1, which is considered the normal DID. Key safety functions are fully supported with at least one backup means of support.
- Orange - represents a DID equals N condition, where key safety functions are supported, but minimum DID is not met, and compensatory measures must be in place.
- Red - represents a DID less than N condition in which key safety functions are not supported.

DCPP considers a status of Green or Yellow acceptable for planned outage activities because key safety functions are fully supported with at least N+1 DID. No planned activities should result in an Orange condition; however, in the rare case where an Orange condition is necessary, a contingency plan with compensatory actions must be developed and implemented. The contingency plan then provides an additional approach to DID, because it provides a backup safety function if the minimum safety function becomes unavailable. Planned Red conditions are prohibited. The 1R22 Outage Safety Plan contained no Orange or Red conditions and seven individual Yellow ones.

Overall, there will be three time periods during Refueling Outage 1R22 when the overall color will be Yellow based on the seven individual Yellow conditions, which were fully detailed and explained in the safety plan as follows:

- Shutdown Cooling - Remains Green.
- Inventory Control - Remains Green.
- Reactivity Control - A Yellow condition will occur when the Reactor Coolant System (RCS) is drained to mid-loop conditions (with an intact RCS pressure boundary).
- Support Systems (Heat Sink) - Four Yellow conditions will occur when the Auxiliary Saltwater System (ASW)/Component Cooling Water System (CCW) 2-2 train is out of service at lowered inventory, when ASW/CCW 2-1 train is out of service at lowered inventory, when the RCS is drained to mid-loop conditions, and when CCW Train 2-2 is taken out of service during testing.
- Containment Closure - Remains Green.
- Vital AC Power - Two Yellow conditions will occur due to a single offsite power source available when the plant is at lowered inventory due to the Main Bank power supply being removed from service at the start of the outage and later when the Start-up Bank power supply is removed from service late in the outage.
- Spent Fuel Cooling - Remains Green.

Conclusions: The DCPD Refueling Outage 1R22 Outage Safety Plan and Safety Schedule appeared comprehensive and effective to prevent the plant safety level from dropping below acceptable safety standards. The Plan and Schedule applied a Defense-in-Depth philosophy to prevent accidents and to mitigate the effects of unanticipated off-normal conditions or accidents, if they were to occur during shutdown.

Recommendations: None

3.6 Meet with NRC Resident Inspector

The DCISC FFT had a remote (virtual) meeting with Ayesha Athar, DCPD's new NRC Resident Inspector, for an update. The DCISC last met with an NRC Resident Inspector in August 2020 (Reference 6.6), concluding the following:

The meeting with the NRC Senior Resident Inspector was beneficial, and the DCISC should continue the meetings.

The following items were discussed:

- The origins, make up, and purpose of the DCISC
- NRC's COVID-19 on-site schedules
- Fire Protection - painted sprinklers
- Auxiliary Saltwater System valve protection

Conclusions: The meeting with the NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.

Recommendations: None

3.7 Control Rod Issues

The DCISC FFT had a remote (virtual) meeting with Mike Sullivan, Instrumentation & Control Strategic Engineer, to discuss DCPD Control Rod issues. The DCISC last reviewed this topic in April 2020 (Reference 6.7), concluding the following:

DCPD actions in troubleshooting and correcting a forced Unit 2 shutdown due to a control rod drive/indication system problem appeared satisfactory.

Forced Outage 2X22 occurred February 13, 2020. During the quarterly full-length Unit 2 control rod surveillance testing, four shutdown rods became misaligned greater than 12 steps, resulting in an entry into a Limiting Condition for Operation of the plant Technical Specifications. This required an unplanned entry into Mode 3, Hot Shutdown, resulting in a loss of power generation.

Troubleshooting revealed that a circuit card was functioning incorrectly. The card was replaced, which corrected the control issue. A root cause was not identified; however, a "presumptive cause" was determined to be an indeterminate, intermittent circuit card sub-electronic-component failure. This cause was a defect physically located on the card.

Corrective actions were to replace the card, develop and implement a plan to acquire test data during the surveillance testing, perform visual inspections of cards during the next refueling outage (2R22), test cards with the DCPD card tester, and send the defective card to Westinghouse, the component supplier, for inspection.

Unit 2 was brought back up to full power immediately following the cause analysis and card replacement. The rod control and indicator system appeared to have been performing normally following the event, until on June 12, another similar control rod issue occurred. Investigation revealed that there was a bad wire crimp leading onto the circuit card. This was repaired during the July 2020 generator hydrogen leak forced outage. The rod control system has been performing normally since then.

DCPD is making a change to its control rod testing program. The test for exercise, operability, and position indication is being changed from quarterly to semi-annually. DCPD is using a risk-based analysis to support the change.

Conclusions: DCPD experienced two similar control rod misalignment problems determined to be associated with a control circuit card. Initially thought to be a bad card, it was eventually found to be a bad wire crimp. This was resolved satisfactorily, and the system has since been performing normally.

Recommendations: None

3.8 Postponed/Cancelled Projects

The DCISC FFT had a remote (virtual) meeting with Bob Oldenkamp, Manager of Project Services; Mark Frauenheim, Design Engineering Manager; and Bob Waltos, Assistant Engineering Director, for an update on PG&E's approach to long term capital project planning in light of PG&E's participation in the Joint Proposal under which terms. PG&E will retire Diablo Canyon in 2025 at the expiration of its current NRC operating licenses. . The DCISC last reviewed this topic in January 2018 (Reference 6.8), when it concluded the following

The DCPD review process and selection of capital projects to be cancelled with regard to the Joint Proposal 2025 plant shutdown were comprehensive, hence they appeared to be satisfactory.

A Project Review Working Group (PRWG) had been formed in 2017 using experienced staff from Operations, Engineering, and Work Control. The PRWG had completed its review of the entire portfolio for future capital projects, which was subject to further review by the Executive Oversight Board of the Excellence Plan.

Each project was reviewed for importance using the following screening questions:

- Regulatory
- Reliability
- Bridging Strategy
- Corrective Maintenance
- Core Damage Frequency
- Plant transient (Reactor Trip, Safeguards Initiation)
- Enterprise Risk
- Financial impact due to extended down power
- Unmitigated Single Point Vulnerability
- Plant vulnerability we cannot monitor or detect
- Reduction of Regulatory Margin
- Impact to Station/Industry/Regulatory Metrics
- Enhancing the Decommissioning Project

The resulting project portfolio was then divided into three categories:

1. Required by Regulatory Commitments (must-do projects)
2. Recommended and Prioritized (should-do projects according to priority)
3. Not Recommended (projects that should not be completed)

Category 1 (Required) included a total of 14 projects such as those related to

spent fuel storage, Generic Safety Issue 191 (recirculation sump debris clogging), and the License Basis Verification Project. Category 3 (Not Recommended) included projects such as Containment Cooling Coil replacements and a new road for the 500kV switchyard. Regarding Category 2 (Recommended and Prioritized) projects, all projects currently are funded, and the list was envisioned to be used as a tool in decision-making should funding become limited in the future. Examples of projects in Category 2 and with low priorities included upgrades to the Radioactive Effluent Management System, 230kV bushing replacements, and Diesel Fuel Oil Transfer Pump replacements.

There were two major projects of particular interest to the DCISC: the Unit 2 Main Generator Stator replacement and the Eagle 21 Plant Protection System upgrade. The Generator Stator replacement occurred successfully in Refueling Outage 2R21 in 2019. The Eagle 21 upgrade, which was cancelled, is a very expensive project and one that could not be completed for several years. The proposed change was intended to improve reliability and was not intended to improve nuclear safety. Replacement parts for the existing system are expected to remain available from the original vendor for the remaining period of the DCPD operating licenses.

There was a total of 45 capital projects cancelled using the above process. Some significant examples were as follows:

- Replace Control Room Condenser
- Replace Eagle 21 Plant Protection System
- Upgrade Radiation Monitoring System
- Replace 12kV Bus D, E, F, and U Relays
- Upgrade Fuel Handling System
- Replace Main Generator Output Breaker
- Replace Pressurizer Heaters
- Replace Containment Fan Cooler Unit Cooling Coils

The DCISC FFT reviewed each cancelled project to ascertain its importance in maintaining nuclear safety and plant reliability. None had a significant impact on these attributes.

DCPD validated the list of postponed/cancelled projects, cancelling additional projects. Among these were the following significant cancellations:

- Main Annunciator upgrade was cancelled because of having adequate spare parts to keep the existing system functioning normally.
- Emergency Diesel Generator governor replacement was performed on all but two machines, because of then having adequate spare parts to keep the two devices functioning normally.

The DCISC FFT received and reviewed the validated list and project selection procedure, concluding both were satisfactory to maintain plant safety.

Conclusions: The DCPD process for postponing/cancelling proposed projects due to the Joint Proposal agreement to shut down the plant in 2025 appeared satisfactory. The DCISC Fact-finding Team concluded that the selections made using this process would not compromise plant operational safety.

Recommendations: None

3.9 Nuclear Instrumentation Systems

The DCISC FFT had a remote (virtual) meeting with Lourdes Torres, Senior Instrumentation & Controls Strategic Engineer, and Kevin O'Neal, Tactical Component Engineer, for a review of DCPD Nuclear Instrumentation Systems. This is the first recent DCISC review of these two systems, which are the following:

1. Excore Nuclear Instrumentation System (NIS)
2. Movable Incore Detector System (MIDS)

NIS

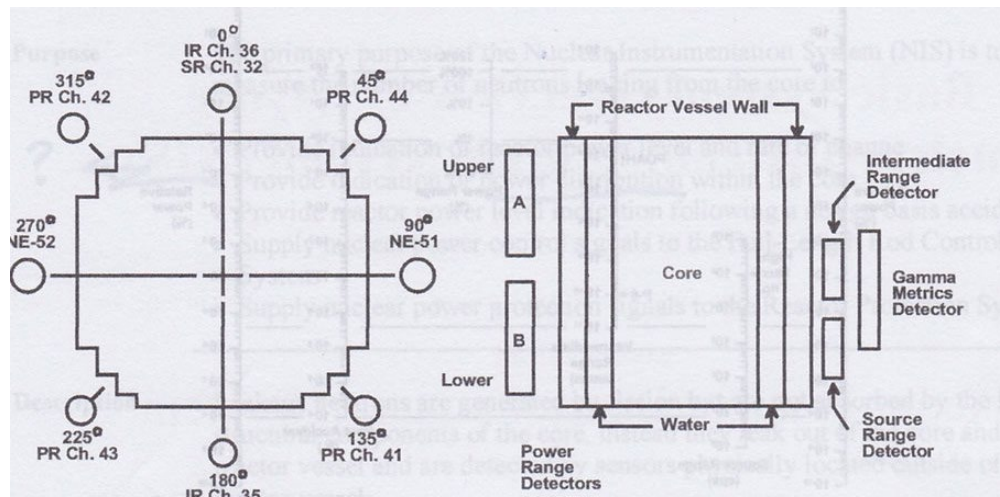
The NIS consists of an array of neutron detectors arranged around the outside (i.e., excore) of the Reactor Vessel whose purpose is to measure neutrons emanating from the core to

- Provide indication of reactor power level and rate of change
- Provide indication of power distribution within the core
- Provide reactor power level indication following a design basis accident
- Supply nuclear power control signals to the Full-Length Rod Control System
- Supply nuclear power protection signals to the Reactor Protection System

There are three ranges of instrumentation as follows:

1. Source Range instrumentation provides monitoring of neutron flux during shutdown, the initial phase of reactor startup, and final phase of reactor shutdown.
2. Intermediate Range detectors provide monitoring of neutron flux over a range of eight decades in between startup and the beginning of power operation.
3. Power Range detectors provide monitoring of neutron flux over a range of 0 to 200% of full power. There are four redundant channels that are physically separated and electrically isolated from each other.

Additionally, a two-channel Post Accident detector system is provided for monitoring of reactor power level of 10-8 to 100% power during accident conditions. This system indicates in both the Control Room and the Hot Shutdown Panel.



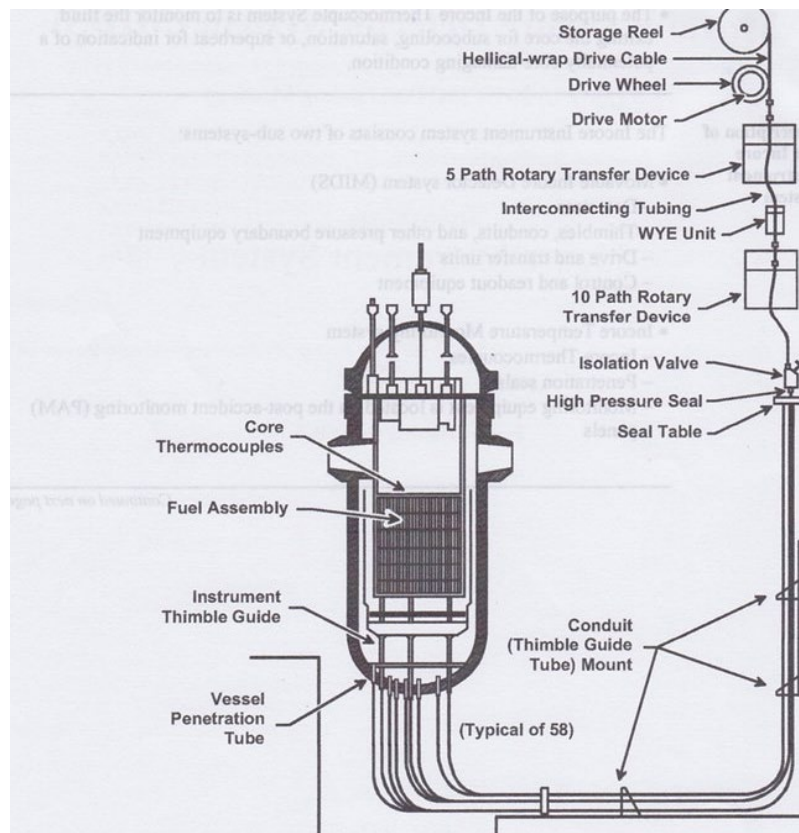
Nuclear Instrumentation Detector Arrangement

DCPP reported that the NIS is in good health. Two Unit 2 Intermediate Range Detectors required replacement in November 2019 and April 2020 due to abnormally high indications caused by faulty electrical connections. The NIS has been operating normally since then.

Incore Instrument System

The Incore instrument System consists of two sub-systems.

1. MIDS purpose is to monitor nuclear power distribution within the reactor core. It employs
 1. Neutron detectors
 2. Thimbles, conduits and other pressure boundary equipment
 3. Drive and transfer units
 4. Control and readout equipment
2. The Incore Thermocouple System is provided to monitor the fluid exiting the core for subcooling, saturation, or superheat for indication of a potentially core-damaging condition, and it includes:
 1. Incore thermocouples
 2. Penetration seals
 3. Monitoring equipment



Schematic drawing of Incore Instrument System

DCPP reported that these systems are in good health; however, there was one equipment issue outstanding. In February 2019 Unit 2 MIDS Detector C was identified as degraded. A complication with its replacement in October 2019 resulted in a plan to replace it again in November 2020.

The current plan is to maintain the existing Nuclear Instrumentation Systems until the end of plant life.

Conclusions: The DCPP Nuclear Instrumentation System is in good health on both units. There have been several nuclear detectors needing replacements, which have been resolved satisfactorily.

Recommendations: None

3.10 Overall Probabilistic Risk Assessment (PRA) Program Update

The DCISC Fact-finding Team met with Rasool Baradaran, Probabilistic Risk Assessment (PRA) Supervisor, David Imbaratto, PRA Engineer, and Jordan Tyman, Risk Management Manager, for an update on the current status of the PRA program under Mr. Baradaran's supervision. The program's principal responsibility is to maintain the station's PRA, upgrade the PRA as needed, and apply it to address safety and reliability issues affecting the plant. The principal topics discussed were the status of the PRA and its use in various applications to support plant safety. The DCISC last reviewed this program in September 2019

(Reference 6.9), when it concluded the following:

The DCPD Probabilistic Risk Assessment (PRA) group's work today is emphasizing the support of various applications, and the use of the PRA for these purposes continues effectively.

The DCISC Fact-finding Team concludes that the PRA group is doing excellent work. The DCISC should continue to review DCPD PRA activities.

Status of the PRA: In the last year or more, one important activity has been (as always) maintaining the main PRA model, and that work has continued without any problems. No important upgrades to the model have been undertaken, but "maintaining" it means, among other things, keeping the model up to date with the plant's changing configuration and also keeping the failure data base current. To perform this work acceptably, the PRA team needs to monitor procedural and design changes, which they do regularly. The last complete model update was done in 2019, and the next one is scheduled for 2022; this three-year cycle is typical of the industry. However, in part because the plant will be closing in only a few years, the group is not anticipating any major PRA model upgrades in that period. [The distinction between a PRA update and an upgrade is well defined in the industry; it essentially differentiates using a new or different model (an upgrade) from using newer data or modeling a slightly different plant configuration (an update.) An upgrade requires a new peer review before the model can be said to meet the ASME-ANS PRA standard and can then be used in regulatory applications.]

Support for plant safety decision-making: The PRA model is used regularly to support a wide variety of different safety decisions. One application mentioned was when an event or off-normal condition occurs, and the plant needs to analyze it and report about to the NRC through the NRC's "Significance Determination Process" (SDP). The SDP requires using the PRA, among other tools, to understand the risk significance of the event or off-normal condition. Mr. Baradaran reported that they had supported SDP analyses recently and successfully.

Another application is when a technical specification change or maintenance interval change is being considered. The PRA can be used to analyze how much change in various risk metrics would occur, to aid decision-makers. One recent example was PRA support for a proposal to change the testing interval for control-rod insertion from three months to six months. (This topic was discussed during this Fact-finding meeting in a separate meeting with Michael Sullivan. See Section 3.7 of this report.) That PRA analysis was shared with the Fact-finding team, which reviewed it and found it satisfactory: it was documented in an understandable way and used standard PRA analysis approaches.

Still another example is supporting the In-Service-Inspection (ISI) program for piping and pressure vessels by using risk-analysis insights to optimize the intervals

for various inspections. This so-called "risk-informed-ISI" approach has been developed over many years and is now taking hold industry-wide. The PRA has been used to support decisions that prioritize the various inspections by their importance to plant risk, and this PRA support has been a successful application of the PRA model.

Outage and out-of-service safety management: The PRA team continues to use the Phoenix software program to analyze proposals to take certain equipment out-of-service when online, and also to deterministically analyze planned outages in advance (or rapidly if the outage is unplanned). A few years ago, Phoenix replaced older software. It is widely used throughout the industry and provides a useful tool for certain types of analyses for which using the full PRA model is not needed. The analyses are often keyed to decision criteria about what is important to safety and why that are found in an NEI guidance document that in turn has been endorsed by the NRC staff. A way of thinking about the use of these PRA-type analyses is that they indicate which equipment and functions need to be given special "protection" (and for how long a duration) if other equipment or functions are taken out of service temporarily.

Another application of the Phoenix software, or of the larger PRA model if needed, is helping the work-control process. Those work-control PRA analyses are done frequently and often affect decisions.

Supporting the exigent LAR: Elsewhere in this Fact-finding report (Section 3.4) is an extended discussion of the submittal by PG&E of an exigent License Amendment Request related to potential safety issues with auxiliary-feedwater-system piping. The PRA group performed a PRA-based analysis of the change in risk associated with the proposed inspection and repair activities, which involved taking certain safety equipment out-of-service for a defined few-day interval. That PRA analysis was shared with the Fact-finding team, which reviewed it and found it satisfactory: it used standard approaches and was well documented. The PRA analysis showed that the change in risk was small, well below thresholds of concern. This meant that there would be substantial margins between where the plant configuration would end up during the inspection and repair activity and a configuration of safety concern. Although the PRA result was not formally relied on by PG&E as one of the technical bases for the LAR request, the fact that the risk was found to be low was a major additional technical insight that was reported to have helped in obtaining NRC approval of the LAR request.

The recent spent-fuel risk study: About a half year ago, PG&E released an outside contractor's report on the differences in the risks arising from the spent fuel pools and the Independent Spent Fuel Storage Installation (ISFSI) associated with different proposed schedules for transferring spent fuel from the pools to the (ISFSI). The results of that study, performed by a UCLA team, were reported on and discussed during the DCISC's February 2020 Public Meeting. The fact that the UCLA study was not a full-blown PRA analysis (which the UCLA team itself agreed with) was discussed during this Fact-finding meeting. That study had made some

approximations and embedded some scope limitations that, while fully justified technically, mean that the results cannot be thought of as a full-scope PRA analysis. However, PG&E is not considering doing a more extensive full-scope PRA-type analysis to take the UCLA study's work further. There is broad concurrence about what would be needed to do a more thorough analysis that could be used for other purposes than the objective of the UCLA study, which was to support a narrow range of decisions on scheduling of spent fuel transfers from the pools to the ISFSI. The UCLA study's report itself had discussed those issues, and it is understood that a more complete study would be fully feasible but might be quite costly. However, at the moment no decisions of importance are facing PG&E that such a study might be needed to support.

Reorganization of the PRA group: The PRA group has recently been reorganized by splitting its scope in two. One group, under Mr. Baradaran, would continue with the responsibility to support the plant PRA and applications of it. The other group, under Nathan Barber, would be responsible for what is termed "generation risk management" that has a company-wide scope, including (for example) supporting risk decision-making related to PG&E's hydroelectric dam electric generation facilities or the company's transmission system.

Conclusion: The DCPD Probabilistic Risk Assessment (PRA) group's work today is emphasizing the support of various PRA applications, some driven by NRC regulations and others driven by internal plant needs. The use of the PRA for these purposes continues effectively. The DCISC Fact-finding Team concludes that the PRA group is doing excellent work.

Recommendations: None

3.11 Operational Decision-Making Program

The DCISC FFT had a remote (virtual) meeting with Sam Williams, Operations Manager, for an update on the DCPD Operational Decision-Making Program. The DCISC last reviewed this topic in August 2019, concluding the following:

DCPD appears to have a satisfactory Operational Decision Making procedure and implemented the procedure appropriately in the matter of main generator stator coil insulation degradation.

The ODM procedure had not changed significantly since a DCISC earlier visit in April 2015. The ODM procedure is not intended to be used for Control Room immediate decisions in response to off-normal conditions. In all cases, during plant transients, response shall be by using approved plant operating procedures. This procedure is to be used only after the unit is in a stable condition.

Degraded conditions may involve reductions in operating/safety margins or encroachment on system/component reliability that occur over days or weeks. Examples include:

- Increased primary system or containment leakage that remains below operational or licensed limits
- Step changes in vibrations that remain at alert levels
- Numerous or long-term valve or pump leaks
- Fuel defects or increased corrosion rates
- Chronic or aggregate equipment material deficiencies
- Degraded conditions requiring a Prompt Operability Assessment
- Potential challenges to equipment covered by Technical Specifications

The Station Director is the Decision Maker (or assigns a Decision Maker) for decisions that involve outage extensions of greater than 24 hours, potential NRC Notice of Enforcement Discretion, decisions that involve changes in mode or power level, short duration action statements, or changing curtailment schedules. The Decision Maker typically assigns a Decision Team, which is composed of individuals with expertise in diverse areas applicable to the decision at hand. For evolutions that involve a significant reduction in reactor safety, an individual with a Senior Reactor Operating License will be designated to lead the Decision Team.

The Decision Team meets and follows a prescribed process to collect and analyze data and formulate a decision using/considering the following:

1. Gathers validated information from diverse sources including key stakeholders
2. Defines full scope of the degraded conditions considering operational effects, safety margins, personnel safety, and business impacts
3. Defines the timeliness of solution implementation considering the rate of degradation and consequences of exceeding margins or limits
4. Uses risk evaluation and appropriate problem analysis tools
5. Considers the operational impact of options with the rigorous application of operating experience, Probabilistic Risk Assessment, licensing and design bases, and engineering and operational judgment

When its decision is made, the Decision Team obtains final approval from the Station Director who reports the decision to the Site Vice-President. The decision is communicated to plant personnel and is implemented. An effectiveness review is performed about six months after completion of the ODM.

The FFT reviewed the following five ODMs:

1. Establish Vibration Limits for Main Feedwater Pump 1-1 - This ODM was not addressing a problem, per se, but setting high level vibration limits for startup and shutdown of the pump. Limits had been exceeded on startup and were resolved satisfactorily.
2. Southwest Quadrant Unit 1 Condenser Elevated Pressure Drop - the indicated value was higher than the one for the northwest quadrant. The instrument

was flushed, vented, and calibrated, returning to its normal reading.

3. Special Protection System (SPS) Place in Service/Monitoring - This ODM was not addressing a problem, per se, but determining its place in service strategy and monitoring plan. The SPS had the potential to open Unit 2 output breakers above 1700MW and disabling SPS would challenge the WECC requirements for grid stability. The SPS was modified in a manner that provides more margin to the station - this was approved by both DCPD leadership and GCC/Electrical Ops leadership.
4. ODM Requested for Ocean Conditions - This ODM was not addressing a problem per se but determining a course of action for anticipated high ocean swells. It was decided to ramp Unit 1 down to 50% power for the duration of the swell. It was also decided to perform partial cleaning of the Unit 1 condenser.
5. ODM for Unit 2 Rod Control - This ODM was used to justify remaining online at 100% power while troubleshooting, but not repairing, a rod control and indication issue. See Section 3.7 of this report.

The ODM process is a useful tool in reviewing and making decisions for operational problems. The DCPD ODM procedure appeared satisfactory. The five ODMs reviewed appeared satisfactory.

Conclusions: The DCPD Operational Decision-Making (ODM) Program procedure and five ODMs reviewed appeared appropriate to the DCISC Fact-finding Team.

Recommendations: None

3.12 Employee Retention Participation Update

The DCISC FFT had a remote (virtual) meeting with Tom Baldwin, Nuclear Business Operations Director, for an update on DCPD's Employee Retention Program. The DCISC last reviewed this program in September 2019 (Reference 6.11), when it concluded the following:

DCPD appears to be appropriately managing Employee Retention Programs and achieved a signup rate of approximately 86% for its Tier 2 Employee Retention Agreements that extend employee commitments through August 2023.

With the upcoming plant shutdown in 2025 as specified in the Joint Proposal DCPD offered an employee retention program to keep enough employees to safely operate the plant. Tier 1 of the Employee Retention Program had been successfully implemented and ended with a third and final incentive payment of 25% in August of 2019 for employees who were committed to remain with PG&E through the end of August 2020. Approximately 90% of station personnel had signed agreements under the Tier 1 program. Of the remaining portion that had not signed

agreements, only about 20 had retired or left the station to date. In general, DCPD believed that most employees wanted to stay with PG&E due to the relatively high salaries and reasonable cost of living in the local area.

Signups for Tier 2 of the Employee Retention Program closed in August 2019.

Approximately 86% of station personnel had signed agreements under the Tier 2 program, which was a three-year program. Those employees would receive their first Tier 2 incentive payment in September 2020 and would be committed to remain with PG&E through the end of August 2023. In general, DCPD management was pleased with the results of the Tier 2 program signups and believed that the Employee Retention Program was working well at this time. A gradual reduction in station positions was underway as the workload at the station was beginning to decline slowly. That reduction was managed at a high level.

There would actually be a third phase of employee retention that would need to be managed after the Tier 2 program ended. That phase would cover the period after the Tier 2 agreements expired in September 2023 through the last unit shutdown in August 2025, essentially the last two-unit operating cycles. During that final phase, the station would need to manage a ramp down in staffing that corresponded to reductions in plant maintenance and other activities that would naturally occur as the cessation of operations approached. Program plans were already in place to support employees whose positions would be eliminated and help them to identify other job opportunities within PG&E, the decommissioning organization, other nuclear power plants, non-nuclear industries, or to retire.

Experience with employees leaving was as follows:

- Approximately 50 employees left DCPD before the end of the first retention
- Approximately 24 employees left following the first retention period end
- About 50 are expected to leave after September 1, 2020 or later
- After January 1, 2021 more IBEW-represented employees are expected to leave
- About 40 are retiring now

This was not as large a drop as originally projected. DCPD is not losing many operators or I&C Technicians, who are particularly needed and difficult to replace through the end of plant life.

Conclusions: The DCPD Employee Retention Program is proceeding generally as planned. Most operators and instrumentation and electrical technicians, who are especially needed through the end of generation, are remaining.

Recommendations: None

4.0 CONCLUSIONS

4.1 The number of DCPD outstanding NRC licensing issues have decreased, and none of them is a major safety issue. DCPD is addressing them responsibly.

4.2 The remotely held Outage Training to prepare Licensed and Non-licensed Operators for Refueling Outage 1R22 and subsequent start-up and operation appeared satisfactory.

4.3 The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

4.4 The DCISC concluded in August and at this Fact-finding meeting in September that there were no safety concerns with the approach that DCPD was proposing in a License Amendment Request to perform AFW System Extent of Condition inspections and possible repairs on Unit 1. After the NRC LAR was granted, DCPD performed the inspection, and reported that the Unit 1 AFW piping inspection found no significant corrosion or leakage Problems. The DCISC should review the final Root Cause Evaluation for the AFW leak on Unit 2 following its completion by DCPD.

4.5 The DCPD Refueling Outage 1R22 Outage Safety Plan and Safety Schedule appeared comprehensive and effective to prevent the plant safety level from dropping below acceptable safety standards. The Plan and Schedule applied a Defense-in-Depth philosophy to prevent accidents and to mitigate the effects of unanticipated off-normal conditions or accidents, if they were to occur during shutdown.

4.6 The meeting with the NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.

4.7 DCPD experienced two similar control rod misalignment problems determined to be associated with a control circuit card. Initially thought to be a bad card, it was eventually found to be a bad wire crimp. This was resolved satisfactorily, and the system has since been performing normally.

4.8 The DCPD process for postponing/cancelling proposed projects due to the Joint Proposal agreement to shut down the plant in 2025 appeared satisfactory. The DCISC Fact-finding Team concluded that the selections made using this process would not compromise plant operational safety.

4.9 The DCPD Nuclear Instrumentation System is in good health on both units. There have been several nuclear detectors needing replacements, which have been resolved satisfactorily.

4.10 The DCPD Probabilistic Risk Assessment (PRA) group's work today is emphasizing the support of various PRA applications, some driven by

NRC regulations and others driven by internal plant needs. The use of the PRA for these purposes continues effectively. The DCISC Fact-finding Team concludes that the PRA group is doing excellent work.

4.11 The DCPD Operational Decision-Making (ODM) Program procedure and five ODMs reviewed appeared appropriate to the DCISC Fact-finding Team.

4.12 The DCPD Employee Retention Program is proceeding generally as planned. Most operators and instrumentation and electrical technicians, who are especially needed through the end of generation, are remaining.

5.0 RECOMMENDATIONS

5.1 None

6.0 REFERENCES

6.1 "Diablo Canyon Independent Safety Committee Twenty-Eighth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2017 - June 30, 2018", Approved October 12, 2018, Volume II, Exhibit D.7, Section 3.7, "NRC Regulatory Issues Status."

6.2 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.9, Section 3.3, "Training Programs During the COVID-19 Pandemic."

6.3 "Diablo Canyon Independent Safety Committee Thirty-first Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June 30, 2021", Approved October 12, 2021, Volume II, Exhibit D.2, Section 3.8, "Meet with DCPD Officer."

6.4 Ibid., Exhibit D.2, Section 3.2, "License Amendment Request to Facilitate Auxiliary Feedwater Inspections."

6.5 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.3, Section 3.10, "Refueling Outage 2R21 Safety Plan."

6.6 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.8, Section 3.2, "Meet with Nuclear Regulatory Commission (NRC) Senior Resident Inspector."

6.7 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.8, Section 3.2, "Unit

2 Forced Outage."

6.8 "Diablo Canyon Independent Safety Committee Twenty-Eighth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2017 - June 30, 2018", Approved October 12, 2018, Volume II, Exhibit D.7, Section 3.9, "Capital Projects Review Status."

6.9 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.3, Section 3.7, "Probabilistic Risk Assessment Programs

6.10 Ibid., Exhibit D.2, Section 3.2, "Operational Decision Making."

6.11 Ibid., Exhibit D.3, Section 3.12, "Employee Retention Program "

[31st Annual Report, Volume II, Exhibit D.4, Diablo Canyon Independent Safety Committee Report on Fact Finding Meeting at DCPD on November 10, 12, and 19, 2020 by Robert J. Budnitz, Member, and Richard D. McWhorter, Consultant](#)

1.0 SUMMARY

The results of the November 10, 12, and 19, 2020, Fact-Finding Meeting for the Diablo Canyon Power Plant (DCPP) in Avila Beach, CA are presented. Due to travel and attendance restrictions resulting from the COVID-19 pandemic, all meetings were conducted remotely. The subjects addressed and summarized in Section 3 are as follows:

1. Attend Outage Planning Meetings
2. Attend Corrective Action Review Board Meeting
3. Meet with Nuclear Regulatory Commission (NRC) Senior Resident Inspector
4. Unit 2 Forced Outage
5. Cybersecurity Program
6. Radioactive Waste Processing Systems
7. Meet with DCPD Officer
8. Seismically Induced System Interactions Program
9. Control Room Simulator
10. Drone Sightings
11. Engineering Reorganization and Excellence Plan
12. Nuclear Safety Oversight Committee Exit Meeting

2.0 INTRODUCTION

This Fact-Finding Meeting for the DCPD was held to evaluate specific safety matters for the DCISC. The objective of the evaluation was to determine if Pacific Gas and Electric's (PG&E's) performance is appropriate and whether any areas revealed observations, which are important enough to warrant further review, follow-up, or presentation at a public meeting. These safety matters include follow-up and/or continuing review efforts by the Committee, as well as those identified as a result of reviews of various safety-related documents.

Section 4-Conclusions highlights the conclusions of the Fact-Finding Team based

on items reported in Section 3-Discussion. These highlights also include the team's suggested follow-up items for the DCISC, such as scheduling future Fact-Finding Meetings on the topic, presentations at future public meetings, and requests for future updates or information from DCPD on specific areas of interest, etc.

Section 5-Recommendations presents specific recommendations to PG&E proposed by the Fact-Finding Team (FFT). These recommendations will be considered by the DCISC. After review and approval by the DCISC, this Fact-Finding Report, including its recommendations, will be provided to PG&E. The Fact-Finding Report will also appear in the DCISC Annual Report.

3.0 DISCUSSION

3.1 Attend Outage Planning Meetings

The DCISC FFT attended via conference call two of DCPD's November 10, 2020, outage planning meetings. This was the DCISC's first review of this topic.

The FFT observed the 0600 Outage Coordination Center (OCC) Brief which was a meeting convened at 6:00 a.m. each morning during the outage for the purpose of reviewing the current status of plant work activities and issues related to Unit 2 Forced Outage 2Z22 that was in progress at the time. The meeting was led primarily by Brian Galvan, Shift Outage Manager, and approximately 30 persons attended the meeting which was held by conference call (voice-only remote meeting). Conducting the meeting remotely simplified the meeting under current COVID-19 pandemic restrictions and reduced risk to personnel. Topics discussed included the following:

- Safety Update
- Plant Update/Defense-in-Depth
- Functional Area Report-Outs
- Emerging Issues Update
- Non-Outage Unit Update
- Outage Status
- Around-the-Room Discussion
- Wrap-up

The FFT also observed the 1100 OCC Schedule Review which was a meeting convened at 11:00 a.m. each morning during the outage for the purpose of reviewing changes to the detailed schedule for Unit 2 Forced Outage 2Z22 that was in progress at the time. The meeting was led primarily by Andrew Lund, Senior Outage Management Scheduler, and approximately 15 persons attended the meeting which was held by conference call. The meeting used the outage schedule, a copy of which was provided in advance to the FFT, which contained all planned outage activities displayed in a linked bar-chart format. Craft Operations and Maintenance personnel attending the meeting updated OCC personnel as to

which work activities on the schedule were completed and which items on the schedule required changes due to delays to or advancement of the work activities.

The FFT observed that in both meetings, the discussions were very effectively facilitated with crisp and clear informational exchanges across a large number of planned work activities by a large number of individuals.

Conclusions: Two November 10, 2020, Outage Coordination Center meetings were conducted by conference call and effectively facilitated with crisp and clear informational exchanges across a large number of planned work activities.

Recommendations: None

3.2 Attend Corrective Action Review Board Meeting

The DCISC FFT attended via conference call (voice-only remote meeting) the November 10, 2020, meeting of DCP's Corrective Action Review Board (CARB). The DCISC last attended a CARB meeting during its August 2020 Fact-Finding Meeting (Reference 6.1), when it concluded the following:

The DCP's Corrective Action Review Board (CARB) meeting on August 19, 2020, appeared satisfactory in that the meeting met the intended objectives. Discussion of the significant items was comprehensive.

The CARB's purpose was to provide a venue for station personnel to demonstrate commitment to Corrective Action Program (CAP) excellence. The CARB fulfilled a need for senior management oversight of the CAP, and this oversight function includes:

- Reviewing Root Cause Evaluations (RCEs) for accuracy, completeness and alignment of the problem, causes and corrective actions
- Approving extensions to the due dates for Corrective Actions to prevent recurrence.
- Approving Effectiveness Evaluations for CAP documents
- Periodically reviewing CAP metrics to ensure the CAP is meeting management expectations
- Reviewing and dispositioning requests for Cause Evaluation downgrades
- Reviewing notifications screened by the Notification Review Team

The membership of the CARB consists of regular and alternate members designated in writing by the Station Director, and CARB meetings are held as necessary, typically on a weekly basis. This meeting was chaired by Cary Harbor, the Station Director, and was also attended by two observers from DCP's Nuclear Safety Oversight Committee (NSOC). Conducting the meeting remotely simplified the meeting under current COVID-19 pandemic restrictions and reduced risk to

personnel.

The agenda for this meeting included the following:

- Safety Minute
- Facilitative Leadership Minute
- Review Desired Outcomes
- Verify Quorum
- Review of Previous Meeting Action Items and Evaluation
- Review and Approve Previous Meeting Minutes
- Review Bring-Back Item SAPN 51091296
- Review 20 Oldest Non-Long Term Corrective Action Items
- Review Performance Improvement Status Report
- Review Closed Anonymous Notifications
- Review Condition Reports
- Review Action Items and Meeting Evaluation

The CARB reviewed and discussed the following significant item during this meeting:

- Review of SAPN 51091296, Adverse Trend-Heat Stress (Containment). The CARB reviewed the quality of the Corrective Actions initiated in response to three heat stress incidents that occurred early during Refueling Outage 1R22. The problems occurred when personnel became overheated in the Containment Building due primarily to sweat and humidity making masks (required for COVID-19 spread prevention) damp and hard to breathe through. In response to these events, the standards for the wearing of masks were modified to provide workers additional flexibility to step away from work activities, remove masks, and rest for short time periods inside the Containment Building. Following revision of the standards, there were no additional heat stress events. The CARB expressed appropriate concern that organizational weaknesses and corrective actions would also be properly identified. The presenters responded that the station Organizational Response Tool would be implemented to review the event, and corrective actions would be captured in the lessons learned for the outage.

Conclusions: The DCCP Corrective Action Review Board (CARB) meeting on November 10, 2020, appeared satisfactory in that the meeting met the intended objectives. Discussion of one significant item was comprehensive.

Recommendations: None

3.3 Meet with NRC Senior Resident Inspector

The DCISC Fact-Finding Team (FFT) met remotely with Don Krause, NRC Senior

Resident Inspector, for an update. The DCISC meets regularly with the Resident Inspectors and last met with them in September 2020 (Reference 6.2), when it concluded the following:

The meeting with the NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.

The participants discussed the following topics:

1. Mr. Krause's experience prior to his assignment at DCP
2. Unit 2 Forced Outage performance
3. Refueling Outage 1R22 performance

Conclusions: The meeting with the NRC Senior Resident Inspector was beneficial, and the DCISC should continue the meetings.

Recommendations: None

3.4 Unit 2 Forced Outage

The DCISC FFT met remotely with Mike Quitter, Outage Manager, and Mark Frauenheim, Design Engineering Manager, to review the cause and corrective actions for Unit 2 Forced Outage 2Z22 that began on October 15, 2020. The DCISC last reviewed a related topic in August 2020 (Reference 6.3), when it concluded the following:

The FFT concluded that the Unit 2 Forced Outage on July 17, 2020, was properly managed, and corrective actions to identify and repair a hydrogen leak in the Main Generator were appropriate.

Mr. Quitter briefed the FFT regarding the problem that initiated the need to perform an unscheduled shutdown of Unit 2 for repairs. In mid-October, operators noted that hydrogen usage was increasing on the Unit 2 Main Generator.

Indications were similar to a problem that occurred three months earlier, in July 2020, which resulted in a two-week Unit 2 forced outage to repair a hydrogen leak internal to the Main Generator. In accordance with Abnormal Procedures for the size and location of the leak (revised since the July 2020 event), operators initiated a controlled shutdown of Unit 2 and placed the plant in a stable condition in Mode 3, Hot Shutdown. The unit remained in Hot Shutdown at approximately 360 °F in the Reactor Coolant System for the duration of the forced outage.

Because Unit 1 was also in its regularly planned refueling outage simultaneously, the FFT inquired if the unusual dual-unit outage caused any operational issues, and Mr. Quitter responded that it did not and sufficient steam was available from Unit 2 in Hot Standby to support the Unit 1 startup.

Investigations were initiated into the location and cause of the leak. Hydrogen was removed from the generator, and a generator crawl-through inspection was

performed on both the exciter and turbine ends of the generator. A leak at a weld was found on a transition box between the Stator Closed Cooling Water (SCCW) inlet header and the exciter end SCCW manifold. The leak was very similar to the leak that drove the July forced outage but at a different location on the manifold.

Specifically, the leak was located at the approximately three o'clock position on the manifold, whereas the previous leak was located at approximately the twelve o'clock position. Minor damage was also found to other gas baffle and core frame welds inside the generator.

Mr. Quitter reported that the forced outage was nearing completion and no other major equipment problems required work during the outage. The start of the Unit 2 Forced Outage 2Z22 overlapped with the end of the Unit 1 Refueling Outage 1R22, which placed significant demands upon station personnel. However, Mr. Quitter stated that personnel were able to maintain a regular schedule with one day off per week and some planned vacation schedules were maintained. The total length of the combined outages was comparable to some past extended Refueling Outages. He also noted that Refueling Outage 1R22 was completed without any major emergent issues.

A Root Cause Evaluation (RCE) was initiated in response to the repeated failure, and Mr. Frauenheim summarized the preliminary investigations and findings as of the date of the FFT's meeting. To assist with the RCE, DCPD obtained the services of four consulting parties as follows:

- An independent technical consultant to review cause evaluation actions and conclusions to ensure that neither PG&E nor the generator vendor missed any items of concern
- A structural vibration analysis consultant to perform vibrational nodal analysis for the generator frame and manifold as well as to perform shaker testing on the generator
- An individual consultant with knowledge of similar generator failures in the industry
- Personnel from the Electric Power Research Institute to review and provide industry technical documentation applicable to the problem

The initial findings of the RCE investigations revealed that one of the feet of the generator frame was not properly shimmed to the concrete floor. It was postulated that the refurbishment of the generator in the fall of 2019 may have changed the weight distribution of the generator, but a check of the generator frame to floor weight loadings was not completed at that time. DCPD and the generator vendor performed a check of the frame to floor weight loadings for all of the generator feet during this outage and corrected loadings as required.

Investigations also revealed a total of 14 cases of weld cracks for equipment mounted to the frame inside the generator. Most of the cracks that had been analyzed showed indications of high cycle fatigue consistent with failures due to high vibrations. Shaker testing was performed, and several minor modifications

were made inside the generator in order to reduce the likelihood of future high cycle fatigue failures. The FFT inquired if it were possible that a catastrophic failure could have resulted from any of the cracks had they not been identified and corrected. Mr. Quitter responded that there were no problems found with any major structural elements of the generator, and there was no risk of a catastrophic failure.

Mr. Fauenheim explained that DCPD believed that it had identified and corrected all off-normal conditions on the generator. However, because the RCE was still open and other possible causes for the problem were being reviewed, DCPD would be implementing an extensive monitoring program upon restart of the generator.

Twenty-five vibration sensors had been installed inside the generator, and the information from the sensors was being routed to a real-time monitoring system located on the turbine operating deck near the generator. It was currently anticipated that the system would need to remain in place for the remaining lifetime for operations of Unit 2. Operators were being provided with guidelines for responding to changes in data, which were based on generator historical data as well as industry standards. The FFT was provided with a preliminary copy of the monitoring plan and observed that it provided guidance for both Engineering and Operations with regards to data points to be monitored, periodicity of monitoring, and thresholds for initiating additional actions.

The FFT inquired as to when the RCE was expected to be completed, and Mr. Frauenheim reported that 45 days was the typical timeframe. The FFT concluded that the DCISC should continue to follow this event, review the results of the RCE once it is finalized, and request a presentation on the topic from PG&E at the next DCISC Public Meeting.

Conclusions: DCPD was appropriately managing Unit 2's Forced Outage 2222 which was driven by a hydrogen leak inside the Main Generator that was very similar to a leak that drove a forced outage three months earlier. The DCISC should continue to follow this event and review the final Root Cause Evaluation for the problem during a future Fact-Finding Meeting as well as at the next Public Meeting.

Recommendations: None

3.5 Cybersecurity Program

The DCISC Fact-finding Team met remotely with Chance Siri, Supervisor of DCPD Cybersecurity, and Jordan Tyman, Manager of DCPD Risk Management and Cybersecurity, for an update on the status of DCPD's Cybersecurity Program. The DCISC last reviewed this topic in March 2019 (Reference 6.4), when it concluded the following:

The DCISC has concluded in previous reports that DCPD's Cybersecurity Program appears to meet NRC requirements and

appears to be effective. The full DCPD Cybersecurity Program applies to those selected digital control systems which are included in the definition of a Critical Digital Asset.

The core elements of the Cybersecurity Program include identifying and implementing protection for all of the Critical Digital Assets (CDAs) at DCPD. CDAs are digital computer and communications systems associated with safety-related and important-to-safety functions, security functions, emergency preparedness functions, and support systems which if compromised could adversely impact any of those functions. During the program's initial implementation, DCPD identified approximately 4,000 CDAs across 66 critical systems. Slightly less than half of the 4,000 were in security-related systems, and the remainder were plant-related systems. Some examples of CDAs were the Programmable Logic Controllers in the Digital Electrohydraulic Turbine Control System, Operator Human-Machine Interface Computers, the Plant Process Control System, Security Cameras, and the Security Event and Monitoring System. Almost all of the CDAs were located inside protected or vital areas of the plant. The CDAs were evaluated, and approximately 900 were modified to assure compliance with the regulations. Modifications included such work as locking USB ports, removing unnecessary programs, upgrading firmware, and reassigning or locking Internet Protocol (IP) addresses.

DCPD completed its original implementation of the full Cybersecurity Program prior to the required due date of December 31, 2017, and an NRC pilot inspection was completed in May of 2017, with no significant issues. Mr. Tyman reported that since 2017, DCPD had focused on effective management of the relatively new, complex station process. The program impacted activities throughout the station including Operations and Security (operating CDAs), Maintenance and Outage/Planning (maintaining CDAs), and Engineering (troubleshooting and modifying CDAs). Each of these groups were focusing upon fully understanding all of the program requirements and ensuring they were continuously and sustainably executed. A recent focus area for the program was maintenance planning and execution. Awareness had been raised and procedures refined to provide more detailed guidance for the management of daily work planning and field activities to ensure that the detailed nuances of the program were clearly understood and properly implemented. An example of this type of issue was a recent maintenance activity for a security camera. The work package to install a firmware update for a camera with a corresponding web browser update was improperly performed when field workers changed the order of work activities without fully understanding the implications of their actions upon the Cybersecurity Program. Also, it had been recognized that the station's responses to emerging issues sometimes did not fully ensure that the proper cybersecurity reviews were being completed before beginning emergent work activities. Such issues were being identified and corrective actions implemented through DCPD's Corrective Action Program.

A full NRC inspection for the Cybersecurity Program was originally planned for April 2020; however, the inspection was deferred to March 2021 due to impacts from the COVID-19 pandemic. This inspection was also known as a "Milestone 8"

inspection which referred to the NRC regulatory requirement milestone denoting full program implementation. In the interim, DCPD was working to stay abreast of current industry issues and NRC inspection findings at other stations. Recent industry issues under review for applicability at DCPD included the management of CDAs located outside the Protected Area, the quality of baseline CDA assessments, and time synchronization for CDAs. The last issue would require substantial effort at DCPD to ensure that all of the CDAs were synchronized in time such that any CDA events or issues could be properly assessed for any possible correlations that would indicate a broad cybersecurity attack.

Additionally, DCPD completed a formal cybersecurity self-assessment in late 2019, which was approved by the Corrective Action Review Board in early 2020 and a copy of which had been previously provided to the DCISC among its regular monthly documents (SAPN 51036631, "Formal Cyber Security Self-Assessment"). The assessment was performed primarily using guidance from the NRC Inspection Procedure for cybersecurity, and the assessment team included third-party cybersecurity expert consultants. The assessment identified three deficiencies, three gaps to excellence, and seven enhancements. Overall, the FFT found that the assessment was thorough and well performed with proper corrective actions initiated for all identified deficiencies.

The FFT inquired regarding expected future changes to Cybersecurity Programs, and Mr. Tyman replied that DCPD expected that the main industry guidance document, NEI 08-09, "Cybersecurity Plan for Nuclear Power Reactors, Revision 6," would likely undergo significant revisions following the completion of all of the NRC "Milestone 8" inspections. The revisions were expected to include program implementation lessons learned and best practices identified in the twelve years since the document was originally published. The FFT also discussed the fact that the requirements for the numbers of CDAs included in the program could likely be reduced, and those reductions could come from risk-based insights with regards to the importance to overall risk of individual CDAs.

Conclusions: DCPD's Cybersecurity Program appears to be effectively managed, and efforts are continuing to ensure that the program is successfully sustained. The DCISC should next review the status of the Cybersecurity Program following the NRC inspection currently scheduled to be completed in the spring of 2021.

Recommendations: None

3.6 Radioactive Waste Processing Systems

The DCISC Fact-finding Team met remotely with Clint Miller, Liquid and Solid Radwaste Systems Engineer, for an update of these systems. The DCISC last reviewed these systems in August 2017 (Reference 6.5), when it concluded the following:

DCPP's Liquid and Solid Radwaste Processing Systems are effective in minimizing the volumes and radioactivity levels discharged or sent to licensed storage facilities.

Mr. Miller described the Liquid Radwaste System (LRWS) process flow paths and major components using the system flow diagram (included below). The purpose of the LRWS is to collect radioactive liquid wastes from various sources and process the waste to reduce the radioactivity to environmentally acceptable levels prior to discharge. Except for equipment inside each unit's Containment Building, DCPP Units 1 and 2 share common collection and processing equipment. The LRWS performs the following functions:

- Collect radioactive liquid wastes generated by plant operation and provide adequate surge volume and processing capability to assure plant availability is not limited,
- Reduce and limit the radioactivity of the liquid effluent to acceptable levels,
- Maintain safe LRWS operating conditions and system integrity, and
- Provide adequate drainage of radioactive liquids during both normal plant operations and postulated flooding conditions following equipment failure.

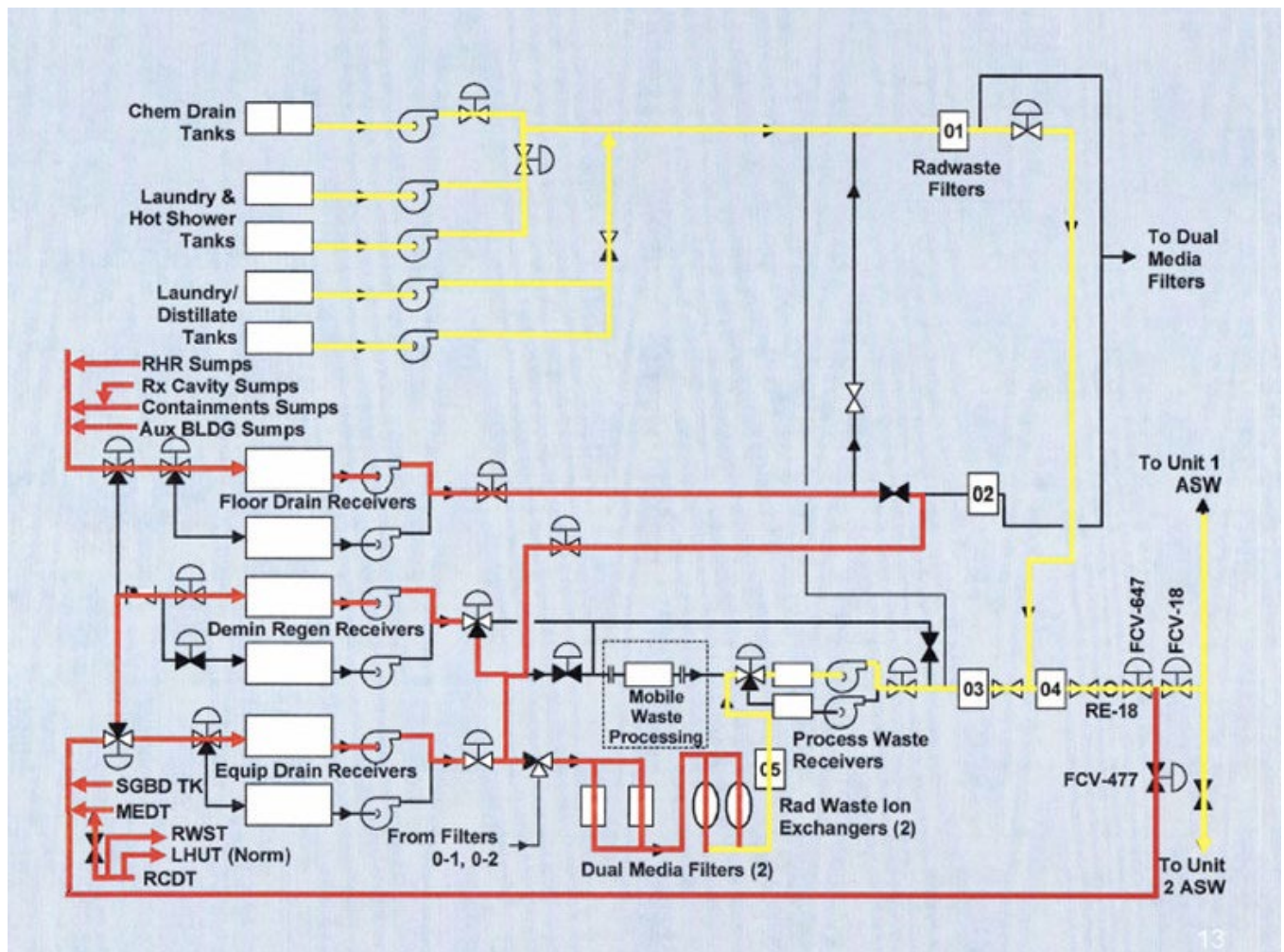
The LRWS is comprised of the following mechanical subsystems:

- Closed Drains Subsystem
- Open Drains Subsystem
- Equipment Drain Subsystem
- Floor Drain Subsystem
- Demineralizer Regenerant Subsystem
- Chemical Drain Subsystem
- Laundry and Hot Shower Subsystem
- Processed Waste Subsystem
- Liquid Radwaste Processing Subsystem
- Radwaste Discharge Filtration Subsystem
- Waste Concentrator Subsystem
- Other miscellaneous subsystems

Major sources of liquid waste to the LRWS include the following:

- Reactor Coolant Drain Tanks
- Containment Sumps
- Demineralizer Overflows
- Steam Generator Blowdown
- Laundry and Hot Shower Drain Tanks
- Post-Accident Sample System
- Resin Sample System

- Residual Heat Removal Pump Sumps
- Auxiliary Building Sumps
- Radwaste Filters



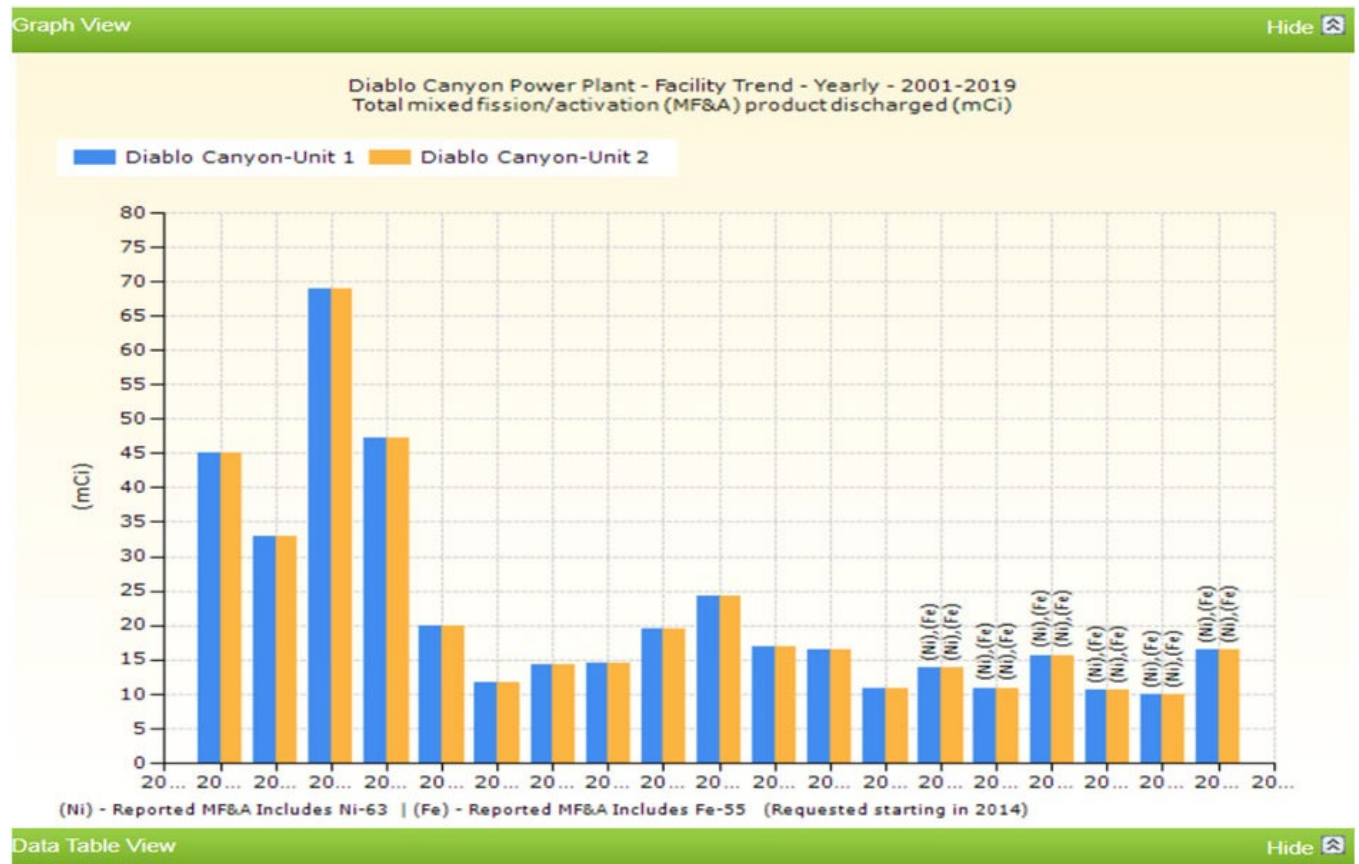
DCPP Liquid Radwaste Processing System Schematic.

The system processes approximately one million gallons of liquid per year. There was a major reduction in volumes in 2000 and again in 2005 due to improved plant operations and improved LRWS performance. Collected liquids are stored in tanks, processed by filtration and/or ion exchange, and recycled or sampled and diluted and discharged through the Auxiliary Saltwater (ASW) System into the Pacific Ocean. The ASW discharge to the ocean is provided with a radiation monitor-controlled valve to assure liquid releases are below prescribed levels.

In 2019, DCP's total Liquid Radwaste discharged was less than 30 millicuries (mCi), excluding tritium, which put the station in the third quartile for the industry.

A large portion of the 2019 number was due to activity originating from an off-normal spill of caustic liquid. Had that spill not occurred, DCP would likely have discharged less than 10 mCi for 2019. As of mid-2020, DCP's Liquid Radwaste discharges were below 2 mCi and appeared to be trending towards totaling less than 5 mCi by the end of 2020. A value of 5 mCi would place DCP into the

second and possibly first quartile for the industry. DCP's 20-year discharge history by unit is shown below:



DCPP Liquid Waste Discharge 2001-2019

The FFT inquired about the age and reliability of equipment in the LRWS. Mr. Miller reported that reliability was generally good, but Reactor Cavity sump pumps had been a recurring problem. DCP's Engineering was working to find a solution to make the pumps more reliable in their priming and pumping. With regards to system instrumentation, the system's Human-Machine Interface computer system was functioning well, and DCP's had recently replaced several level detectors in the system with more reliable indicators. The FFT also inquired regarding any plans for using the system during decommissioning, and Mr. Miller reported that those plans were still under development. He also noted that cost accounting approaches for radioactive waste disposal would change after decommissioning, and that fact would affect the station's overall approach to long-term plans for radioactive waste disposal.

Regarding solid Radwaste, DCP's has worked to minimize the generation of all solid waste. DCP's currently sends both its Class A Low Level Waste (LLW, lowest radioactivity and half-life less than five years) and its Class B or C LLW (higher radioactivity) to a licensed disposal site in Andrews, Texas. DCP's has discontinued sending waste to a licensed disposal site in Utah but could do so again in the future if needed. Trash contaminated with extremely low or trace levels of activity were being sent to a waste processor in Tennessee for disposal in a landfill.

licensed for the burial of slightly radioactive material.

Conclusions: DCP's Liquid and Solid Radwaste Processing Systems are effective in minimizing the volumes and radioactivity levels discharged or sent to licensed storage facilities.

Recommendations: None

3.7 Meet with DCP Officer

The DCISC FFT met remotely with Paula Gerfen, DCP Site Vice President, to discuss items from this fact-finding meeting and other items of mutual interest. The DCISC last met with a DCP Officer in September 2020 (Reference 6.6), when it concluded the following:

The regular meetings between DCISC Members and DCP Officers and Directors continue to be beneficial for both organizations.

Conclusions: The regular meetings between DCISC Members and DCP Officers and Directors continue to be beneficial for both organizations.

Recommendations: None

3.8 Seismically Induced Systems Interactions Program

The DCISC FFT met remotely with Chris Ingram, Senior Mechanical Design Engineer, and Jeff Bryant, Assistant Maintenance Director, for an update of the Seismically Induced Systems Interactions (SISI) Program. The DCISC last reviewed this program in May 2017 (Reference 6.7), when it concluded the following:

DCP is dealing with degraded performance in its Seismically Induced Systems Interaction Program (SISI) Program during the early stages of Outage 1R20. Causes were procedural in nature rather than physical interactions. Assessments and inspections have been performed with initial corrective actions taken and the resulting reports are expected by the end of May. The DCISC should follow up on this issue at the July 2017 Fact-finding Meeting to assess the actions taken to correct SISI Program events.

Mr. Ingram explained that routine station operations with respect to the SISI Program were governed by procedures AD4.ID3, Revision 16, "SISI Housekeeping Activities," dated October 8, 2019, and AD4.ID1, Revision 17, "Housekeeping," dated April 2, 2020, copies of which were provided to and reviewed by the FFT. These procedures appeared adequate and addressed application of the SISI Program to daily housekeeping activities within the plant such as the following:

- Transient equipment being brought into the plant
- Component parts of systems, structures, or components being brought into the plant
- Non-design change alterations of systems, structures, or components

The objective of the SISI Program was to ensure that safe-shutdown systems, structures, and components, as well as certain accident-mitigating systems, would properly function during and following an earthquake. The procedure's intent was to ensure that needed components and equipment would not be impacted during an earthquake by improperly positioned or restrained transient equipment or alterations made to systems, structures, or components. Mr. Ingram explained that although the SISI Program focused on protecting plant equipment in specific locations, the program's housekeeping standards are applied throughout the plant at all times. The procedure provided lists of examples of temporary equipment and components that could damage plant equipment if stored unrestrained in unacceptable areas of the plant, and/or inadequately secured, were an earthquake to occur. Some examples were tools, ladders, gas bottles, workbenches, rigging equipment, test equipment, temporary power load centers, and parts resulting from operations, maintenance, modifications, or testing activities.

One method to help prevent an undesirable seismic impact on plant systems has involved the designation of "SISI Safe Areas," which were evaluated by Engineering and pre-designated throughout the plant. These areas were intended for repeated use and did not require a SISI evaluation by Engineering when the need occurred to store items temporarily in those areas. Such areas were identified by signs located throughout the Turbine Building, Auxiliary Building, and Fuel Handling Building.

Mr. Ingram also provided the FFT with copies of engineering documents that provide the bases for the program including Design Control Manual T-14, Revision 6, "Seismically Induced Systems Interactions," dated August 20, 2019, and the "Seismically Induced Systems Interaction Manual," Revision 12, dated December 2017. Those documents as well as supporting plant drawings provided the detailed information for the identification of the SISI Safe Areas and identified potential "Targets," which were defined as systems, structures, and components that are required to "safely shutdown the plant, maintain the plant in a safe shutdown condition, and/or maintain the function of accident mitigating systems."

Targets also included related tubing, instrumentation, electrical circuitry, and component supports that were necessary to ensure that the associated systems, structures and components could perform their design functions. Thus, the SISI Safe Areas were locations where stored equipment, tools, or components could not negatively affect Targets and therefore could not have a negative on impact on nuclear safety in the event of an earthquake. Separately, the same engineering documents were used during the design change process to ensure that any permanent station modifications could not impact any of the same Targets during a seismic event.

The FFT team inquired regarding any recent issues with program implementation, and Mr. Ingram responded that housekeeping programs were significantly revised approximately one year ago. The revisions were intended to improve checklists for field activities and housekeeping area accountability. These changes had been successful in ensuring that area owners were frequently checking their areas and knew exactly what they should be looking for to confirm that equipment temporarily staged in the plant was stored in such a manner as to meet all of the SISI Program requirements. This success was supported by the fact that very few issues related to SISI Program implementation had been identified and entered into the corrective action program during the past year which included two refueling outages.

Conclusions: DCP's Seismic Induced Systems Interaction Program appeared effective in ensuring that systems important to safety would not be impacted by material or equipment temporarily stored within the plant during a seismic event.

Recommendations: None

3.9 Control Room Simulator

The DCISC Fact-finding Team met remotely with Abdul Kadir, Simulator Supervisor; Brian Sawyer, Simulator Specialist; and Jared Smith, Operations Training Manager, for an update on the status of the DCP Control Room Simulator. The DCISC last reviewed this program in September 2018 (Reference 6.8), when it concluded the following:

DCP's Control Room Simulator program and staff appear satisfactory for modeling plant events and operator training and examinations through the end of plant life in 2025.

All U.S. nuclear power plants have Control Room Simulators. The DCP Control Room Simulator is an accurate copy of the actual DCP Unit 1 Control Room with respect to control boards, charts, displays, and everything else down to the lighting and carpet. Simulator controls and displays are wired to computers whose plant models provide the simulator with realistic behavior and responses which mimic the actual plant. Simulator training for operators is required for new licensee training as well as for continuing training for licensed operators. The simulator is used for both operator training and practice of upcoming plant evolutions as well as operator testing for continuation of their license certifications.

At the time of the DCISC's last review, DCP had completed a major update to the simulator, resulting in significant computer hardware and software updates. Mr. Sawyer reported that the upgrades were very successful in improving simulator model stability, ease of use, and overall reliability. In the last year, there were no incidents of lost training opportunities due to simulator unavailability. A few issues with input/output cards had occurred, but those cards could be quickly replaced

with interruptions lasting typically less than one hour. Software now typically operated without any crashes or freezes, and the updated simulator model was significantly easier to modify and incorporate performance improvements or design changes when needed. Since February 2020, DCP's simulator performance index had achieved the maximum rating of 100 with minimal unavailability or equipment discrepancies.

In early March, the use of the simulator was temporarily discontinued due to the COVID-19 pandemic. Training resumed approximately two weeks later after procedures were established for the wearing of personal protective equipment, sanitation, and social distancing. Efforts were continuing to ensure that the simulator configuration accurately reflected actual plant configurations. Most recently, design changes to replace control room analog instruments with digital instruments had been replicated in the simulator.

The FFT inquired with regards to the status of maintaining simulator fidelity as required by NRC regulation 10 CFR 55.46. DCP reported that the regulations were met primarily through ongoing certification activities that were performed under the guidance of American Nuclear Society standard ANSI/ANS-3.5-2009, "Nuclear Power Plant Simulators for Use in Operator Training and Examination," which was endorsed for compliance by the NRC under Regulatory Guide 1.149. The standard's requirements for fidelity testing fell generally into four areas:

- Transient Testing - the comparison of simulator indications during transients to design documents or actual plant data
- Physics Testing - the performance of reactor physics testing in the simulator compared to the results to data from physics testing performed in the actual plant
- Steady-State Testing - the performance of the simulator when held at steady state power levels compared to the results to actual plant data
- Scenario-Based Testing - the performance of the simulator when running training examination scenarios when compared to crew and instructor expectations and experience

The above tests were required to be conducted and documented during every plant refueling cycle, and DCP's simulator was up to date in successfully completing all of the required certification tests.

Conclusions: DCP's Control Room Simulator was performing well in supporting operator training and examinations. The simulator was being properly certified and updated, and simulator reliability was high.

Recommendations: None

3.10 Drone Sightings

The DCISC FFT met remotely with Shawn Kirvin, Director of Nuclear Security

and Emergency Services, to review the history of sightings of drones (also known as remote-controlled pilotless aircraft or unmanned aerial vehicles) at DCPD and any possible implications upon nuclear safety. This was the DCISC's first review of this matter and was prompted in part by questions asked at the Committee's Public Meeting in July 2020.

Mr. Kirvin provided several documents to the FFT and described the history of the issue across the industry and specifically at DCPD. A heightened awareness of drone activities near nuclear power plants began in the 2014 timeframe when the NRC issued Information Advisory 14-03, "Updated Suspicious Flight Activity Voluntary Reporting Procedures - Unmanned Aircraft Systems." The advisory initiated a voluntary reporting system among nuclear power plants in the U.S. through which any drone sightings were reported to the NRC. The system was somewhat akin to existing reporting mechanisms for small boats that might inadvertently wander into and out of restricted areas near nuclear power plants.

This reporting system has remained in place to date and was the mechanism by which the NRC was able to track the overall nature of the potential threat and provide nuclear power plants with updated threat information when needed. This NRC reporting system was also the source of drone sighting data that were published in several recent media reports on the topic. In 2018, the Nuclear Energy Institute also published a technical report, NEI 18-05, "Guidance for Responding to an Unmanned Aerial System/Unmanned Aerial Vehicle within the Owner Controlled Area." The NEI report was prepared in coordination with various federal agencies and provided additional reporting guidelines, recommended site action checklists, and a list of references and resources.

Regarding sightings specifically at DCPD, Mr. Kirvin reported that DCPD observed multiple (approximately ten) sightings in the winter of 2017-2018 which were reported to the NRC and included in their database. In the years since 2018, there had been only a few individual and infrequent sightings at DCPD. All of the sightings at DCPD were over the Owner-Controlled Area (OCA), and only a few were sighted near to the plant's Protected Area. Mr. Kirvin also noted that DCPD continually works to be aware of and assess any new potential threats from drone activity near nuclear power plants or other critical infrastructure facilities throughout the world.

Over the last few years, DCPD participated in an industry task force working to obtain permanent airspace restrictions over a portion of DCPD's OCA from the Federal Aviation Administration (FAA). He reported that on October 28, 2020, DCPD successfully became the first nuclear power plant in the U.S. to receive the designation. The FAA airspace restriction would be designated on aeronautical charts and would provide a legal basis for prosecution of any violators apprehended by local authorities for flying drones near DCPD.

The FFT inquired as to any specific threat to safety posed by drone activity. Mr. Kirvin provided an NEI document, "Defense Against Drones at Nuclear Power Plants," dated May 31, 2018, that outlined the basic points regarding the security

threat posed by drones without providing any detailed security-restricted information. The principal points were:

- Nuclear power plants were designed prior to the drone threat, but with related hazards in mind. Hazards such as heavy objects carried by tornadic winds were required to be assessed and robust structures (reactor building, auxiliary building, control building, etc.) put in place to protect critical safety systems against such hazards.
- Following the attacks of September 11, 2001, nuclear power plants, on orders from the NRC, took numerous measures to protect against a wide variety of threats, including airborne threats and vehicle bombs.
- Nuclear power plants must include a wide range of threats in their security planning which is updated regularly to address any new threat information.
- Using a drone for surveillance does not provide a substantial benefit to an adversary. Aerial views of the plant do not diminish the strategies in place to mitigate threats.
- Defensive strategies are thoroughly and regularly tested via NRC evaluations such as force-on-force exercises.

The conclusion of the above points was that according to the NEI document drone intrusions do not pose a substantial security risk to a nuclear power plant. The DCISC FFT concluded that drone intrusions did not pose a substantial risk to nuclear safety at DCP.

Conclusions: DCP monitors any drone activity near the power plant and has acted appropriately when such activity was observed in the past. In general, drone intrusions do not seem to pose a substantial risk to nuclear safety at DCP.

Recommendations: None

3.11 Engineering Reorganization and Excellence Plan

The DCISC Fact-Finding Team met remotely with Pat Nugent, Engineering Director, for an update on the current status of recent reorganizations in DCP's Engineering Department and the department's current Excellence Plan. The DCISC last reviewed this area in July 2019 (Reference 6.9), when it concluded the following:

DCP's Systems Engineering group continues to effectively manage the health of systems important to safety. Significant organizational changes have occurred, and more are planned to occur in the near future. The DCISC should review the status and impact of these changes again in late 2020.

At the time of the DCISC's previous review in 2019, the Engineering Department organizational changes had been partially completed primarily in response to NEI

Efficiency Bulletin (EB) 17-18, "Optimizing Strategic Engineering, Engineering Response Team, and Component Maintenance Support." In response to the EB 17-18 recommendations, a significant re-organization had begun in 2018 and was expected to continue into 2020. One of the core objectives of the change was to transform System Engineering into a more strategic organization and move tactical activities (such as troubleshooting support and emergent plant issues) to a Component Engineering group. The Component Engineering group was paired with the Engineering Fix-It Now (EFIN) Team under a new group called "Support Engineering." Once the final organizational changes were in place, it was planned that the EFIN Team would handle all "tactical" or daily plant issues and the Systems Engineering group would focus solely on "strategic" or longer-range plant issues. Additionally, a Program Engineering group would be created to include specialty programs such as Inservice Testing, Fire Protection, and Reactor Engineering. Lastly, engineers from the Projects Group were combined into the Design Engineering group.

Mr. Nugent reported that the last changes to the Engineering Department organization were completed in August 2020. Overall, the department leadership believed that the changes had been successful in accomplishing the objectives (primarily the separation of tactical and strategic engineering) with minimal actual disruption to the employees. Effectiveness reviews of the implementation had not identified any gaps to excellence. He stated that outside of the Systems Engineering group, most engineers' roles were not directly affected although a significant number of engineers were assigned to new supervisors. He also noted that during the COVID-19 pandemic period, only approximately 15% of the department's staff were regularly on site, and most of that usually consisted of the EFIN team.

Mr. Nugent then reviewed the 2020 Engineering Goals and Excellence Plan with the FFT. The plan encompassed performance improvement initiatives in six broad areas:

- Safety
- People
- Reliability
- Affordability
- Risk, Compliance and Ethics
- Regulatory and External Strategy

In the area of safety, Engineering had been generally successful in minimizing safety issues within the department. Additionally, in response to the COVID-19 pandemic and the resulting emphasis on working from home, DCPD had initiated ergonomic assessments for employee home working arrangements and provided advice or additional office equipment (monitors, chairs, desks, etc.) as necessary to ensure employee wellness while working from home.

With regards to the area of people, the department completed its reorganization as

discussed above. Additionally, the department established a "People Committee" which was using the results of employee surveys to identify opportunities for development of employee skill sets to assist with their future transitions to other company jobs after the cessation of operations at DCP. Recently, several engineers had left DCP for planned rotational assignments within non-nuclear areas of PG&E and a few engineers had left unexpectedly for opportunities elsewhere in the industry. The committee was tracking the departure of employees to ensure that knowledge transfer plans were in place to ensure that performance did not decline due to the departures.

Mr. Nugent pointed out that in the area of reliability, the station and the department were finding their largest challenges. The major 2020 plant reliability issues were the Unit 2 rod control system failures and generator hydrogen leaks.

The equipment reliability index for Unit 1 was 100% but Unit 2 was unacceptably low at less than 80%. The issue had been identified as an area for improvement by multiple organizations, including the NSOC, Quality Verification, and INPO. The identification of causes for the reduced equipment reliability and corrective actions was underway but proving difficult as indicators other than unit shutdowns were generally satisfactory.

In affordability, the department had gained insights during recent outages during the pandemic about how engineers could successfully support outages from offsite.

The reduction in engineering hours on site had resulted in some cost savings which was hoped could also be captured in the future. Also, the department was on track in slowly reducing staffing through attrition as planned as work volumes will naturally decrease as the date approaches for the planned cessation of operations.

In the remaining two areas of the plan (risk, compliance and ethics, as well as regulatory and external strategy), all initiatives were on track. One recent issue had occurred in the area of regulatory strategy when a change in National Electric Reliability Council (NERC) standards was not properly coordinated within PG&E. As a result, the station was becoming more directly involved in understanding and tracking compliance with NERC standards.

Conclusions: DCP's Engineering Department continues to perform effectively and has managed work well during the disruptions caused by the COVID-19 pandemic. Significant organizational changes which began in 2018 are now complete and appear to have been successfully implemented.

Recommendations: None

3.12 Nuclear Safety Oversight Committee Exit Meeting

The DCISC has an agreement with DCP to maintain NSOC information confidential, and thus only limited information is presented here.

The DCISC FFT remotely observed the November 19, 2020, Nuclear Safety Oversight Committee (NSOC) exit meeting. The DCISC last reviewed this area in March 2017 (Reference 6.10), when it concluded the following:

The DCPN Nuclear Safety Oversight Committee (NSOC) appeared to be thorough and comprehensive in their investigations and candid in their reports. Attendance at NSOC meetings is beneficial for DCISC to learn about plant issues. The DCISC should continue to attend NSOC meetings regularly.

The NSOC is a committee of six executive-level, external industry peers. The Committee typically visits DCPN three times per year for four days each. The first three days are usually spent in the plant interviewing personnel, observing activities, and reviewing records in the following NSOC-Subcommittee areas:

- Operations, Chemistry, Learning Services
- Maintenance, Work Management, Industrial Safety
- Engineering, Risk Assessment, Equipment Reliability, Regulatory Services
- Performance Improvement, Radiation Protection, Emergency Planning, Security
- Outages, Projects, Decommissioning
- Organizational Effectiveness, Safety Culture, Quality Verification

For this particular meeting, on site interactions were limited due to the COVID-19 pandemic. Two NSOC members visited the plant to perform several days of direct observations in September, and the remainder of the NSOC observations were conducted via remote meetings. This exit meeting was held on NSOC's fourth day of remote meetings for the purpose of reporting its conclusions to DCPN's Chief Nuclear Officer and leadership team. The NSOC evaluators appeared thorough in their investigations and candid in their reports. They reported on the status of several previously identified issues and concerns, closing some, and also identified a few new issues and concerns. No nuclear or personnel safety issues were identified. Overall, the NSOC evaluated DCPN as continuing to be a top performer in the industry. Many of NSOC's conclusions were similar to those of DCPN's Quality Verification Department and the DCISC. Two items discussed and new to the DCISC were the results of the Institute of Nuclear Power Operations (INPO) evaluation of PG&E Corporate management and an event involving the Low Pressure Overpressure Protection system in October 2020. The DCISC should review those two items at its first opportunity.

Conclusions: The DCPN Nuclear Safety Oversight Committee (NSOC) appeared to be thorough and comprehensive in their investigations and candid in their reports. The DCISC should continue to attend NSOC exit meetings regularly and should follow up on two items discussed at this meeting.

Recommendations: None

4.0 CONCLUSIONS

4.1 Two November 10, 2020, Outage Coordination Center meetings were conducted by conference call and effectively facilitated with crisp and clear informational exchanges across a large number of planned work activities.

4.2 The DCPD Corrective Action Review Board (CARB) meeting on November 10, 2020, appeared satisfactory in that the meeting met the intended objectives. Discussion of one significant item was comprehensive.

4.3 The meeting with the NRC Senior Resident Inspector was beneficial, and the DCISC should continue the meetings.

4.4 DCPD was appropriately managing Unit 2's Forced Outage 2222 which was driven by a hydrogen leak inside the Main Generator that was very similar to a leak that drove a forced outage three months earlier. The DCISC should continue to follow this event and review the final Root Cause Evaluation for the problem during a future Fact-Finding Meeting as well as at the next Public Meeting.

4.5 DCPD's Cybersecurity Program appears to be effectively managed, and efforts are continuing to ensure that the program is successfully sustained. The DCISC should next review the status of the Cybersecurity Program following the NRC inspection currently scheduled to be completed in the spring of 2021.

4.6 DCPD's Liquid and Solid Radwaste Processing Systems are effective in minimizing the volumes and radioactivity levels discharged or sent to licensed storage facilities.

4.7 The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

4.8 DCPD's Seismic Induced Systems Interaction Program appeared effective in ensuring that systems important to safety would not be impacted by material or equipment temporarily stored within the plant during a seismic event.

4.9 DCPD's Control Room Simulator was performing well in supporting operator training and examinations. The simulator was being properly certified and updated, and simulator reliability was high.

4.10 DCPD monitors any drone activity near the power plant and has acted appropriately when such activity was observed in the past. In general, drone intrusions do not seem to pose a substantial risk to nuclear

safety at DCPD.

4.11 DCPD's Engineering Department continues to perform effectively and has managed work well during the disruptions caused by the COVID-19 pandemic. Significant organizational changes which began in 2018 are now complete and appear to have been successfully implemented.

4.12 The DCPD Nuclear Safety Oversight Committee (NSOC) appeared to be thorough and comprehensive in their investigations and candid in their reports. The DCISC should continue to attend NSOC exit meetings regularly and should follow up on two items discussed at this meeting.

5.0 RECOMMENDATIONS

None

6.0 REFERENCES

6.1 "Diablo Canyon Independent Safety Committee Thirty-First Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June 30, 2021," Approved October 20, 2021, Volume II, Exhibit D.2, Section 3.2, "Attend Corrective Action Review Board Meeting."

6.2 Ibid., Exhibit D.3, Section 3.6, "Meet with NRC Resident Inspector."

6.3 Ibid, Exhibit D.2, Section 3.3, "Unit 2 Forced Outage."

6.4 "Diablo Canyon Independent Safety Committee Twenty-Ninth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2018 - June 30, 2019," Approved October 23, 2019, Volume II, Exhibit D.7, Section 3.8, "Cybersecurity for Digital Control Systems."

6.5 "Diablo Canyon Independent Safety Committee Twenty-Eighth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2017 - June 30, 2018," Approved October 24, 2018, Volume II, Exhibit D.2, Section 3.3, "Radioactive Waste Processing Systems."

6.6 "Diablo Canyon Independent Safety Committee Thirty-First Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June 30, 2021," Approved October 20, 2021, Volume II, Exhibit D.3, Section 3.3, "Meet with DCPD Site Vice-President Paula Gerfen."

6.7 "Diablo Canyon Independent Safety Committee Twenty-Seventh Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2016 - June 30, 2017", Approved October 13, 2017, Volume II, Exhibit D.9, Section 3.2, "Seismically Induced System Interactions Housekeeping Program."

6.8 "Diablo Canyon Independent Safety Committee Twenty-Ninth Annual Report

on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2018 - June 30, 2019," Approved October 23, 2019, Volume II, Exhibit D.3, Section 3.2, "Control Room Simulator Status."

6.9 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.1, Section 3.10, "Systems Engineering Department Update."

6.10 "Diablo Canyon Independent Safety Committee Twenty-Seventh Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2016 - June 30, 2017", Approved October 13, 2017, Volume II, Exhibit D.8, Section 3.11, "Nuclear Safety Oversight Committee Summary Meeting."

31st Annual Report, Volume II, Exhibit D.5, Diablo Canyon Independent Safety Committee Report on Fact Finding Meeting at DCPD on December 8-9, 2020 by Per F. Peterson, Member, and R. Ferman Wardell, Consultant

1.0 SUMMARY

The results of the DCISC Fact-finding meeting held on December 8-9, 2020, for the Diablo Canyon Power Plant (DCPP) in Avila Beach, CA are presented. Due to travel and attendance restrictions resulting from the COVID-19 virus, all meetings were conducted remotely via MS Teams. The subjects addressed and summarized in Section 3 are as follows:

1. Refueling Outage 1R22 Foreign Material Exclusion and COVID Experience
2. Motor- and Air-Operated Valve Testing Programs
3. Electronic Work Packages
4. Meeting with NRC Senior Resident Inspector
5. Workplace Seismic Safety: Control Room Procedure Cart Stability
6. Operations Equipment Status Control Issue Update
7. Meeting with Jim Welsch, DCPD Chief Nuclear Officer
8. Safety-Security Interface and Intake Structure Devitalization
9. Turbine/Generator Health
10. Meeting with Maureen Zawalick, Vice President, Generation, Business & Technical Services

2.0 INTRODUCTION

This Fact-Finding meeting with DCPD was made to evaluate specific safety matters for the DCISC. The objective of the evaluation was to determine if Pacific Gas and Electric's (PG&E's) performance is appropriate and whether any areas revealed observations, which are important enough to warrant further review, follow-up, or presentation at a public meeting. These safety matters include follow-up and/or continuing review efforts by the Committee, as well as those identified as a result of reviews of various safety-related documents.

Section 4-Conclusions highlights the conclusions of the Fact-Finding Team based on items reported in Section 3-Discussion. These highlights also include the team's suggested follow-up items for the DCISC, such as scheduling future Fact-Finding

Meetings on the topic, presentations at future public meetings, and requests for future updates or information from DCPD on specific areas of interest, etc.

Section 5-Recommendations presents specific recommendations to PG&E proposed by the Fact-Finding Team. These recommendations will be considered by the DCISC. After review and approval by the DCISC, the Fact-Finding Report, including its recommendations, will be provided to PG&E. The Fact-Finding Report will also appear in the DCISC Annual Report.

3.0 DISCUSSION

3.1 Refueling Outage 1R22 Foreign Material Exclusion and COVID Experience

The DCISC Fact-Finding Team (FFT) had a remote (virtual) meeting with Jeff Bryant, Assistant Director, Maintenance; and Justin Rogers, Director of Training, for a report on the recently completed Refueling Outage 1R22 experience on Foreign Material Exclusion (FME) and COVID-19. Outage 1R22 went from October 4 to November 11, 2020. The DCISC last reviewed DCPD COVID experience in May 2020 (Reference 6.1) and FME in April 2019 (Reference 6.2), when it concluded the following:

DCPD appeared to be responding properly to the many challenges posed by the COVID-19 Pandemic. Appropriate actions were being taken to ensure that the facility would continue to be safely operated and maintained, and planning was in place to assure that adequate numbers of personnel would be available to respond if an emergency were to occur. The DCISC should follow up and continue to monitor the status of DCPD's pandemic response regularly at Fact-Finding Meetings and Public Meetings until such time as the current pandemic threat passes.

And

DCPD's Foreign Material Exclusion (FME) Program performance during the 1R21 Refueling Outage was not as good as past outages as shown by the identification of three FME events classified as "FME Threats." Actions taken with respect to those events appear to be appropriate. The DCISC should review the current program for temporary outage worker training and recent changes to that program during a future meeting.

COVID-19 Experience

Based on outage goals, the outage was a success, achieving goals in duration, cost, ALARA, safety, etc. and experiencing good results with its COVID prevention program. Of the approximately 800 supplemental outage workers brought in, two

initially tested positive pre-outage for COVID and were quarantined. During the outage, one contractor tested positive. DCPD experienced no worker-to-worker positives during the outage. DCPD's COVID Outage Response Coordinator has been effective in preventing new cases by reinforcing DCPD COVID procedures to prevent any resurgence and by monitoring staff daily. DCPD has been employing risk-based quarantining in a conservative, pro-active manner and strictly following Center for Disease Control and Prevention and California State recommendations for essential workers. DCPD is working with County and State officials on vaccine availability and implementation.

FME

DCPD's FME Program is governed by procedure AD4.ID6, "Foreign Material Exclusion Program," a copy of which was provided to and reviewed by the Fact-finding Team. The purpose of the FME Program is to prevent the undesired and potentially harmful intrusion of foreign materials into plant systems or components. Situations in which this intrusion can most likely occur are during maintenance when normally closed systems and environments are open or during inspections or tests under similar conditions. In such situations, it is important to maintain control of tools, fasteners, repair parts, replaced parts, safety items, and residue resulting from the work, items attached to clothing, and anything else that could become loose and enter a system or environment. The vast majority of FME problems typically occur during plant outages when many system repairs, modifications, inspections, and tests are performed.

FME performance during Outage 1R22 was good with the following FME events:

- Three threats
- Two FME violations (different than NRC violations)
- Seven Condition 3 FME violations
- No Level 1 or 2 FME violations (the most significant levels)

Notably there were no FME events involving the Reactor Cavity in Containment. DCPD plans a FME quick hit self-assessment in January 2021.

Conclusions: Not only was DCPD's Refueling Outage 1R22 successful in the plant meeting its major goals, but DCPD's performance in Foreign Material Exclusion and COVID-19 was good.

Recommendations: None

3.2 Motor- and Air-Operated Valve Testing during Refueling Outage 1R22

The DCISC FFT had a remote (virtual) meeting with Chad Sorenson, Motor-Operated Valve (MOV) Program Owner, and Rosie Mendoza, Air-Operated Valve (AOV) Program Owner for an update on the two programs' testing during Refueling Outage 1R22. The DCISC last reviewed the AOV Program in July 2015 (Reference 6.3), when it concluded the following:

The DCPD Air Operated Valve (AOV) Program is in good health (Green), and there are only minor issues with the Program and valve operators. The Program Owner appeared knowledgeable and pro-active.

The DCISC has not reviewed the MOV Program in recent periods.

DCPD's "Program for the Verification, Monitoring, and Trending of Air and Hydraulically Operated Valve Performance" is controlled by Procedure MA1.ID16, Revision 8. There are several other procedures for the Valve Packing Program, AOV and Associated Device Calibration, and AOV Testing Using the Crane VIPER Diagnostic System. DCPD has changed in 2014 (Refueling Outage 1R18) to the VOTES Infinity diagnostic system, which is an improved version of the VIPER valve operator diagnostic system. Viper will be available as a backup. The MOV Program is similar.

The purpose of the program is to test and maintain AOVs and MOVs to assure that these valves will achieve required reliability when operated under anticipated system conditions. The program was developed in the mid-1990s as part of an industry effort in response to NRC concerns about the operability of AOVs and MOVs. An industry Joint Owners' Group (JOG) was formed in the late 1990s. DCPD personnel participate in the JOG.

The DCPD AOV/MOV Program organizes valves into the following four categories:

Category 1 - safety-related valves with an active safety function and high safety significance (six AOVs - three per unit), which are the Pressurizer Power Operated Relief Valves.

Category 2 - active safety-related valves, which do not have high safety significance. Examples are as follows:

- Auxiliary Feedwater Pump Discharge Header Level Control
- Steam Generator Main Feedwater Supply
- Steam Generator 10% Atmosphere Dump
- Reactor Coolant Pump Seal Outlet
- Charging Line to RCS Loop Cold Leg
- Letdown Heat Exchanger
- Excess Letdown Flow Control
- Containment Fire Water Isolation
- Containment Excess Pressure Outlet

Category 3 - Valves outside Categories 1 and 2, which affect plant efficiency and megawatt capacity, or whose maintenance history indicates the need for increased surveillance. There are several hundred valves in this category.

Category 4 - any remaining valves not included in the above three categories.

There are approximately 1900 air and motor operated valves in the program with 96 high priority valves tested each outage. The AOV/MOV Program Team determines which valves are assigned to each category. For each valve, a design basis reconstitution is performed to determine operational parameters, which are used as the basis for test acceptance criteria. Additionally, valve capability and operator sizing calculations are performed to assure that the valve/operator combination is acceptable for its specific application. Baseline, periodic, and post-maintenance testing are performed on each AOV and MOV depending on its category. Records and trends are maintained for each AOV and MOV. Any problems are documented and tracked on an Action Request in the Corrective Action Program. Valve test data include the following parameters:

- Valve travel distance
- Valve travel time
- Air supply pressure
- Actuator Pressure
 - Valve starts to open
 - Valve fully open
 - Valve starts to close
 - Valve fully closed
- Stem friction
- Spring rate
- Seat force
- Valve time and pressure trace diagrams

Maintenance performs the actual VOTES tests, and the Program Owner verifies and approves the test results. During Outage 1R22, 44 AOVs and 23 MOVs were tested. Results were satisfactory.

Overall, both AOV and MOV Program health indicators are Green, having reached Green when the Program Owner achieved the required three years of experience. The Program Owners participate actively in industry AOV/MOV Program activities. They develop both a Long-Range Plan for the Program and a Life Cycle Management Plan for DCP's valves. The former plan is addressing the issue of obsolete AOV/MOV parts, and the second addresses the testing budget as well as future valve/actuator replacements.

NRC plans inspections of DCP's AOV and MOV Programs in July 2021.

Conclusions: The DCP Air- and Motor-Operated Valve Programs appear to be sound and to be implemented satisfactorily.

Recommendations: None

3.3 Electronic Work Packages

The DCISC FFT had a remote (virtual) meeting with Ken Pazden, Maintenance Manager, and John Klein, Mechanical Maintenance Planner, for an update on DCP's use of Electronic Work Packages (EWPs). The DCISC last reviewed EWPs in December 2017 (Reference 6.4), when it concluded the following:

DCPP is continuing to implement the process for Electronic Work Management, but implementation has been slow. The DCISC should review the status of implementation again in early 2019.

In general work management at DCP is controlled by Procedure AD7.DC9, "Maintenance Work Procedure Use," Revision 18. This procedure appeared comprehensive and detailed for its purpose. Most work packages consist of paper instructions, procedures, drawings, manuals, etc. bound into a package which is taken out in the plant where the work is to be performed. Electronic work packages contain the same information and look like paper packages but are in an electronic format on an electronic pad.

The following is taken from DCP Electronic Work Management Instructor Lesson Guide.

The Electronic Work Management Application (eWM) is an electronic representation of a work package. It has the same elements as a hard copy work package but is viewed and used via an electronic tablet or a computer. This lesson will present some of the key features and demonstrate how to perform work using this electronic work package system. The lesson is not intended to replace actually using the tablet and becoming familiar with its specifics of working on a tablet.

A note from the DCP Mobility Project Charter:

"Mobilized applications will improve workplace efficiency by making data, procedures, processes, and related information available where the work is being performed. At a large facility like DCP, substantial time is spent in travel to exit workspaces to locate and acquire required materials, to transcribe manually collected data, to scan, index and load documents into records management systems, etc. All aspects of paper acquisition, delivery, printing equipment and supplies, recycling and security portal transit will be reduced through decreased reliance on paper documents currently associated with field work".

The change to eWM is a significant change, but the efficiency gains from the transition from paper to electronic will eventually reap significant savings for the station and the individuals using it.

Diablo is currently behind compared to the rest of the industry in implementing and using electronic work packages. According to EPRI, other nuclear stations who have implemented electronic work packages on average are using electronic work packages for approximately 75% of their work. Duke Power is currently at approximately 85%. Diablo Canyon is currently at 2%. The station goal is to be at 50% usage by the end of the year [May 2019 EWM Training Guide].

Our mindset needs to be that although it is a change and at times it will be difficult and frustrating, in the long run it will make our work less frustrating and more efficient. We need to be open to the change, it's here, and we need to be willing to make eWM usage a success.

eWM's advantages include:

- *Up-to-date drawing, procedure, form, clearance, and lube chart revisions*
- *Single-click version checking - no need to use another application to check versions*
- *Automatic Record Management System (RMS) input*
- *Can be viewed by more than one person at the same time*
- *Can be reviewed and approved by supervisor and work control shift foreman from their desktop computer*
- *Documents/pictures can be taken, added, and copied to the package while in the field*
- *Can be used in low light situations*
- *Capability of zooming in on documents/drawings*
- *Notifications can be written in the field*
- *You can send an ePage or eMail while in the field*
- *Built-in camera (both forward and rear facing)*
- *No loose or lost pages*
- *Can be used online or off-line (connected or not connected to the network)"*

The Electronic Work Management process at DCPD was begun in early 2014 in response to similar initiatives elsewhere in the industry. DCPD purchased hardware and created software to manage work packages electronically. The software created has been titled "eWM" and is unique to DCPD. Much of the industry uses another software product, but that product does not integrate with SAP, DCPD's business information management system. In early 2017, the program was piloted and implementation began across the Maintenance Department. As of the end of 2017, implementation was not as far along as desired, with usage of the eWM system by most groups standing at less than 10% of work packages, except for the T-COM group for which usage of the eWM system was 56% of its work packages. Initially, DCPD's goal was for 75% of work packages to utilize the eWM process, but no target date had been set for

achievement.

The eWM system uses Windows-based tablets and is primarily a tool to index and manage multiple pdf documents that form a maintenance work package. The system also provides layers that can be used to record data into the pdf files to document completion of tasks in the work document or to record numerical values from the maintenance activity. One of the major advantages of the eWM process is the reduction in work for planners who assemble the work packages. The use of eWM allows planners to skip the steps of printing and assembling work packages as well as to skip the steps of manually scanning and entering completed records into the station Records Management System.

One other advantage is that the use of eWM avoids the need to carry large amounts of paper into and out of the Radiologically Controlled Areas of the plant.

Currently, the eWM system does not automatically transfer numerical data into the SAP system for use in trending equipment performance. Instead, the system still relies on reviewers of a completed package, such as System Engineers, to pull the desired data from the maintenance package and place it elsewhere in SAP or other analytical programs for trending.

The current goal for employing eWM is 50% for departments choosing to use eWM, down substantially from the original 75% plant-wide goal of 2017. This reduction is due to eWM appearing not to save the time and effort originally desired. EWPs are used primarily for routine, simple processes such as scaffold building, coating, insulation and equipment lubrication.

The DCISC FFT received and reviewed a training package providing potential users an "eWM Walkthrough." The training package provided a sample work package with step-by-step instructions for completing the work, including important alerts, prerequisites, approvals, applicable documents such as procedures and drawings, equipment clearances, and space for annotations and recording of test or work results.

DCPP electronic work packages are used on Getac Electronic Tablets, rugged devices, which look like the following:



And a typical work package screen is show below:

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DCPP's plans to modestly employ electronic work packages compared to the industry appear appropriate due to their less than desired experience with the process and their plans to end electricity generation in 2025, thus not expending additional resources on EWP for the short-term period of plant operation

remaining.

Conclusions: DCPD had begun to utilize Electronic Work Packages in 2014 following industry best practices but has slowed its usage due to less than successful experience and plans to cease electricity generation in 2025. Not expending additional resources for this short remaining term of plant operation appears justified.

Recommendations: None

3.4 Meeting with NRC Senior Resident Inspector

The DCISC FFT had a remote (virtual) meeting with Don Krause, the new NRC Senior Resident Inspector. The DCISC routinely meets with one of the two on-site Resident Inspectors during each of its fact-finding meetings. The DCISC last met with NRC in November 2020 (Reference 6.5), when it concluded the following:

The meeting with the NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.

The Participants discussed the following items:

- Refueling Outage 1R22
- The second forced outage due to the Unit 2 generator hydrogen leak
- The access the resident inspectors have to DCPD data and information
- DCPD safety culture as end-of-operations nears
- Workplace seismic safety

Conclusions: The meeting with the NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.

Recommendations: None

3.5 Workplace Seismic Safety: Control Room Procedure Cart Stability

The DCISC FFT had a remote (virtual) meeting with Sam Williams, Operations Manager, for a review of the effects of an earthquake on the abnormal and emergency procedures cart in the Control Room. The DCISC last reviewed Workplace Seismic Safety in July 2018 (Reference 6.7), when it concluded the following:

Discrepancies in workplace seismic standards (e.g., unbraced furniture) were caused by inadequate knowledge transfer during Building Services personnel turnovers, although the plant had a written standard. The DCISC should follow up on this item in early 2019.

This concern, originally brought up by the NRC in 2010 was documented by

Notification 50314030, "Evaluate Procedure Carts for SISI." SISI is the acronym for Seismically Induced System Interaction, which is a DCPD program to evaluate the effects of components that do not have an explicit design against earthquakes on nearby safety-related components.

The following is excerpted from the subject Notification.

"Seismically Induced Systems Interaction (SISI) program concerns regarding the Emergency Operating Procedure (EOP) carts are addressed in accordance with paragraph 2.2.6 "Loose Components" of the SISI manual.

The cart and contents are ign against earthquakes to be a "source" object. The targets in the area of the control room where the carts are stationed are defined in Appendix 1 Figure 10 (pages F10-1 & 2). The targets are the vertical boards 1 through 4 (VB1-VB4) and the control consoles 1 through 3 (CC1 # CC3). Appurtenances to the targets that could be damaged by the cart and contents would be the various switches, meters, and handles on the apron areas of the VB's and the lower sections of the control consoles. Based on a visual observation, the upper portions of the targets are too high to be impacted or are robust enough to withstand damage based on the dimensions and size of the carts. Therefore, only the lower sections of the VB's and CC's as described above are considered to be credible targets. Paragraph 2.2.6 describes how various loose objects respond to seismic excitation based upon reports and studies given in Section 6 of the SISI manual. Reference 4 & 5 in section 6 indicates the vertical displacement of the floor at the 140' elevation of the auxiliary building is very small (less than 0.040" assuming worst case). Therefore, the maximum vertical displacement of the carts would not exceed this. Horizontal displacement is assumed to be 5' plus the height of the object (maximum) unless shown otherwise.

The nominal dimensions of the cart wheelbase are 17" wide by 42" long by 35" high. The height is measured to the top of the paper files. The mass of the handle can be disregarded. The weight of the cart with contents is estimated to be 60 pounds.

Based on these dimensions the EOP carts are top heavy by the description in paragraph 2.2.6 which could make them tend to tip over in a seismic event. The procedure packages are hanging inside the cart in a vertical orientation. Based on the given vertical displacements, the paper is not expected to be expelled from the cart. The mass of the paper in the cart would lower the overall center of gravity by several inches. This configuration will make it less likely to tip over. The exact center of gravity could be calculated but a general statement of a lower center of gravity will suffice here. A visual assessment of the cart has concluded the cart would remain upright.

The tendency to move in either horizontal direction would be dampened by the carpeting on the floor. Horizontal sliding movement is expected to be minimal

due to the facts that vertical movement is minimal and the carpet would inhibit movement in the horizontal directions. The wheels on the cart are solid material (not pneumatic) and therefore the vertical movement would not be exacerbated by the cart bouncing on the tires. The cart is stationed at the very end of the control room desk which would tend to inhibit movement in one direction.

Therefore only the west ends of the CC1 and the inside of the VB1 apron would be exposed to a potential interaction from the carts moving from their normal location. Assuming the cart tips over, the carpet would further inhibit horizontal movement due to increased friction. The most likely scenario would have the cart lying on its side without reaching the VB. If it traveled to the VB, it would impact the lower vertical panels below the VB apron. With the cart on its side, the width dimension on the cart is shorter than the lower edge of the VB or CC apron. There are no objects on the lower apron except for a phone on the Unit 2 side and switches on the Unit 1 side. Damage to the phone would not cause any concerns. The switches on the Unit 1 side are inset several inches from the plane of the panel and therefore, no potential for impact by the cart is postulated. A similar situation would occur with the CC apron except there are no targets on the sides of the CC apron. No interaction with the paper is expected if the cart remains vertical and rolls to the VB or CC. The paper will remain in the cart.

Conclusion: The expected response for the cart in a seismic event would be minimal movement in the rolling direction of the cart (east # west) or overturned toward the VB's with no damage to any components on the aprons. There are no adverse SISI concerns with the EOP carts and the present practice of staging them at the end of the Balance of Plant Control Operator desk on the west side of the control room (north end of the desk for Unit 1 and south end of the desk for Unit 2)."

The DCISC FFT reviewed the above evaluation and determined that it is satisfactory.

Conclusions: DCP's evaluation of the effects of an earthquake on the Control Room Procedures Cart, concluding that it would not cause damage to Control Room, appeared satisfactory.

Recommendations: None

3.6 Operations Equipment Status Control Issue Update

The DCISC FFT had a remote (virtual) meeting with Dennis Petersen, Director of Operations, for an update on the issue of Operations Equipment Status Control (or Component Mispositioning). The DCISC last reviewed this issue in July 2020 (Reference 6.7), when it concluded the following:

DCPP Operations has developed a Status Control Action Plan

and was beginning to implement it and initiate an effectiveness review later. The DCISC should follow up on this in a fact-finding meeting the fourth quarter 2020.

Operations Procedure OP1.ID6, "Plant Status Control," appears appropriate and effective in providing requirements to ensure that proper configuration control of plant systems and equipment is maintained when personnel are manipulating plant equipment. In spite of this strong, comprehensive procedure, weaknesses that detracted from overall Operations performance effectiveness included challenges with plant status control performance, which continued during the remainder of 2019. This was documented in Notification 51046271. Plant status control performance was escalated to the Station Director on July 16, 2019. Despite multiple action plans to improve plant status control performance, events have continued to occur. Operations developed a Plant Status Control Action Plan to address this performance decline which has included a common cause evaluation, increased observations and communications, and a site-wide video to demonstrate strong component positioning behaviors. The failure to effectively address these challenges, including two station level events (SLE) that occurred the remainder of 2019, contributed to a yellow window for operations. The DCISC previously reviewed the SLEs at its March 2020 Fact-finding meeting. Operations was beginning work on its Action Plan and would be performing an effectiveness review when it completes the Plan. The purpose of this December 2020 Fact-finding Meeting was to review Operations progress to date, specifically the effectiveness review.

According to Mr. Petersen, Operations completed its Action Plan and the Effectiveness Review satisfactorily. Action Plan items included training of operators on component misposition events and management expectations of no misposition events, observations of procedure use and adherence, placekeeping and human performance tools, and tracking and trending misposition events. Importantly, there were no Operations mispositions in 2020 through August 31, nor any Operations fundamental events. This was documented in Notification 51076711, "Effectiveness Eval OP.1AFI." The evaluation concluded that "Tasks on this SAPN [Notification 51076711] document the effectiveness measures selected in advance to demonstrate the effectiveness of Operations actions in addressing the behaviors leading to the OP1AFI [misposition area for improvement] documented in SAPN [Notification] 51046271." The DCISC FFT reviewed this document and discussed it with Mr. Petersen and is satisfied with the conclusion that Operations actions were effective in addressing the mispositioning issue.

Conclusions: DCP's Operations Department determined that its Action Plan implementation on the escalated area for improvement on component mispositioning errors was effective. The DCISC Fact-finding Team concluded that the effectiveness evaluation was satisfactory.

Recommendations: None

3.7 Meeting with DCPD Officer Jim Welsch, Chief Nuclear Officer

The DCISC FFT had a remote (virtual) meeting with Jim Welsch, DCPD Senior Vice-President and Chief Nuclear Officer, to discuss items from this fact-finding meeting and other items of mutual interest. The DCISC meets with a DCPD officer or director at each fact-finding meeting and last met with a DCPD Officer in November 2020 (Reference 6.8), concluding the following:

The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

Conclusions: The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

Recommendations: None

3.8 Safety-Security Interface

The DCISC FFT had a remote (virtual) meeting with Shawn Kirven, Director of Security and Emergency services, for an update on DCPD Safety-Security Interface. The DCISC Last reviewed this subject in July 2019 (Reference 6.9), when it concluded the following:

The DCPD Safety/Security Interface Program appeared to be implemented effectively.

The purpose of the Safety-Security Interface Process is to assess and manage changes to safety and security activities so as to prevent or mitigate potential adverse effects that could negatively impact either plant safety or security. The Fact-Finding Team received and reviewed the following DCPD documents:

1. Procedure OM11.ID7, "Safety/Security Interface Program," which identified management controls and processes used to establish and maintain an effective interface between nuclear safety and site security, addressing the following:
 - a. Plant Modifications
 - b. Procedure Changes and Emergency Plan Changes
 - c. Emergent Operational Conditions and Maintenance Activities
 - d. Changes to Security Plans
 - e. Safety/Security Programmatic Reviews

These documents appeared satisfactory for their intended purposes. Discussions regarding actual safety/security interface activities indicated that the process was effectively implemented.

The Fact-Finding Team was also briefed on the recent change to security practices

to reconfigure the Vehicle Inspection Station and a planned change to security practices for the Intake Structure which was recently submitted to the NRC for its review and approval. The team concurred that both of these changes did not have any substantive effect on plant operational safety. The team also discussed with DCPD staff the status of Security staffing during normal operations, during Refueling Outages, and upon implementation of the station Emergency Plan.

Mr. Kirven reported that there were no issues adversely affecting safety or security regarding design or procedure changes or physical security barrier modifications. To keep up to date on plant activities either the Security Manager or the Security Watch Commander attends and is a participating member of both the daily morning and afternoon status meetings.

The FFT was interested in the basis for "devitalizing" the DCPD intake structure. "Devitalization" in this case means reclassifying the Intake Structure from a security vital area to a non-vital area. The meeting was joined by the following participants for further discussion of the Intake devitalization:

- Michael Richardson, Regulatory Services Supervisor
- Bob Zimkowski, Security Programs Manager
- Tim Graf, Security Operations Specialist

Because it housed the safety-related Auxiliary Saltwater System (ASW), the Intake Structure had been treated as a vital area since the plant began operation. This required the Structure to have its own Security force as well as its own search train and other protective features. The Intake Security Force consisted of 36 full-time equivalent positions prior to devitalization.

The ASW System is part of the Ultimate Heat Sink, which means it is key to providing long-term cooling water from the Pacific Ocean to the plant in the event of an accident. The DCISC FFT asked about the basis for not needing to protect the ASW System. DCPD produced the three following documents which supported the decision:

1. "Security Plan Change Evaluation Criteria," NEI 11-08 Attachment 1
2. "Loss of Auxiliary Saltwater System," WECTEC Technical Report
3. "Physical Security Determination for Devitalization of the Auxiliary Saltwater System," DCPD Security Basis Document 0127

Because these three documents were designated "Security-Related Information - Withhold Under 10 CFR 2.390," the detailed information contained within cannot be detailed in this fact-finding report; however, suffice it to say that the basis for devitalization of ASW identified alternate means of providing long-term Ultimate Heat Sink cooling water. The DCISC FFT was satisfied with this evaluation.

Conclusions: The basis for security devitalization of the Intake Structure and its safety-related Auxiliary Saltwater System was found acceptable by

the DCISC Fact-finding Team.

Recommendations: None

3.9 Turbine-Generator Health

The DCISC FFT had a remote (virtual) meeting with Ryan West, Strategic Engineering Manager, and Brandon Mainini, Strategic Engineer for Secondary Systems, for an update on Turbine-Generator Health. The DCISC has not reviewed Turbine-Generator health *per se* recently.



DCPP Unit 1 Turbine, Generator and
Exciter



Typical Turbine
Internals

The basic function of the Turbine-Generator is to convert thermal energy initially to mechanical energy and finally to electrical energy. The Turbine-Generator for each unit receives saturated steam from the four Steam Generators through the Main Steam system. Steam is exhausted from the Turbine-Generator to the Main Condenser. The Siemens-Westinghouse BB96 High Pressure (HP) Turbine for each of the two nuclear units is coupled to three Alstom ND56R Low Pressure (LP) Turbines in a four-casing, tandem-compound, six-flow exhaust, 1800 rpm unit, with 57-inch last-stage blades. The Alternating Current generator is connected to the Turbine shaft, and a brushless exciter is coupled to the Generator.

The Turbine consists of one double-flow, high-pressure element in tandem with three double-flow, low-pressure elements. Moisture separation and reheating of the steam are provided between the HP and LP Turbines by six horizontal axis, two-stage reheat cylindrical shell combined Moisture Separator-Reheater (MSR) assemblies. Three of these MSRs are located on each side of the LP Turbine elements.

Steam from the exhaust of the HP Turbine element enters one end of each MSR assembly, where internal manifolds in the lower section distribute the wet steam. The steam then flows through a moisture separator where the moisture is removed, and the condensate drained to a drain tank from which it is pumped to

the suction of the Main Feedwater Pumps. The steam leaving the separator flows over two tube bundles where it is reheated in two stages. The reheated steam leaves through nozzles in the top of the assemblies and flows to the LP Turbines through a stop valve and an intercept valve in each reheat steam line. Two MSR assemblies furnish steam to each of the three LP Turbine elements. The first stage tube bundle in the MSR is supplied with extraction steam from the HP Turbine, and the second-stage tube bundle is supplied from the Main Steam system ahead of the HP Turbine. The supply steam condenses in the tubes; the condensate from the high-pressure tube bundle flows to the shell of the high-pressure feedwater heaters, while the condensate from the low-pressure tube bundle flows to the Feedwater Heater 2 drain tank.

The Turbine-Generators and their auxiliary systems are designed for steam flow corresponding to 3,500 MWt and 3,580 MWt, which in turn correspond to the maximum calculated thermal performance data of the Units 1 and 2 Nuclear Steam Supply Systems (NSSS), respectively, at the original design ultimate expected thermal power. The Unit 2 Turbine-Generator has a higher power rating because of subsequent uprating of the Unit 2 NSSS. The intended mode of operation of both Unit 1 and Unit 2 is base loaded at levels limited to the lower licensed reactor level of 3,411 MWt.

The plant is designed to sustain sudden large load decreases. This capability is provided by the use of controlled steam dump (turbine bypass) from the secondary system. This dump serves as a short-term artificial load, allowing the reactor to automatically cut back power without tripping. The reactor control system itself is not rapid enough to follow a sudden loss of load without allowing certain reactor plant variables (e.g., pressure and temperature) to exceed allowable operating limits. Therefore, a sufficiently large, controlled steam dump, capable of simulating an external load on the reactor, is used to prevent the reactor from tripping.

The Turbine Bypass System (TBS) bypasses Main Steam directly to the Main Condenser and atmosphere, depending on the required capacity, during the emergency condition caused by a sudden load reduction by the Turbine-Generator or a Turbine trip, and during plant startup and shutdown. The TBS consists of 25 power-operated relief valves. Four of these valves (10 percent dump valves) take steam from each Main Steam line and discharge to the atmosphere. The remaining 21 valves take steam from the dump headers (connected to all Main Steam lines) and discharge either into spray distribution headers in the Main Condenser (40 percent dump valves) or to the atmosphere (35 percent dump valves). The system thus provides an artificial load on the Reactor Coolant System during the emergency condition of a sudden load reduction by the Turbine-Generator or a Turbine trip (four of the 40 percent dump valves are used during cooldown).

The Westinghouse Generator and exciter are connected to an extension of the Turbine shaft, spinning also at 1800 rpm. The Generator is internally cooled by hydrogen gas, which flows to the Generator Hydrogen Gas Cooling System. The

cooling water in this system is at lower pressure than the hydrogen to avoid water getting into the Generator in case of a leak. During a refueling outage ending March 19, 2019, DCPD replaced the internal stator components of the Unit 2 Generator, including the hydrogen cooling piping. The piping subsequently developed a leak which caused DCPD to shut down the unit for entry, investigation and repair. The repair was made, the unit returned to service, but another leak developed, causing a second shutdown, and that shutdown was still continuing during this December 8-9, 2020 Fact-finding meeting. For more information about this issue see the DCISC November 2020 Fact-finding Meeting report (Reference 6.10).

Units 1 and 2 Turbines are both in Green health as described in the following health report excerpt:

Performance Indicator Discussion

Current system health color is GREEN as there are no degraded performance indicators at this time.

SSCs in MR (a)(1) Status and Critical Equipment Failures

This system is not in MR (a)(1) status.

There were no Critical Equipment Failures in this system.

Scheduled Major Maintenance or Modifications

No major modifications or maintenance activities are scheduled in the near future.

There are no outstanding SPV (Single Point Vulnerability) issues to be resolved.

There are no outstanding System LCM issues to be resolved.

AP928 CC/DC Work Orders: None.

System Team Comments, Concerns and/or Issues

No major issues as the System is performing satisfactorily.

The "PAM Manager" was reviewed for craft feedback on critical component (ERC = 1A or 1B) PMs for the second half of 2018. No additional actions were required as a result of this review.

System Trends and Margin To Design: None.

NRC Issues / Self Assessments / OEA / Engineering Analyses: None.

Unit 1 Generator is in Green health as described in the following health report excerpt:

Performance Indicator Discussion

There are no negative performance indicators for this system.

SSCs in MR (a)(1) Status and Critical Equipment Failures

There are no MR (a)(1) status or Critical Equipment Failures on this system.

Scheduled Major Maintenance or Modifications

SE Complete Status: Review Status:

In Progress Not Reviewed

There are no major modifications planned for this system in the near future. There are no LCM or SPV issues with this system. A review of System 22 SPV was performed with no recommendations.

System Team Comments, Concerns and/or Issues

The PM closing comments were reviewed for this system. No actions were required based on this review. Reviewed PHIPs:

2006-S04T-002 2013-S04T-001

2011-S022-001 2011-S022-002

2001-S061-012 2001-S061-020 2001-S061-026 2008-S061-002

A review of the Purchase Spare LPT Parts

Replace the LPT During an Outage

Replace the U1 TM-84A Replace the U2 TM-84A

Replace U1 Main Generator Protection Replace U2 Main Generator Protection

*Replace U2 Main Generator Stator Refurbish the U2 Spare Generator Rotor
above active PHIPs shows that no bridging strategies are needed.*

System Trends and Margin To Design

System trends are all good.

NRC Issues / Self Assessments / OEA / Engineering Analyses

There are no issues with this system.

Unit 2 Generator is in Red health as described in the following health report excerpt:

The SCCW inlet waterbox welded to the inlet header developed a crack in a weld that allowed hydrogen gas to leak from the main generator into the SCCW system. This caused a low main generator hydrogen pressure alarm to actuate. Operations also found that FE-203 was indicating significant hydrogen flow from the SCCW head tank to the vent. The unit was tripped and a forced outage was initiated to troubleshoot and repair the problem. A root cause investigation is currently being performed to determine the cause of the event.

With the exception of the DCPD Unit 2 Generator with its hydrogen leak DCPD's Turbine/Generators have been and are in Green health. There are no substantive issues.

Conclusions: The DCPD Turbine/Generators have been and are in Green (good) health with the exception of the Unit 2 Generator hydrogen leak. Unit 2 was shut down recently for the second time with this leak and is aggressively investigating the cause. The Unit 2 leak is not directly nuclear-safety-related but is generation-limiting.

Recommendations: None

3.10 Meeting with Maureen Zawalick, Vice President, Generation, Business & Technical Services

- Generation Asset Strategy
- Geosciences
- Regulatory and Risk Management
- Strategic Initiatives
- Business Planning
- Nuclear Fuel
- Risk and Compliance
- Nuclear Decommissioning
- Generation Performance Improvement and Corrective Action Programs
- Business and Technical Services

Conclusion: Ms. Maureen Zawalick, formerly the DCPD Liaison to the DCISC, is now a corporate officer responsible for a wide variety of corporate, generation and nuclear services.

Recommendations: None

4.0 CONCLUSIONS

4.1 Not only was DCPD's Refueling Outage 1R22 successful in the plant meeting its major goals, but DCPD's performance in Foreign Material Exclusion and COVID-19 was good.

4.2 The DCPD Air- and Motor-Operated Valve Programs appear to be sound and to be implemented satisfactorily.

4.3 DCPD had begun to utilize Electronic Work Packages in 2014 following industry best practices but has slowed its usage due to less than successful experience and plans to cease electricity generation in 2025, thus not expending additional resources for this short remaining term of plant operation.

4.4 The meeting with the NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.

4.5 DCPD's evaluation of the effects of an earthquake on the Control Room Procedures Cart concluding that it would neither cause damage to Control Room panels nor tip over spilling paper procedures appeared satisfactory.

4.6 DCPD's Operations Department determined that its Action Plan implementation on the escalated area for improvement on component mispositioning errors was effective. The DCISC Fact-finding Team

concluded that the effectiveness evaluation was satisfactory.

4.7 The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

4.8 The basis for security devitalization of the Intake Structure and its safety-related Auxiliary Saltwater System was found acceptable by the DCISC Fact-finding Team.

4.9 The DCPD Turbine/Generators have been and are in Green (good) health with the exception of the Unit 2 Generator hydrogen leak. Unit 2 was shut down recently for the second time with this leak and is aggressively investigating the cause. The Unit 2 leak is not directly nuclear-safety-related but is generation-limiting.

4.10 Ms. Maureen Zawalick, formerly the DCPD Liaison to the DCISC, is now a corporate officer responsible for a wide variety of corporate, generation and nuclear services.

5.0 RECOMMENDATIONS

5.1 None

6.0 REFERENCES

6.1 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.9, Section 3.3, "Training Programs During the COVID-19 Pandemic."

6.2 "Diablo Canyon Independent Safety Committee Twenty-ninth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2018 - June 30, 2019", Approved October 23, 2019, Volume II, Exhibit D.8, Section 3.5, "Foreign Material Exclusion Programs."

6.3 "Diablo Canyon Independent Safety Committee Twenty-Sixth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2015 - June 30, 2016", Approved October 17, 2016, Volume II, Exhibit D.1, Section 3.2, "Air Operated Valve Program."

6.4 "Diablo Canyon Independent Safety Committee Twenty-Eighth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2017 - June 30, 2018", Approved October 12, 2018, Volume II, Exhibit D.6, Section 3.9, "Electronic Work Package System."

6.5 "Diablo Canyon Independent Safety Committee Thirty-first Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June

30, 2021", Approved October 18, 2021, Volume II, Exhibit D.4, Section 3.3, "Meet with Nuclear Regulatory Commission (NRC) Senior Resident Inspector."

6.6 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.8, Section 3.2, "Meet with Nuclear Regulatory Commission (NRC) Senior Resident Inspector."

6.7 "Diablo Canyon Independent Safety Committee Twenty-ninth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2018 - June 30, 2019", Approved October 23, 2019, Volume II, Exhibit D.1, Section 3.5, "Workplace Seismic Safety."

6.8 "Diablo Canyon Independent Safety Committee Thirty-first Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June 30, 2021", Approved October 18, 2021, Volume II, Exhibit D.4, Section 3.7, "Meet with DCPD Officer."

6.9 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.1, Section 3.7, "Safety/Security Interface."

6.10 "Diablo Canyon Independent Safety Committee Thirty-first Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June 30, 2021", Approved October 18, 2021, Volume II, Exhibit D.4, Section 3.4, "Unit 2 Forced Outage."

[31st Annual Report](#), [Volume II](#), Exhibit D.6, Diablo Canyon Independent Safety Committee Report on Fact Finding Meeting at DCPD on January 13, 14, and 21, 2021 by Peter Lam, Member, and Richard D. McWhorter, Consultant

1.0 SUMMARY

The results of the January 13, 14, and 21, 2021, Fact-Finding Meeting for the Diablo Canyon Power Plant (DCPP) in Avila Beach, CA are presented. Due to travel and attendance restrictions resulting from the COVID-19 pandemic, all meetings were conducted remotely. The subjects addressed and summarized in Section 3 are as follows:

1. Institute of Nuclear Power Operations Corporate Evaluation
2. Steam Generator Inspection Results
3. Safety System Functional Failures
4. Large Transformer Health
5. Meet with Nuclear Regulatory Commission (NRC) Senior Resident Inspector
6. Meet with DCPD Officer
7. Licensed Operator Training Class Observation
8. Low Temperature Overpressurization Protection System Event
9. Chemical and Volume Control and Emergency Core Cooling Systems
10. Control Room Ventilation Systems
11. COVID-19 Pandemic Response
12. Learning Services Department Update
13. Unit 2 Main Generator Issues and Root Cause Evaluation Update

2.0 INTRODUCTION

This Fact-Finding Meeting for the DCPD was held to evaluate specific safety matters for the DCISC. The objective of the evaluation was to determine if Pacific Gas and Electric's (PG&E's) performance is appropriate and whether any areas revealed observations, which are important enough to warrant further review, follow-up, or presentation at a public meeting. These safety matters include follow-up and/or continuing review efforts by the Committee, as well as those identified as a result of reviews of various safety-related documents.

Section 4-Conclusions highlights the conclusions of the Fact-Finding Team based on items reported in Section 3-Discussion. These highlights also include the team's suggested follow-up items for the DCISC, such as scheduling future Fact-Finding Meetings on the topic, presentations at future public meetings, and requests for future updates or information from DCPD on specific areas of interest, etc.

Section 5-Recommendations presents specific recommendations to PG&E proposed by the Fact-Finding Team (FFT). These recommendations will be considered by the DCISC. After review and approval by the DCISC, this Fact-Finding Report, including its recommendations, will be provided to PG&E. The Fact-Finding Report will also appear in the DCISC Annual Report.

3.0 DISCUSSION

3.1 Institute of Nuclear Power Operations Corporate Evaluation

(Because of its confidentiality agreement with DCPD, the DCISC cannot share the details of the evaluation or subsequent corrective actions.)

The DCISC FFT met remotely with Matt Hayes, Director of Organizational Effectiveness, Performance Improvement, and Learning Services, for an update on the results of the Institute of Nuclear Power Operations (INPO) Evaluation of PG&E Corporate Management conducted in the fall of 2020. The DCISC last reviewed INPO Evaluations and the associated corrective actions in July 2020 (Reference 6.1) when it concluded the following:

Corrective actions for Areas for Improvement (AFIs) identified during the Institute of Nuclear Power Operations (INPO) biennial August 2017 evaluation of DCPD appeared to have been appropriately initiated with the majority being complete as of the time of the meeting. (Because of its privacy agreement with DCPD, the DCISC cannot share the details of the evaluation or subsequent corrective actions.)

In addition to evaluations of DCPD station activities performed every two years, INPO conducts evaluations of PG&E's corporate activities that provide oversight and support to DCPD approximately every six years. The last INPO Corporate Evaluation for PG&E was performed in 2013 and would have normally been due to be performed again in 2019. A one-year delay was initiated so that the evaluation could be performed after PG&E exited bankruptcy and several executive turnovers were complete. Mr. Hayes briefed the FFT on the conduct and results of the evaluation, which was primarily performed remotely by INPO due to the COVID-19 Pandemic. The results were generally positive with a small number of Areas for Improvements identified. After reviewing the results, the DCISC Fact-finding Team concluded that there were no significant safety concerns and appropriate corrective actions had been initiated.

Conclusions: The Institute of Nuclear Power Operations (INPO)

Corporate Evaluation of PG&E performed in the fall of 2020 contained no significant safety concerns, and appropriate DCPD corrective actions had been initiated. (Because of its confidentiality agreement with DCPD, the DCISC cannot share the details of the evaluation or subsequent corrective actions.)

Recommendations: None.

3.2 Steam Generator Inspection Results

The DCISC FFT met remotely with John Ahar, Steam Generator (SG) System Engineer, and Ryan West, Strategic Engineering Manager, for an update on the results of SG inspections performed during Refueling Outage 1R22 in November 2020. The DCISC last reviewed SG inspection results during its March 2020 Fact-finding Meeting (Reference 6.2), when it concluded the following:

The DCPD Steam Generators (SGs) have been performing well since their replacements in 2008 and 2009. The most important SG parameter, tube integrity, has been shown to meet all criteria as a result of regular Eddy Current Test inspections, and very few tubes needed to be plugged. SG secondary side inspections have generally found very little foreign debris and only small amounts of sludge have been removed during cleanings. An evaluation has been initiated to extend the Unit 1 secondary side inspection and cleaning intervals from three to six cycles, and the DCISC should review that evaluation following its planned completion in June 2020.

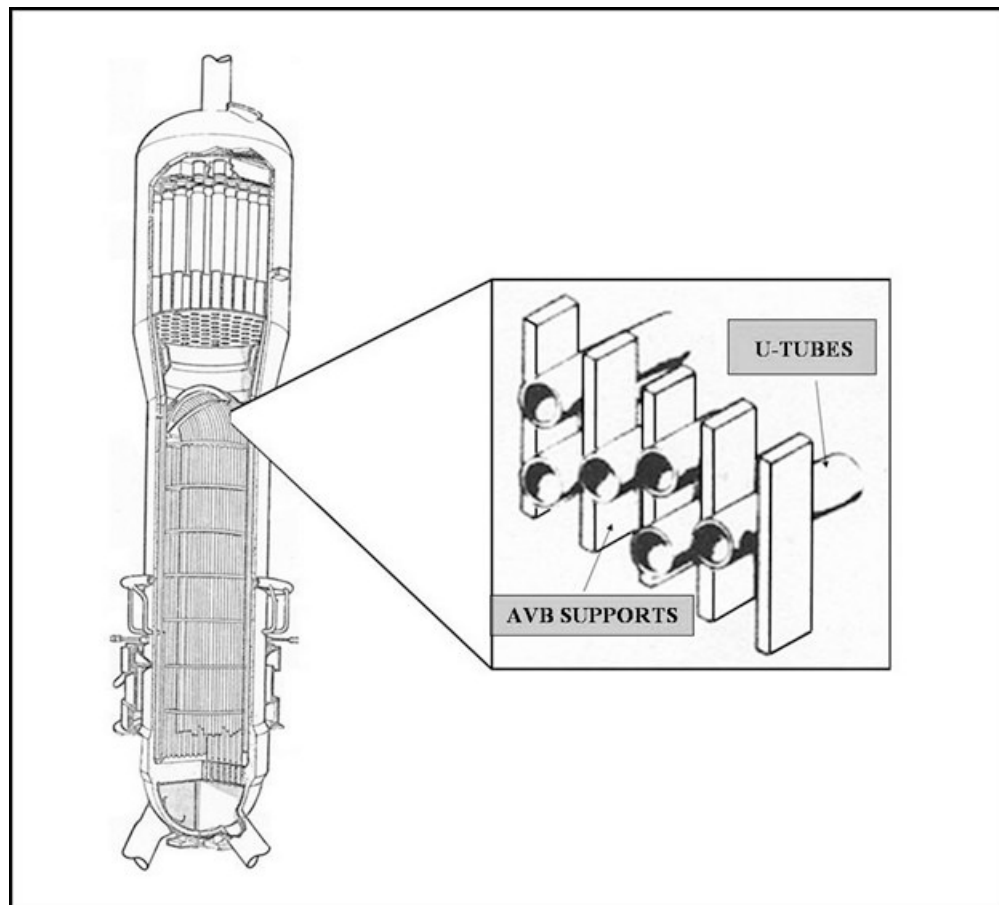
DCPD's SGs are vertical shell and U-tube evaporators with integral moisture separating equipment. The Reactor Coolant flows through inverted U-tubes, entering and leaving through the nozzles located in the hemispherical bottom head of the SG. Steam is generated on the shell side and flows upward through the moisture separators to the outlet nozzle at the top of the vessel. Historically, the four DCPD SGs per unit were replaced in Refueling Outages 2R14 (Unit 2) in 2008 and 1R15 (Unit 1) in 2009 due to tube degradation and have since been performing very well. One of the most important SG parameters is the integrity of the 4,444, 0.75-inch diameter, Alloy 690 tubes in each SG. The tubes serve as the pressure boundary between the Reactor Coolant System (RCS) and the Main Steam and Feedwater Systems. To ensure the continued integrity of the SG tubes, Eddy Current Testing (ECT) inspections of 100% of the tubes are typically performed every three refueling cycles during refueling outages. In addition to ECT inspections on the primary (RCS) side of the SG tubes, the secondary (Main Steam) side of the SG tubes is typically visually inspected and cleaned.

Previously, the DCISC reviewed the most recent Unit 2 SG inspection results performed during Refueling Outage 2R21 in the fall of 2019 (Reference 6.2) and concluded that the most important SG parameter, tube integrity, had been shown to meet all criteria as a result of regular ECT inspections. SG secondary side

inspections had also generally found very little foreign debris and only small amounts of sludge had been removed during cleanings.

During Refueling Outage 1R22 in November 2020, ECT Inspections were performed on 100% of tubes in all four Unit 1 SGs. Mr. Ahar reported that the ECT Inspections found tube wear indications near the locations of Tube Support Plates (TSPs) at 87 locations. Twelve of the eighty-seven indications near TSPs were new with the remainder having been previously identified during earlier inspections. The ECT Inspections also found tube wear indications near the locations of Anti-Vibration Bars (AVBs) at 18 locations in the Unit 1 SGs. Four of the eighteen indications near AVBs were new with the remainder having been previously identified during earlier inspections. All of the identified indications were evaluated, and it was determined that all flaw sizes were less than structural limits for maintaining tube integrity through the next three cycles. Accordingly, no additional tubes were required to be plugged.

A picture of the approximate location of the AVBs and TSPs in the SG is shown below:



Steam Generator Cutaway Showing AVBs and TSPs

Mr. Ahar also noted that due to the COVID-19 pandemic, the inspection data were electronically forwarded in real-time to personnel off site for analysis. This significantly reduced the number of contractors (approximately 21) that were

required to be on site and the associated risk of COVID-19 transmission. In general, the remote analysis worked well and did not result in any delays in the performance of the inspections which took about three days to complete. A summary of Unit 1 SG tube plugging to date following Refueling Outage 1R22 is shown below

1R22	
SG Number	Tubes Plugged (in previous outages)
1-1	1
1-2	5
1-3	2
1-4	0
Total	8

An evaluation of the degradation was performed by the vendor including performing a detailed operational assessment. The operational assessment concluded that the structural integrity and leakage performance criteria would be satisfied for all existing types of degradation for the next three fuel cycles, from Cycle 22 through to end of plant life following Cycle 25 (2024). A copy of the inspection report and operational assessment titled, "Diablo Canyon Unit 1 1R22 Condition Monitoring and Operational Assessment," was provided to the FFT. The FFT reviewed the inspection report and operational assessment and found that the methods and conclusions were appropriate.

The FFT noted that secondary side inspections and cleanings for the Unit 1 SGs were not performed during this refueling outage. The periodicity of those inspections had been extended by DCPD from three to six cycles. This extension was previously reviewed by the DCISC during its August 2020 Fact-Finding Meeting (Reference 6.3) and found to be acceptable.

Conclusions: Inspections of DCPD's Unit 1 Steam Generators during Refueling Outage 1R22 found only minor tube defects, and no additional tubes were required to be plugged.

Recommendations: None

3.3 Safety System Functional Failures

The DCISC Fact-Finding Team met remotely with Laura Jagels, System Engineer and Maintenance Rule Coordinator; Ahmed Waleed, System Engineer; and Ryan West, Strategic Engineering Manager, for an update on DCPD Safety System Functional Failures (SSFFs). The DCISC last reviewed this topic in August 2019 (Reference 6.4), when it concluded the following:

DCPD has had one Safety System Functional Failure since 2014. This is good performance.

A Safety System Function Failure (SSFF) is any event or condition that at the time of discovery could have prevented the fulfillment of the safety function of a structure or a system that is needed to shut down the reactor and maintain it in safe shut down; to remove residual heat; to control the release of radioactive material; or to mitigate the consequences of an accident. There is no credit, allowance or leeway given the licensee in SSFF analysis for manual action or other means of performing the function. An SSFF only applies to those safety-related systems, structures or components that are within the plant's Technical Specifications and are required to be operable. In 2012, DCPD recognized that there was an improvement opportunity to reduce SSFFs and a root cause evaluation was conducted which identified need for improvement in recognition of risk through the use of human performance tools. Efforts were undertaken to educate and assist plant staff who are involved in daily work planning activities, including the assessment and prioritization of risk, to better identify and categorize risk in context of SSFF considerations. These efforts were generally successful, and there was only one SSFF occurring between 2014 and 2019. The one event occurring during that period was in the fall of 2017 and concerned a leak in the Unit 2 Pressurizer Power Operated Relief Valve (PORV) actuator, which rendered the PORV inoperable.

Ms. Jagels reported that since the time of the last review of SSFFs by the DCISC in 2019, only one additional SSFF was recorded. This SSFF occurred in November 2019 when operators inadvertently disabled both Containment Spray pumps simultaneously while in Mode 4 (Hot Shutdown; 200 - 350 °F). This event was previously reviewed by the DCISC during its March 2020 Fact-Finding Meeting (Reference 6.5). In summary, two SSFFs occurred between 2014 and 2020, and the FFT considered this to be good performance. The FFT noted that given the currently low rate of SSFF occurrence, the DCISC could benefit from reviewing DCPD's Maintenance Rule performance and statistics in the future in lieu of monitoring SSFFs as such may currently be a better indicator of the performance of safety-related equipment.

Conclusions: DCPD has experienced two Safety System Functional Failures (SSFFs) since 2014, and this is good performance. The DCISC should consider reviewing DCPD's Maintenance Rule performance and statistics in the future in lieu of monitoring SSFFs as such may currently be a better indicator of the performance of safety-related equipment.

Recommendations: None

3.4 Large Transformer Health

The DCISC Fact-finding Team met remotely with Sam Waters, Component Engineer, and Ryan West, Strategic Engineering Manager, for an update on the health of Large Transformers. The DCISC last reviewed this topic during its May 2018 Fact-finding Meeting (Reference 6.6), when it concluded the following:

DCPP's Large Transformers are in good health overall. Transformer and insulator maintenance activities completed over the last few years appear to have been effective in addressing problems.

Mr. Waters reported that all of the major transformers at DCPD were currently in good health. One of the best indicators of transformer health was the dissolved gas measurements made of oil samples taken from the transformers during outages. The most recent dissolved gas measurements for all DCPD major transformers, including Main Transformers, Auxiliary Transformers, and Start-up Transformers (14 total), found the units to be in good condition and with normal monitoring results. Additionally, online gas monitors for the transformers did not indicate any problems. Currently, it was forecasted that the health of all major transformers was sufficient to support plant operations through the end of the cessation of power operations in 2025, with no future major transformer replacements or upgrades required.

Work that was recently completed on large transformers included the replacement of oil circulating pumps on the Unit 2 'B' Main Transformer during the Refueling Outage 2R21 in late 2019. This work was the last major project planned for any of the Main Transformers. Regarding the Auxiliary Transformers, bushings were replaced on Auxiliary Transformer 1-1 during Refueling Outage 1R22 in 2020 in order to correct abnormal trends noted on bushing performance. It was also planned that the radiators would be replaced on Auxiliary Transformer 2-1 during Refueling Outage 2R22 due to general degradation, and that would be the last major project planned for the Auxiliary Transformers. The Startup Transformers were in good shape with only one major preventative maintenance activity planned to overhaul the Load Tap Changer during Refueling Outage 1R24, currently planned for 2023.

The Fact-finding Team inquired as to any possible plans to use the large transformers during plant decommissioning, and Mr. Waters reported that the Main and Startup Transformers would be used during the initial phases of decommissioning. At a currently unknown later point in time during decommissioning, an electrical island would be created around the plant Spent Fuel Pools after which the remainder of site power would be transferred to the 12kV site distribution system. The 12kV site distribution system was an existing system fed directly from the 230kV transmission switchyard that powered most site loads outside of the power block such as the Administration Building, Training Building, Warehouses, etc.

Conclusions: DCPD's Large Transformers are in good health overall, and the health of all major transformers is sufficient to support plant operations through the cessation of power operations in 2025.

Recommendations: None

3.5 Meet with NRC Senior Resident Inspector

The DCISC Fact-Finding Team (FFT) met remotely with Don Krause, NRC Senior Resident Inspector, for an update. The DCISC meets regularly with the Resident Inspectors and last met with them in December 2020 (Reference 6.7), when it concluded the following:

The meeting with the NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.

The participants discussed the following topics:

1. Mr. Krause's experience prior to his assignment at DCPD
2. Recent NRC inspection results and concerns
3. Forced Outage 2G22 performance

Conclusions: The meeting with the NRC Senior Resident Inspector was beneficial, and the DCISC should continue the meetings.

Recommendations: None

3.6 Meet with DCPD Officer

The DCISC Member met remotely with Paula Gerfen, DCPD Site Vice President, to discuss items from this fact-finding meeting and other items of mutual interest. The DCISC last met with a DCPD Officer in December 2020 (Reference 6.8), when it concluded the following:

The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

Conclusions: The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

Recommendations: None

3.7 Licensed Operator Training Class Observation

The DCISC FFT performed a remote observation of a DCPD Licensed Operator Continuing Training (LOCT) session led by Mylo Hauptli, Senior Instructor. The DCISC last observed a training class in September 2020 (Reference 6.9), when it concluded the following:

The remotely held Outage Training to prepare Licensed and Non-Licensed Operators for Refueling Outage 1R22 and subsequent start-up and operation appeared satisfactory.

Licensed Operators at DCPD are assigned to five rotating shift crews, and those crews rotate through a work week dedicated solely to the LOCT program every five to six weeks. This LOCT week consists of classroom instruction, simulator exercises, dynamic learning activities, self-study, and testing. Overall, each crew spends approximately six weeks per year (depending on outage schedules) in formal training. The LOCT program is designed to conform to requirements of the Institute of Nuclear Power Operations (INPO), and it receives and maintains plant training program accreditation through regular INPO reviews. The NRC also regularly inspects the LOCT program to ensure that it meets regulatory requirements for maintain the proficiency of licensed operators. The FFT requested and was provided a copy of the LOCT training schedule for the current week and observed that it used an appropriate split of time in onsite training (simulator scenarios, dynamic learning activities, and testing) and offsite training (remote lectures) in consideration of the COVID-19 pandemic.

The Fact-finding Team joined five members of Operations Shift E, Group 1, during a two-hour classroom training session being conducted remotely due to the COVID-19 pandemic. The topic of the training was lesson number R205C5 on the topic of Abnormal Operating Procedures, OP AP-8 series, "Control Room Inaccessibility." The purpose of the lesson was to familiarize the Operations personnel with activities associated with the evacuation of the Control Room, plant stabilization and control from remote locations, and overall use of the OP AP-8 series procedures. The lesson plan contained the terminal (primary) objective to enable students such that given a copy of OP AP-8A, 8B, or 8C, they could apply the procedure guidance to achieve the desired intent of the procedure. Enabling (secondary) objectives included:

- Explain the general purpose/function of abnormal operating procedures
- Explain the effects of Cable Spreading Room fire on remote shutdown indications
- Given initial conditions, assumptions, and symptoms, determine the correct abnormal operating procedure to be used to mitigate an operational event
- Given an abnormal condition, summarize the major actions of OP AP-8 to mitigate an event in progress
- Explain the actions required in the Control Room prior to evacuation to the Hot Shutdown Panel
- Describe controls, indications, and alarms associated with the Remote Shutdown System

The instructor walked students through the Abnormal Procedures using a PowerPoint presentation containing excerpts of the procedure and control panel pictures. Where appropriate, the instructor pointed out nuances of the procedures and important steps that needed to be coordinated between multiple operators. The instructor maintained a good pace throughout the presentation and worked to solicit interaction with the students. The use of human performance tools and operator fundamentals was emphasized as appropriate during the presentations.

Overall, the FFT found that the information presented was well organized and presentation techniques were excellent.

The FFT noted that the instructor used only the desktop sharing feature of the remote meeting and that both instructor and students were in audio-only mode.

This appeared to inhibit instructor-student interaction somewhat, and the FFT team inquired why DCPD was not using the video feature. Mr. Hauptli responded that DCPD had tried having the instructor and students use the video feature but found that many students lacked the necessary bandwidth at their remote locations. The problems that resulted from previous attempts to use video in low bandwidth situations were found to be very distracting to the students. The FFT considered that this approach (instructor and students audio-only mode) was appropriate but noted that it presented a clear and unfortunate limitation to the use of remote learning.

Conclusions: A Licensed Operator Continuing Training session on Control Room Evacuation Procedures was well prepared, contained appropriate information and objectives, and was professionally presented by the Training staff.

Recommendations: None

3.8 Low Temperature Overpressurization Protection System Event

The DCISC FFT met remotely with Stan Williams, Operations Manager, and Ryan West, Strategic Engineering Manager, to review an event that occurred during Refueling Outage 1R22 on October 29, 2020, when the Low Temperature Overpressurization Protection (LTOP) System was unexpectedly actuated. This was the DCISC's first review of this topic.

The LTOP system protects the Reactor Coolant System (RCS) from overpressure transients that could occur at low operating temperatures during startup and shutdown operations. At low temperatures, the Reactor Vessel is more vulnerable to brittle fracture and the LTOP system, in the event of an RCS pressure transient, maintains RCS pressure below a predetermined pressure-temperature limit curve.

The LTOP system consists of two mutually redundant and independent systems, and each system receives RCS pressure and temperature signals as inputs.

Whenever the system is enabled and RCS temperature is below the low temperature setpoint, a high-pressure signal will automatically open a Pressurizer Power Operated Relief Valve (PORV) until the pressure drops below the reset value. During normal operations at higher temperatures, the system is off because the Reactor Vessel material is less vulnerable to brittle fracture.

Mr. Williams briefed the FFT on the sequence of events and also provided a written description of the event with pressure/temperature graphs to the FFT. As a part of plant startup following Refueling Outage 1R22, Operators completed RCS Vacuum Refill which placed the RCS in water solid conditions and brought the RCS pressure

up to 350 psig. These conditions were maintained while Operators started bringing Reactor Coolant Pumps (RCPs) online. RCPs 1-2 and 1-4 were started successfully. However, RCP 1-1 tripped on overcurrent, and RCP 1-3 was secured due to elevated vibration and a lack of indication on seal return flow. While these issues related to RCP 1-1 and 1-3 were being investigated, Operators commenced drawing a bubble in the Pressurizer. It was later determined that a 'slow roll' of RCP 1-3 would be necessary for restart, and that evolution would require securing all of the running RCPs. Operators then secured drawing a bubble in the Pressurizer and placed the RCS back in water solid conditions with no RCPs running. Approximately seven hours later, Operators restarted RCP 1-3 after verifying proper RCS temperature and pressure conditions. Operators then noted a sudden rise in RCS pressure and maximized RCS Letdown flow in an attempt to reduce the rise in RCS pressure. The increase in RCS Letdown flow was insufficient to mitigate the pressure rise, and the LTOP System actuated about one minute after RCP 1-3 was started and opened both PORVs for approximately two seconds. Operators then successfully stabilized RCS pressure, and plant startup activities were later continued.

Mr. Williams reported that the Cause Evaluation for the event was still incomplete. DCPD Operations and Engineering staff had reviewed the data in detail but had not yet been able to come up with a definitive cause for the unexpected RCS pressure increase. Typically, such an RCS pressure increase while solid would be caused by either an injection of mass into the RCS or by the addition of heat to the RCS. Neither occurrence could definitely be confirmed from the available data, although staff currently believed that flow from starting the RCS likely caused heat to be introduced from an unknown source in the system. DCPD was working to obtain assistance from the Reactor/RCS vendor in order to understand how and why heat may have been introduced into the RCS during the RCP start. Mr. Williams informed the FFT that he currently expected the Cause Evaluation to be completed in late February.

The FFT inquired about the processing of this event in the Corrective Action System. Mr. Williams reported that initially the Notification for the event was erroneously screened as requiring a 'Work Group Evaluation' (the lowest level of corrective action response) by the Notification Review Team. Later reviews of the Notification found that this classification was inappropriate, and the classification was increased to that requiring the completion of a formal Cause Evaluation. This incorrect initial screening was separately entered into the Corrective Action System and actions were being initiated to ensure that future events continued to be properly screened for follow-up actions. The FFT concluded that actions taken to date appeared appropriate and recommends that the DCISC review the results of the Cause Evaluation when it is fully complete.

Conclusions: DCPD's actions taken in response to an unexpected actuation of the Low Temperature Overpressure Protection System appeared appropriate. The DCISC should review the results of the Cause Evaluation when it is fully complete.

Recommendations: None

3.9 Chemical and Volume Control and Emergency Core Cooling Systems

The DCISC FFT met remotely with Laura Jagels, Safety Injection (SI) Systems Engineer; Jaime Salazar, Chemical and Volume Control System (CVCS) Systems Engineer; Tasha Woodruff, Acting Supervisor, Primary Systems; and Ryan West, Strategic Engineering Manager, for an update on the health of the CVCS and Emergency Core Cooling Systems (ECCS). The DCISC last reviewed this system in March 2017 (Reference 6.10), when it concluded the following:

DCPP's Centrifugal Charging Pump System is in good health and performs as expected. The System Engineer appeared knowledgeable and proactive.

The DCPP CVCS System serves both emergency and non-emergency functions. During non-emergency (normal) operations, the Centrifugal Charging Pumps (CCP), as a part of the CVCS, supply high pressure makeup water to the Reactor Coolant System (RCS). The CVCS system provides a means of continuous letdown and makeup to the RCS to replenish water removed via letdown for cleanup or via Reactor Coolant Pump seal leak off. The CVCS system also includes two Boric Acid Transfer Pumps per unit and associated equipment which provide for the addition of boric acid to RCS water to control core reactivity. The CCP system was originally provided with two safety-related CCPs for either ECCS or normal use along with a non-safety related positive-displacement pump for normal use. As the positive-displacement pump proved highly unreliable, it was replaced with a non-safety related CCP on both units in 2008. This non-safety related CCP is currently the primary pump used to supply the CVCS system during normal operations. The other two safety-related CCPs are normally left in standby.

During emergencies, the two safety-related CCPs serve as High Pressure Safety Injection Pumps as a part of the larger ECCS. The CCPs as a part of the ECCS are designed to inject high pressure water from the Refueling Water Storage Tank to cool the reactor core and provide negative reactivity in the event of a loss of coolant accident, a spurious lifting of a Reactor Coolant System (RCS) Pressurizer Relief Valve, a Rod Cluster Control Assembly ejection, or a Steam Generator tube rupture. The larger ECCS also includes two additional systems. The first is the Safety Injection (SI) System (for intermediate pressure injection) which includes two SI Pumps and four pressurized SI Accumulator tanks. Second is the Residual Heat Removal (RHR) System (for low pressure injection and recirculation) which includes two RHR Pumps and two RHR Heat Exchangers for long term heat removal during post-accident or shutdown conditions.

The System Engineers provided copies of the System Health reports to the FFT for the CVCS, SI, and RHR systems for both units. All three systems on both units

were rated as Green, Healthy, and there were only a few minor equipment issues affecting the systems. Minor equipment issues being tracked for resolution included:

- Boric Acid Transfer Pump 2-1 recently was trending high in vibrations ('alert' level) when run in high speed. The pump remained operable, but the higher-than-normal vibrations were under investigation.
- SI Pump 1-1 was fully operable, but the inboard mechanical seal was showing signs of increased leakage. This leakage was being tracked as a portion of total ECCS leakage rate monitoring and was using a considerable portion of the allowable margin for ECCS leakage. The pump seal was planned for replacement during Refueling Outage 1R23 in early 2022.
- SI Pump 2-1 was fully operable, but vibrations had been noted to be slowly trending upward. The pump pedestal and baseplate were planned for adjustment and repairs during Refueling Outage 2R22 in early 2021.
- SI Accumulator 1-2 was fully operable, but it was found to have higher than normal backleakage through check valves from the RCS following Refueling Outage 1R21 in the fall of 2020. An Emerging Issue had been opened for the problem due to the burden that it placed on operators to maintain accumulator level and boron concentration within normal parameters by performing a feed and bleed cycle approximately every four days. The FFT requested and was provided a copy of the Emerging Issue Summary (Notification 51095570). The FFT reviewed the summary and found it contained extensive analysis and plans for corrective actions. Currently, the check valve was planned to be replaced during Refueling Outage 1R23 in early 2022.
- The RHR system on Unit 2 was fully operable, but one system check valve was found during surveillance testing to have higher than normal backleakage. The backleakage was being trended and the valve would be repaired at the next available opportunity.

The FFT inquired as to the results of ECCS flow balance testing performed during refueling outages. The Systems Engineers responded that the flow tests had been regularly completed during recent outages without any major issues. Additionally, the System Engineers reported that they felt that they were being provided with adequate funding and resources for maintenance of the systems for which they were responsible. The FFT concluded that the health of CVCS and ECCS systems was good, and this was good performance in systems management by DCP.

Conclusions: DCP's Chemical Volume Control System and Emergency Core Cooling Systems were all in good health on both units. This was good performance.

Recommendations: None

3.10 Control Room Ventilation Systems

The DCISC Fact-finding Team met remotely with Greg Porter, Sophia Flumerfelt, and Saya Rutherford, System Engineers, and Ryan West, Strategic Engineering Manager, for an update on the health of the DCPD Control Room Ventilation System (CRVS). The DCISC last reviewed this system in April 2018 (Reference 6.11), when it concluded the following:

DCPD has completed all actions to resolve the long-term issues with its Control Room Ventilation System (CRVS). The DCISC Fact-finding Team recommends that the DCISC consider the issues closed and remove the CRVS as a special issue from the Open Items List but retain it on the list of systems regularly reviewed by the DCISC.

DCPDs CRVS primarily consists of the Control Room HVAC System (CRHVAC) and the Control Room Pressurization System (CRPS). The CRHVAC consists of two independent trains of fans, dampers, heaters, and air conditioning for each unit. The CRPS is composed of one train of pressurization fans and filters for each unit. These systems are interconnected mechanically and operationally and are intended to be operational during all plant operating modes. The CRHVAC and CRPS operate in one of the following modes:

Mode 1	Normal mode
Mode 2	Smoke removal mode to remove smoke in the Control Room
Mode 3	Recirculation with 100% air recirculation and 27% passing through High Efficiency Particulate Air (HEPA) filtration
Mode 4	Pressurization to counteract the detected presence of radiation at the Control Room air intake or in response to a Containment Isolation signal

Ms. Flumerfelt reported that although formal system health monitoring was no longer required for the CRVS, the system was generally in good health with minor issues and problems. Current CRVS problems included:

- Recurring air conditioning compressor trips - the compressors occasionally tripped on low oil pressure following periods of inactivity. Actions taken to address the issue included periodic tuning of the expansion valves and weekly rotations of the operating units. The issue was considered acceptable 'as-is' for the remaining life of the plant due in part to the fact that there was a high degree of redundancy because only one of the four compressors was typically needed for cooling. It was also noted that this issue usually occurred under low loads which would not be the case under accident conditions.
- Motor-operated damper issues - the dampers that provide isolation for the Control Room had recurring issues with failures of the damper shafts (approximately three failures in three years). The cause of the problem was the butterfly-style edge seals rolling out of their grooves and interfering with damper operations. Maintenance procedures had been modified to improve

seal maintenance and the frequency of maintenance had been increased from once every three years to once every eighteen months.

The FFT inquired regarding the status of testing for the integrity of the Control Room ventilation envelope, which is periodically demonstrated by performing leakage testing using tracer gases. Ms. Flumerfelt reported that such testing was done approximately every five years and was due to be next performed in late 2021. She noted that the implementation of the Alternate Source Term license amendment modified and clarified the basis for accident dose calculations. As such, the acceptance criteria for Control Room inleakage testing became clearer, and test performance and the subsequent evaluation of results were made more straightforward. Additionally, she noted that differential pressure testing (without using tracer gases) of the Control Room ventilation envelope was performed every two years and was scheduled to next be performed in January 2021. No major problems had been noted with recent past tests performed on the ventilation envelope.

Conclusions: DCP's Control Room Ventilation System was in good health overall on both units, and minor equipment issues were being effectively addressed.

Recommendations: None

3.11 COVID-19 Pandemic Response

The DCISC FFT met remotely with Justin Rogers, Learning Services Director, to review DCP's ongoing actions taken in response to the COVID-19 pandemic. The DCISC last reviewed this area in August 2020 (Reference 6.12), when it concluded the following:

DCP appeared to be responding properly to the many challenges posed by the COVID-19 Pandemic. Appropriate actions were being taken to ensure that the facility would continue to be safely operated and maintained. The DCISC should follow up and continue to monitor the status of DCP's pandemic response regularly at Fact-Finding Meetings and Public Meetings until such time as the current pandemic threat passes.

Mr. Rogers provided the FFT with an overview of DCP's status in responding to the COVID-19 Pandemic, which was in its tenth month as of the time of this meeting. He summarized for the FFT that as of the date of the meeting, DCP had been generally successful in minimizing the risk to employees working on site including the planned and forced outage periods during the fall of 2020.

Specifically, the station believed that there had been no confirmed occurrences of worker-to-worker transmission of the virus occurring on site. Non-essential personnel continued to work remotely, but a large number of operations and

maintenance personnel were regularly working on site.

Employees who were required to work on site continued to be required to perform a self-screening prior to arrival at the station. The self-screening process involved the use of an application available on smart phones and devices which required the employee to answer several questions verifying that the employee was in good health before reporting to work. The employee's answers to the questions were automatically reported to supervisors who reviewed the results and confirmed that the employee was healthy before beginning work at the station. If an employee's answer to the self-screening questions raised concern, then the employee's status would be reviewed by the pandemic management team working with the Human Relations Department. If an employee was determined to be sick or at-risk, he or she would not be allowed on site until the risk was cleared. There were typically one to three screening cases per day requiring further review. Following the Christmas and New Year holidays, the rate increased to as high as 15 per day.

Most of the screening cases involved close contacts to people who had later tested positive for the virus. DCPD generally instructed any such cases to remain at home and work from there if possible. If it was not possible for the employee to work from home, then up to 80 hours of emergency paid leave could be granted for quarantine purposes. Quarantine guidelines for employees were typically 10 days for asymptomatic cases and 14 days otherwise. If an individual received a COVID-19 test with negative results, the quarantine period could be shortened, and DCPD provided employees with lists of available testing locations in the local community.

Other pandemic control measures that continued to be in effect on site included requirements for mandatory personnel protective equipment (masks or face shields), limited personnel access to critical areas (such as the Control Room), additional sanitizing routines and supplies, and limitations on in-person meetings.

Mr. Rogers also reported that DCPD continued to provide COVID-19 testing on site during the in-processing of supplemental workers, and supplemental workers were not allowed access to the site until negative test results were received. DCPD administered the Polymerase Chain Reaction (PCR) test on site and typically received results within 24 to 48 hours.

Mr. Rogers reported that the company divided employees into four groups for vaccination scheduling:

- Group 1 - Essential (Operations, Security, Emergency Response, etc.) and high-risk (pre-existing medical conditions, over age 65, etc.) employees
- Group 2 - Essential but non-high-risk employees
- Group 3 - Other employees required to work at the plant
- Group 4 - Other employees who worked from home

The scheduling of vaccinations for the various groups of employees was being closely coordinated with health authorities in San Luis Obispo County. At the time of the Fact-Finding Meeting, the county was focusing on completing vaccinations

for healthcare workers. Thirteen of DCP's firefighters who were qualified as Emergency Medical Technicians had received vaccinations as a part of the healthcare worker group. It was initially hoped that vaccinations of PG&E's Group 1 could begin in early February, but that date would likely be delayed by the county's efforts to make vaccinations for high-risk, older residents the next priority (ahead of PG&E's Group 1). DCP was also working to establish the ability to provide vaccinations on site to employees, and that effort was also being coordinated with the county.

Conclusions: DCP continued to be responding properly to the COVID-19 Pandemic in that appropriate actions were being taken to ensure that the facility would continue to be safely operated and maintained. Plans to vaccinate employees were in place and being coordinated with health authorities in the local community.

Recommendations: None

3.12 Learning Services Department Update

The DCISC FFT met remotely with Justin Rogers, Learning Services Director, to discuss Learning Services (Training) Department Programs and Performance. The DCISC last reviewed this area in August 2018 (Reference 6.13), when it concluded the following:

The Learning Services Department overall performance was good. The Department was appropriately focused on maintaining excellence in its training services during a period of significant changes and challenges.

Mr. Rogers provided an overview of recent Learning Services Department accomplishments. In late 2019 and early 2020, the Learning Services Department successfully completed reaccreditation of all twelve of its Institute of Nuclear Power Operations (INPO) training programs without any issues. DCP was the first plant to be reaccredited using a modified process by INPO, and DCP was working to provide lessons learned from the modified process to the rest of the industry. As the reaccreditation was normally required every six years, DCP would not need to undergo another reaccreditation prior to the cessation of power operations in 2025. Also, in the last two years DCP had successfully completed two classes of Initial License Training (ILT) for new licensed operators with a 100% pass rate on the NRC examinations. He additionally noted that DCP had been able to continue effective training programs during the COVID-19 Pandemic.

Major program changes made in order to continue training during the pandemic included:

- Using remote presentations for training
- Using remote proctoring for training examinations (other than for licensed operators)

- Rescheduling and splitting ILT and Licensed Operator Continuing Training (LOCT) between on site (simulator and in-plant walk-throughs) and remote sessions (classroom)
- Beginning a new class of Non-Licensed Operators primarily on site (with appropriate safety precautions)
- Continuing engineering, maintenance and technical training activities primarily using remote training techniques

Mr. Rogers updated the FFT on the status of the current ILT class. The class was the largest in the history of DCPD and included 16 Reactor Operator students and 5 Senior Reactor Operator students. Four of the students were external hires, with two coming from other nuclear power plants. The class was scheduled to begin its NRC operating examinations in mid-January 2021 with the NRC written examinations to be conducted in February 2021. The FFT team inquired about the plans for instructor staffing following the ILT class, and Mr. Rogers reported that DCPD used a significant number of operations staff and contractors for this ILT class and the remaining ILT instructors will transition to LOCT instruction.

Following the ILT class, approximately 45 staff would be left in the Department, down from about 60 staff several years ago.

The FFT inquired about the status of Maintenance and Technical training, and Mr. Rogers responded that the Department was carefully monitoring the number of qualified technicians to ensure that an adequate number remained at DCPD through the cessation of power operations in 2025. To meet that goal, the staff had created a matrix of technician qualification needs along with planned retirements to help identify any specific gaps that required action to ensure replacement technicians were trained and qualified in a timely manner. He also noted that the station was carefully watching the numbers of qualified electrical maintenance technicians in particular as those types of technicians could most easily transfer to other non-DCPD jobs in PG&E.

The FFT asked what specific challenges the Department faced in the future, and Mr. Rogers responded that managing people through 2025 would be an ongoing challenge. He did not expect a lot of DCPD employees to be taking other jobs elsewhere in the next few years, but he did anticipate that there would be a lot of retirements. Going forward, the Department needed to work hard to ensure that the correct training was being performed with regards to the unique situation that was presented by the planned shutdown. Additionally, the Department needed to ensure that Operations Training remained engaging and useful for the Operations staff throughout the period leading up to the planned shutdown. The FFT concluded that Learning Services performance overall was good with appropriate plans in progress to ensure that staff remaining on site through the cessation of power operations were adequately qualified.

Conclusions: Learning Services Department overall performance was good, and the Department was appropriately focused on ensuring that staff remaining on site through the cessation of power operations were

adequately qualified.

Recommendations: None

3.13 Unit 2 Main Generator Issues and Root Cause Evaluation Update

The DCISC FFT met remotely with Mark Frauenheim, Design Engineering Manager; Tom Baldwin, Nuclear Business Operations Director; Bob Waltos, Assistant Engineering Director; and Hector Garcia, CNO Support Manager and DCISC Liaison, to review the cause and corrective actions for issues with the Unit 2 Main Generator that resulted in three recent Forced Outages. The DCISC last reviewed this topic in November 2020 (Reference 6.14), when it concluded the following:

DCPP was appropriately managing Unit 2's Forced Outage 2Z22 which was driven by a hydrogen leak inside the Main Generator that was very similar to a leak that drove a forced outage three months earlier. The DCISC should continue to follow this event and review the final Root Cause Evaluation for the problem during a future Fact-Finding Meeting as well as at the next Public Meeting.

Initially, the DCISC reviewed DCP's performance regarding this issue during its Fact-Finding Meeting in August 2020 (Reference 6.15). At that time, Unit 2's Main Generator had developed a leak of hydrogen into the Stator Closed Cooling Water System. (This was the same Main Generator that had been extensively refurbished during Refueling Outage 2R21 in the fall of 2019.) Unit 2 was shut down on July 16, 2020, for approximately 16 days (Forced Outage 2Y22) to repair the leak, and the unit was restarted on August 2, 2020.

At the time of the DCISC's last review during its Fact-Finding Meeting in November 2020, Unit 2 was in a second Forced Outage (2Z22) to repair a hydrogen leak inside the Main Generator. Investigations at that time found a total of 14 cases of weld cracks for equipment mounted to the frame inside the generator. Most of the cracks that had been analyzed showed indications of high cycle fatigue consistent with failures due to high vibrations. Shaker testing was performed, and several minor modifications were made inside the generator in order to reduce the likelihood of future high cycle fatigue failures. Also during Forced Outage 2Z22, DCP and the generator vendor performed a check of the frame to floor weight loadings for all of the generator feet and corrected loadings as required. A Root Cause Evaluation (RCE) was initiated in response to the repeated failures. To assist with the RCE, DCP obtained the services of four consulting parties as follows:

- An independent technical consultant to review cause evaluation actions and conclusions to ensure that neither PG&E nor the generator vendor missed any items of concern

- A structural vibration analysis consultant to perform vibrational nodal analysis for the generator frame and manifold as well as to perform shaker testing on the generator
- An individual consultant with knowledge of similar generator failures in the industry
- Personnel from the Electric Power Research Institute to review and provide industry technical documentation applicable to the problem

Following the second Forced Outage, Unit 2 was restarted on November 28, 2020, with extensive vibration monitoring equipment installed on the Main Generator. In general, the vibrations were improved but continued to be at levels which were of concern. On December 2, 2020, another hydrogen leak developed on the Main Generator, and Unit 2 was again shut down for repairs. This was the third Unit 2 Forced Outage (2G22) to deal with Main Generator hydrogen leaks and vibration issues.

Mr. Frauenheim briefed the FFT on efforts that were made during Forced Outage 2G22 to isolate and correct the cause of the problem. He reported that activities centered around the development of finite element computer models for the generator frame structure prepared by two of the consultants mentioned above. Such models had never before been developed for this type of generator. Once developed, the finite element models were used to run operational simulations and analyze the effects of various loads and vibrations on the frame. The simulations showed that the frame had a natural resonance frequency of 120 Hz, which coincided with a major secondary forcing frequency developed naturally by the generator rotor's interaction with the stator during electrical generation process occurring at 60 Hz. In essence, the stator frame could vibrate heavily at 120 Hz during normal generation, which could place high stresses upon anything attached to the frame. The simulations also showed that these vibrations could be worse at the exciter end of the generator, which coincided with the locations where the hydrogen leaks had developed. To address this potential cause of the problem, twelve design change options were proposed and reviewed. The decision was made jointly by PG&E and the vendor to develop and implement a design change that provided for the installation of variable numbers of 'tuning masses' (weight plates) to six points on the outside of the generator frame - two at each end and two in the middle. At each of the six points, differing combinations of weight plates could be added to dampen the natural resonant frequency and tune it away from 120 Hz. Minor modifications were also made to some of the internal hydrogen piping, and radiography was performed on most hydrogen piping welds inside the generator to confirm they were free from cracks prior to restart. A picture of the northwest corner of the generator with the weight plates installed is shown below:



Unit 2 Main Generator with Weight Plates Installed

An initial combination of weight plates was installed on the generator frame, and Unit 2 was restarted on January 12, 2021. Following the startup, vibrations were measured at various loads, and the number of weight plates was adjusted a number of times (with the unit online) to optimize the damping of generator frame vibrations. As of the time of the FFT's meeting, about 35,000 pounds total had been added and the frame vibrations were significantly reduced to what were believed to be levels satisfactory for long-term operation. Mr. Frauenheim provided the FFT with a graph of the vibration data comparing vibration levels before and after installation of the weight plates (following Forced Outage 2Z22 vs. following Forced Outage 2G22). The FFT observed that the data confirmed that the vibrations were significantly reduced. Following the installation of the final configuration of weight plates, the unit returned to full power on January 17. He also reported that additional tests were planned to be performed in the near future in order to verify that the final weight plate configuration was appropriate for both steady-state and transient operations. Special vibration monitoring equipment would remain in place and the resulting data would continue to be periodically analyzed to confirm that frame vibrations were being maintained at acceptable levels. The FFT judged that DCP's ongoing response to the issue appeared appropriate.

The FFT inquired regarding why Unit 2 was dealing with these significant issues, while Unit 1 appeared to be unaffected. Mr. Frauenheim responded that the Root Cause Evaluation (RCE) Team had confirmed that there were actually significant differences in the two Main Generator frames installed at DCP. The Unit 2 Main Generator frame appeared to be a later and different design from the original equipment vendor than Unit 1. Also, the RCE Team had observed that Unit 2's

Main Generator had historically required more regular maintenance than Unit 1 to regularly tighten internal windings and other components. That history of frequent maintenance was one the drivers for the refurbishment of Unit 2's Main Generator in 2019 when similar work was judged to be unnecessary for Unit 1's Main Generator. The RCE Team was continuing its work to review the issues and causes for the events, and the RCE was currently expected to be completed in early spring 2021. The DCISC should follow up in the future to review the RCE after it is final.

Conclusions: DCPD was appropriately managing Unit 2's Forced Outage 2G22 which was driven by a hydrogen leak inside the Main Generator that was similar to two leaks which previously occurred. The DCISC should continue to follow this issue and review the final Root Cause Evaluation during a future Fact-Finding Meeting as well as at a future Public Meeting.

Recommendations: None

4.0 CONCLUSIONS

4.1 The DCISC Fact-finding Team concluded that the January 29, 2020 meeting of the DCPD Plant Health Committee was effectively run with crisp, clear presentations and good participation and discussion by attendees.

4.2 The DCPD Maintenance Department organization and staffing were stable and effective with normal attrition, but a significant drop in personnel is expected after the end of the First DCPD Retention Period ends. In August 2020 Only selected vacancies will be filled, and there will be selective use of contractors when necessary. Maintenance Key Performance Indicators are Green (Good).

4.3 The DCISC Fact-finding Team concluded that the DCPD Troubleshooting procedure was satisfactory and was implemented properly based on the review of and discussion on three recent troubleshooting evaluations.

4.4 The DCISC Fact-finding Team concluded that the DCPD work package process was satisfactory as was its implementation based on three work packages reviewed and discussed with DCPD Maintenance personnel and observations of work being performed in the plant.

4.5 The DCPD three-minute time lapse video of the 12-week Unit 2 Generator Stator Rewind Project was of good quality and is suitable for showing at the DCISC February 12-13, 2020 Public Meeting.

4.6 The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

4.7 The meeting with NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.

4.8 The DCP Unit 2 Stator Coil Cooling Water System energy release event, which was a hydrogen gas ignition, was unexpected and preventable. The cause was failure to adequately anticipate and plan for the potential of flammable gas during a piping cutting process. There were no injuries. Corrective actions to prevent recurrence appeared satisfactory.

4.9 DCP has a satisfactory action plan to resolve its 4kV electrical breaker problems by working with suppliers to perform upgrades and repairs and by stocking enough spares assured to be ready for replacement by performing augmented preventive maintenance.

4.10 The DCP Probabilistic Risk Analysis supporting Unit 2 reactor transition from Mode 5 to Mode 4 with the Main Bank 500kV power unavailable appeared acceptable to the DCISC Fact-finding Team.

5.0 RECOMMENDATIONS

None

6.0 REFERENCES

6.1 "Diablo Canyon Independent Safety Committee Twenty-Ninth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2018 – June 30, 2019", Approved October 23, 2019, Exhibit D.9, Section 3.1, "Observe Plant Health Committee Meeting."

6.2 Ibid., Exhibit D.4, Section 3.7, "Maintenance Department Performance."

6.3 "Diablo Canyon Independent Safety Committee Twenty-Sixth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2015 – June 30, 2016", Approved October 15, 2016, Volume II, Exhibit D.9, Section 3.9, "Trouble-Shooting Program."

6.4 "Diablo Canyon Independent Safety Committee Thirty-First Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 – June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.4, Section 3.8, "Plant Tour: 2R21 outage activities and observe work in progress."

6.5 Ibid.

6.6 "Diablo Canyon Independent Safety Committee Thirty-First Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 – June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.5, Section 3.4, "Meet with DCP Officer."

6.7 Ibid., Exhibit D.5, Section 3.1, Meet with NRC Resident Inspector."

6.8 "Diablo Canyon Independent Safety Committee Twenty-Eighth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2017 – June 30, 2018", Approved October 16, 2018, Volume II, Exhibit D.9, Section 3.5, "4kV Power System Review and Walkdown with System Engineer."

6.9 "Diablo Canyon Independent Safety Committee Thirty-First Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 – June 30, 2020", Approved October 15, 2020, Volume II, Exhibit D.3, Section 3.7, "Probabilistic Risk Assessment Programs."

31st Annual Report, Volume II, Exhibit D.7, Diablo Canyon Independent Safety Committee Report on Fact Finding Meeting at DCPD on March 4, 17, 18 and 24, 2021 by Robert J. Budnitz, Member, and R. Ferman Wardell, Consultant

1.0 SUMMARY

The results of the DCISC Fact-finding meeting held on March 4, 17, 18, and 24, 2021, for the Diablo Canyon Power Plant (DCPP) in Avila Beach, CA are presented. Due to travel and attendance restrictions resulting from the COVID-19 virus, all meetings were conducted remotely via MS Teams. The subjects addressed and summarized in Section 3 are as follows:

1. Station Excellence Plan
2. Meet with Quality Verification Director
3. Plant (Reactor) Protection System
4. Vibration Monitoring Program
5. Tornado Missile Licensing Update
6. Winter Storm Response
7. Fire Protection: NFPA-805
8. Maintenance Department Update
9. Nuclear Fuel Performance
10. Meet with NRC Resident Inspector
11. Observe Nuclear Safety Oversight Committee Meeting

2.0 INTRODUCTION

This Fact-Finding meeting with DCPD was made to evaluate specific safety matters for the DCISC. The objective of the evaluation was to determine if Pacific Gas and Electric's (PG&E's) performance is appropriate and whether any areas revealed observations, which are important enough to warrant further review, follow-up, or presentation at a public meeting. These safety matters include follow-up and/or continuing review efforts by the Committee, as well as those identified as a result of reviews of various safety-related documents.

Section 4-Conclusions highlights the conclusions of the Fact-Finding Team based on items reported in Section 3-Discussion. These highlights also include the team's

suggested follow-up items for the DCISC, such as scheduling future Fact-Finding Meetings on the topic, presentations at future public meetings, and requests for future updates or information from DCPD on specific areas of interest, etc.

Section 5-Recommendations presents specific recommendations to PG&E proposed by the Fact-Finding Team. These recommendations will be considered by the DCISC. After review and approval by the DCISC, the Fact-Finding Report, including its recommendations, will be provided to PG&E. The Fact-Finding Report will also appear in the DCISC Annual Report.

3.0 DISCUSSION

3.1 Station Excellence Plan

The DCISC Fact-Finding Team (FFT) had a remote (virtual) meeting with Matt Hayes, Director of Performance Improvement, to review the 2021 DCPD Station Excellence Plan (SEP). This plan was relatively new, and this was the first review of it by the DCISC. The SEP is the highest-level document at DCPD for aligning and coordinating all other plans and initiatives. The SEP came about from the October 2020 INPO Corporate Evaluation. The Vision in the SEP is the following:

Corporate executives and station leaders to share accountability for building trust and gaining alignment. With these plans we will hold each other accountable to standards of excellence and achieving high levels of performance through the verification that the standards, expectations, and goals established through governance of the organization are met.

There are five Action Steps in the SEP as follows:

1. Generation Operating Plan
2. Corporate Leadership AFI-CO.1
3. Corporate Oversight Monitoring AFI-CO.3
4. INPO 19-003: Staying on Top
5. Oversight Response Action Plan - Nuclear Safety Oversight Committee (NSOC) and Quality Performance Assessment Report (QPAR) for Organizational Effectiveness (OR) and Performance Improvement (PI)

Department Excellence Plans are included for the following:

- Engineering Services
- Maintenance Services
- Operations Services
- Organizational Effectiveness
- Performance Improvement
- Nuclear Training

- Security and Emergency Services

There are External and Audit Action Plans for the following:

- Unanticipated Equipment Failures
- Shortfalls in Corrective Action and Problem Solving
- Leader Behaviors for Continuous Learning - Concern
- Operations Engagement in Performance - Concern
- Instrumentation and Control (I&C) Performance - Concern
- Shortfalls in Outage Scheduling - Concern

Initiatives

- Completing Procedures as Written
- Equipment Issues Identification & Resolution
- Proficiency & Fundamentals

SEP progress is reviewed by the quarterly-meeting Plant Review Management Committee and the new monthly-meeting Station Oversight Committee, which is made up of the Chief Nuclear Officer; Site Vice President (VP); VP of Generation, Business & Technical Services; Quality Verification Director; Station Senior Director; Senior Director of Emergency and Technical Services; and Director of Performance Improvement. The agenda for the March 2021 meeting was as follows:

Safety Minute (779, AED, CPR)
Facilitative Leadership or Diversity Minute
Actions and Evaluation from Previous Meeting
Review Desired Outcomes
Approve Station Oversight Committee Charter
Station Excellence Action Plan
Department Excellence Plans - by exception <ul style="list-style-type: none"> ■ Industrial Safety ■ Security & Emergency Services
Internal Assessment & Audit <ul style="list-style-type: none"> ■ Quality Digest
Premier Survey Results
Staying Focused: Employee Monitoring and Response Plan
Roundtable
Actions and Meeting Evaluation (+/D)

Open Actions from the February 21, 2021 meeting were as follows:

Bring SOC Charter with recommended changes back to March 25 meeting. NOTE: all charter-specific comments were captured separately.
Evaluate specifically which Generation Committee metrics will be reviewed monthly in SOC meeting.
Evaluate adding other Corporate function excellence plans to this package (HR, IT, Bus Finance, etc.)

Conclusions: The DCPD Station Excellence Plan is a comprehensive, high-level plan aligning departmental and other DCPD plans. It is monitored by the new Station Oversight Committee comprised of seven of the plant's highest-level leaders. The DCISC Fact-finding Team concluded that the Station Excellence Plan was appropriate for DCPD and had the potential to provide improved focus for the leaders' efforts in achieving and maintaining excellence. The DCISC should consider having DCPD present the Plan at one of its next Public Meetings.

Recommendations: None

3.2 Meet with Quality Verification Director

The DCISC FFT had a remote (virtual) meeting with Ken Johnston, Quality Verification (QV) Director, for an update. Mr. Johnston has been in this position since July 2020. The DCISC last reviewed QV in April 2020 (Reference 6.1) and concluded the following:

The DCISC Fact-finding Team concluded that the Quality Performance Assessment Report is an effective tool for measuring and reporting station performance in nuclear safety culture and quality assurance functions.

QV produces two documents, which report plant quality performance: 1) the Quality Performance Assessment Report (QPAR) and 2) the Quality Digest.

The QPAR is published twice per year, and the FFT reviewed the December 2020 issue. The Executive Summary states the following:

Quality Verification (QV) performed an assessment of Diablo Canyon Power Plant's (DCPP) performance from June 1 through December 1, 2020 emphasizing field activities and implementation of station programs. This report provides an assessment of the station's nuclear safety culture health and implementation of the Quality Assurance Program (QAP). Conclusions and insights are based on QV observations, audit results, station challenges and the status of unresolved issues. This period included 1R22 which was conducted with COVID-19 protocols in place.

QV conducted 73 observations which identified 1 finding, 1 area requiring

management attention (ARMA), 26 deficiencies, 4 recommendations, and 1 equipment problem (EQPR). The station met all six outage goals, including total dose goals, Significant Injuries or Fatalities (SIF)/SIF Potentials, Foreign Material Exclusion (FME) significant events, Outage Duration, and Human Performance (HU) Site Clock resets.

During the second period of 2020, DCPD exhibited traits reflecting a strong Nuclear Safety Culture and effectively implemented the QAP consistent with regulatory requirements and commitments to the Nuclear Regulatory Commission (NRC).

The overall station and department health through December 2020 was shown as follows:

Overall	OP	MA	ENG	NWM	RP	CEO	SEC	EP	LS	PI	OR
W	W	G	W	G	G	G	W	G	G	Y	W
↔	↑	↔	↔	↔	↔	↓	↑	↔	↔	↔	↓

Where:

Overall or STN = Station
 OP = Operations
 MA = Maintenance
 ENG = Engineering
 NWM = Nuclear Work Management
 RP = Radiation Protection
 CEO = Chemistry & Environmental
 SEC = Security
 EP = Emergency Preparedness
 LS = Learning Services
 PI = Performance Improvement
 OR = Organizational Effectiveness

↔ Steady Performance Trajectory
 ↑ Improving Performance Trajectory
 ↓ Declining Performance Trajectory

Green	Overall performance is considered industry top quartile regarding implementation of policies, programs and procedural requirements with no significant areas of concern. The majority of areas are consistently meeting industry top quartile performance expectations. Functional area is using established processes to close performance gaps.
White	Overall performance is consistently meeting expectations regarding implementation of policies, programs and procedural requirements with minor/few areas of concern. Gaps to industry top quartile performance are known and understood and functional area is using established processes to close performance gaps.
Yellow	Functional area has demonstrated behaviors or had events that indicate performance is not meeting expectations in several aspects and/or effectiveness of management actions to correct area performance have not been fully developed.
Red	Overall performance and/or plans for improvement are not meeting expectations. Significant or chronic performance problems exist and/or management's efforts have been ineffective at identifying or correcting performance concerns.

The color ratings consider observation, audit and assessment results, performance indicators, Corrective Action Program (CAP) data and feedback from external sources such as the NRC, INPO and the Nuclear Safety Oversight Committee (NSOC).

The overall trajectory of a functional area or the station is a qualitative combination of the net sum of three primary forces that could affect future performance: organizational effectiveness, workload and proficiency.

The Quality Digest is published monthly, and the FFT reviewed the February and March issues. The Digest includes the following topics:

- QV Escalated Issues
- QV Elevated Issues, including Areas Requiring Management Attention (ARMAs)
 - ARMA - Event Investigation
 - Finding - Chemistry Procedure Data Entry
 - Finding - Radiation Protection (RP) Quality Records Not Sent to Record Management System
 - Finding - Engineering Issues
 - ARMA - Leadership Engagement in Safety Issues
 - Finding - "Port Evaluation" Failure Mode Not Recognized
 - Finding - Shift Watch List Not Completed for RP Personnel

Color and Trajectory Comments:

- Improvement needed in rigor and depth of evaluations of events and behaviors, and communication of learnings.
- Management attention needed to apply strong evaluation tools and actions to correct faint indications of technician knowledge gaps.
- Improvement is needed in rigor of evaluations across the station, including those for unanticipated equipment failures.
- Review in aggregate and develop mitigating actions as appropriate to address

the increasing workload and turnover at key positions within Engineering. Improvement is needed regarding leader ownership and responsiveness to issues, and creating an environment of continuous learning, including self-criticality during program monitoring.

The overall station and department health during March 2021 was shown as follows:

STN	OP	MA	ENG	NWM	RP	CEO	SEC	EP	LS	PI	OR
W	W	G	W	G	G	G	G	G	G	Y	W
↔	↑	↔	↓	↔	↔	↓	↔	↔	↔	↔	↓

The symbols and colors are the same as those used for the QPAR above.

Conclusions: The DCPD Quality Performance Assessment Report and Quality Digest appear to be effective tools for reporting performance in the Quality Verification area.

Recommendations: None

3.3 Plant (Reactor) Protection System

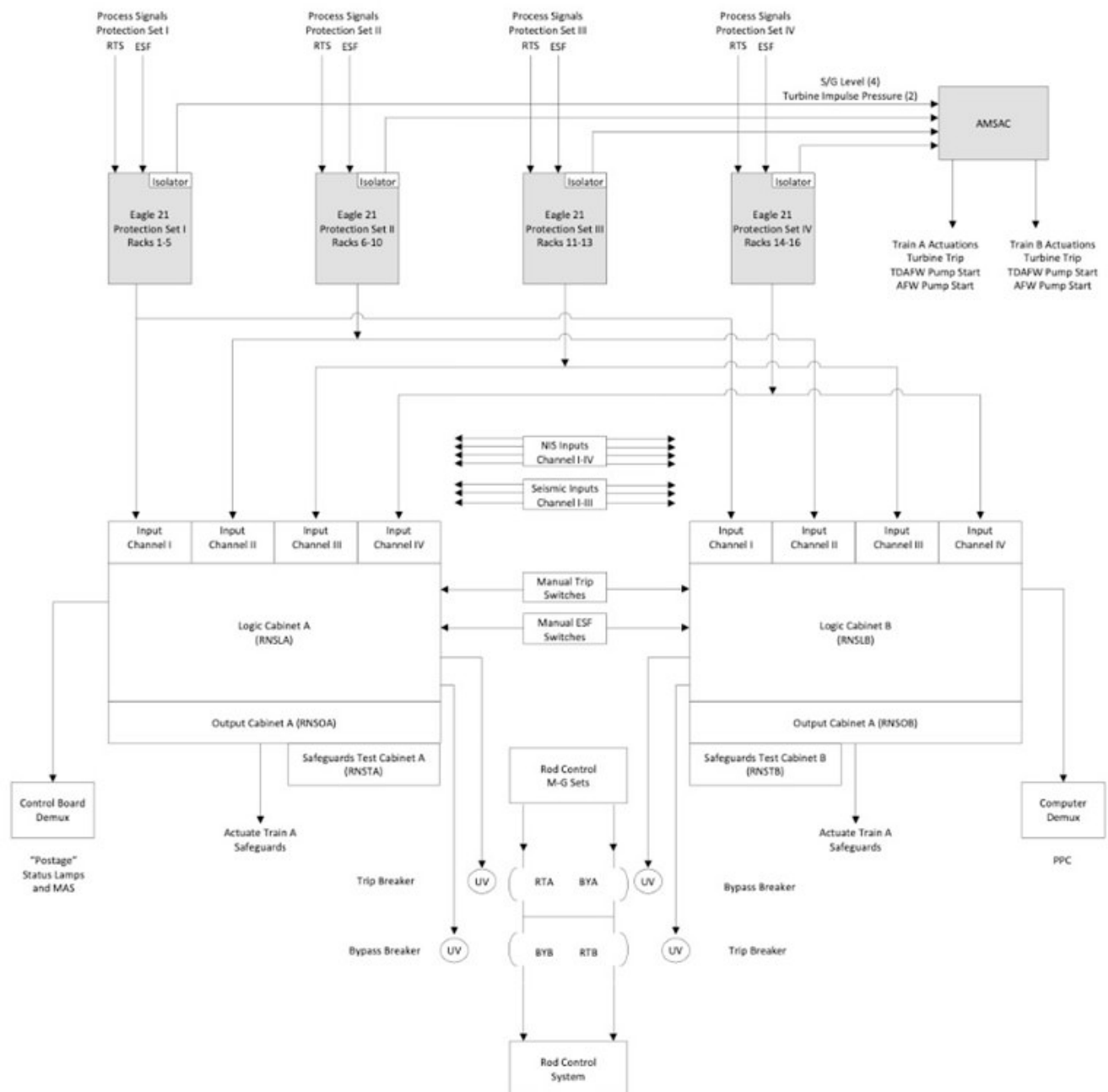
The DCISC FFT had a remote (virtual) meeting with Jose Medina, System Engineer; Joe Goryance, Electrical Strategic Engineer; and Kris Jentzsch, Electrical Tactical Engineer, for an update on the Eagle 21 Plant (Reactor) Protection System (PPS). The DCISC last reviewed the PPS in November 2017 (Reference 6.2), when it concluded the following:

DCPP is continuing with planning for the replacement of its Eagle 21, Plant Process Protection System (PPS), and NRC license amendment approval is expected by the end of 2016. Because of PG&E's recent decision to not pursue license renewal for DCPD, the Eagle 21 replacement project, along with other current major projects, will soon be subject to a review by a working group to determine the scope of future activities. The DCISC should follow closely the DCPD working group's review of the current major project portfolio that has been prompted by PG&E's recent decision to not pursue license renewal.

The PPS is part of the original Westinghouse Nuclear Steam Supply System (NSSS), which includes the Reactor Coolant System (RCS). The PPS consists of four separate independent full function protection sets, which provide trip and actuation signals to the Solid-State Protection System (SSPS) for use by the Reactor Trip System (RTS) and Engineered Safety Features Actuation System

(ESFAS). Each protection set is physically and electrically separated from the other three sets. Output signals of the PPS parameters (temperature, pressure, level, neutron flux, and flow) are provided to the Main Control Room for indication and recording, to the Plant Process Computer for monitoring, and to the Main Annunciator System, for alarming. The PPS also provides input sensor signals to various plant control systems. These signals are electrically isolated from the PPS and are not processed by the PPS instrumentation (with the exception of RCS Delta-T and Tavg channels). The PPS also provides isolated signals to the Anticipated Trip Without Scram (ATWS) Mitigation System Actuation Circuitry (AMSAC) and other such control systems as the Control Rod Control System and Digital Feedwater Control System. The PPS was updated in the mid-1990s.

Functional Flow Diagram of Eagle 21 Solid State Plant Protection System



DCPP had submitted a License Amendment Request (LAR) to the NRC for an upgraded PPS but later decided to keep the current system in light of the proposed plant shutdown in 2025. The current system has been operating reliably, and service and spare parts are readily available. It is expected to operate reliably through 2025. This March 2021 Fact-finding review concentrated on the current system performance.

Although the PPS does not receive a health report, and therefore is not given a health color, its health is acceptable - there are no significant issues. DCPP is a member of the Westinghouse Owners' Group (WOG) on Eagle 21 and stays current including attending WOG meetings twice per year. The most recent WOG meeting was on March 4, 2021. DCPP performs full train tests and calibrations each six months, and the system has built-in testing capability which provides regular performance reports.

The PPS is subject to full DCPP Cyber Security Program requirements and has no connections outside the plant.

Conclusions: The DCPP Plant (Reactor) Protection System has been operating as designed in a reliable manner. DCPP reversed a decision to replace the System due to the 2025 shutdown and the acceptable health of the System.

Recommendations: None

3.4 Vibration Monitoring Program

The DCISC FFT had a remote (virtual) meeting with Jack Cheek, Supervisor of Predictive Maintenance and Valve Group, and George D'Entremont, Senior Advising Engineer, for an update on the DCPP Vibration Monitoring Program (VMP). The DCISC last reviewed the DCPP VMP in September 2018 (Reference 6.3), concluding the following:

The DCPP Predictive Maintenance Group, which includes vibration monitoring, lubrication control, and infrared thermography inspection, has been doing an effective job and seems capable of carrying out its responsibilities; however, it has been reduced in staff, causing substantial concern by the Group of being able to perform effectively. The DCISC has passed this information on to DCPP management.

As part of its Reliability Centered Maintenance program, DCPP has a Predictive Maintenance Program (PMP) controlled by Procedure TS5.ID8, "Predictive Maintenance." This procedure describes the plant's predictive maintenance process for monitoring and trending of equipment performance utilizing vibration monitoring, lubrication control, and infrared thermography inspection. The stated purpose is "... to enhance plant safety and reliability through early detection and

diagnosis of equipment degradation prior to equipment failure. The predictive maintenance charter is 'No unanticipated equipment failures.'" This procedure appeared satisfactory.

A second procedure, Procedure AWP E-048, "Predictive Maintenance - Vibration" describes the procedure for vibration monitoring "... to enhance plant safety and reliability through early detection and diagnosis of equipment degradation prior to equipment failure. The predictive maintenance charter is 'No unanticipated equipment failures.'" This procedure appeared satisfactory.

The Predictive Maintenance Organization does this through use of installed and portable diagnostic tools, which monitor selected equipment parameters. The organization maintains a database of identified equipment and parameters for which they establish base lines, set alert points and coordinate predictive maintenance activities. The Engineering Director has overall responsibility for the PMP.

DCPP has permanent vibration sensors with remote Control Room readouts on its Reactor Coolant Pumps, Turbine Generators, and Main Feedwater Pumps. Another approximately 300 components are monitored typically monthly with portable vibration detecting equipment. The latest acquired data are compared with previous data for trends, and if significant degradation is observed, a Corrective Action Program Notification is initiated, and components considered 'degraded' are placed on a "Watch List." Not only does the Vibration Analyst identify the fault but is also expected to provide a corrective action Recommendation. Following corrective action by Maintenance, a confirmatory vibration survey is performed to assure the correction was effective.

DCPP has experienced high vibration on some Containment Fan Cooler Units (CFCUs) and Main Feedwater Pump (MFP) 1-1. The CFCU vibrations have been resolved with damper and louver setting changes. MFP 1-1's vibration has been accepted analytically, and the vibration alarm setpoint was increased. MFP 1-1's vibration monitoring continues.

In addition to its routine monitoring of large rotating equipment, the Group is acting in an advisory role on the Unit 2 Generator vibration and hydrogen leak issue.

The Group is gathering vibration data on the following non-running Unit 1 and 2 Functional Location Operating Components (FLOCs):

- Two per unit turbine governor oil pressure pumps and motors
- Four per unit Main Feedwater Pump oil lubrication pumps and motors

Reactor Coolant Pump Vibration Monitoring System

The Reactor Coolant Pump (RCP) Vibration Monitoring System provides alerts/alarms to operators in the Control Room, providing real-time RCP vibration

data, providing historical RCP vibration data, and providing diagnostic tools for the data. Issues with reliability and data retention limitations led DCPD to initiate a modification to upgrade the system to a state-of-the-art vibration monitoring system provided by General Electric Bently-Nevada, which has been used successfully elsewhere throughout the industry. The new system would provide vast improvements in the capability to retain and analyze historical RCP vibration data.

Installation of the new system was planned for three phases. The first phase consisted of installing a new network and new workstations for collecting and storing data. That phase was successfully completed in the fall of 2018, and no problems have been encountered with that portion of the system. The second phase consisted of replacing the equipment racks inside the Unit 1 Reactor Containment. The equipment racks housed various modules and cards that collected information from multiple X-Y movement sensors, seismic sensors, and speed sensors located on the four RCPs and transmitted those data via network cabling to the workstations and alarm monitoring systems outside of the Reactor Containment. The second phase was completed on Unit 1 during its 1R21 Refueling Outage in early 2019. The third phase of the project was to install similar equipment racks on Unit 2 during its Refueling Outage in the fall of 2019. The actual sensors on the RCPs and their associated cabling to the rack were not planned for replacement.

Following the restart of Unit 1 after its Refueling Outage, intermittent problems occurred with the newly installed racks which were located inside of Reactor Containment. Periodically, the racks would stop communicating with the network outside of Reactor Containment and would require a reset. The communications failures also initiated alarms in the Control Room which placed an unnecessary burden on the operators to investigate and defeat the erroneous alarms and also to monitor alternate indications (RCP temperatures and seal leakoff). Station engineers were working with the vendor to identify and correct the cause of the problem, which at this time appeared to be related to high levels of electrical noise on the system and how the rack cards were programmed to respond to high levels of electrical noise. An additional data acquisition system had been temporarily installed on the system to assist with troubleshooting, but that system had failed shortly after installation. Facts considered in deciding the appropriate action to be taken in response to problems with the newly installed system included:

- The two performance issues affecting the system were, as follows:
 - Reliability - The seismic and monitoring cards would randomly lock up on the average of two (2) times per week requiring the system to be re-booted to restore function.
 - Accuracy - The motor frame vibration would experience random step of approximately 150% in amplitude and then randomly return to normal.
- Coping measures have been implemented to accommodate the performance

issues, which include the following:

- Reliability (Lock-up) - A software update has been implemented to reboot the monitoring system to recover from a lock-up. The automatic reboot takes approximately six minutes to complete.
- Accuracy (Motor Frame Vibration Value) - The Annunciator Response Procedure (PK 05-05) Alert value was increased to prevent nuisance alarms when the step change occurs.
- A key factor that was learned since the previous decision was made is the availability of spare parts for the old system (and system currently installed on Unit 2) is extremely limited.
 - A search on many fronts was not able to identify a source of the parts needed.
 - If the original system were to be re-installed on Unit 1, it would place the reliability of both Units at risk.
 - With the Unit 1 system remaining in service, the old system provides sufficient spare parts for Unit 2.
- It is transparent to operations when the system is re-booting:
 - During this time, the vibration values freeze at the state when the lock-up occurred.
 - Alarms are not received until the reboot is complete.
- Operating Experience indicates that RCP problems necessitating quick response to prevent operational consequences do not relate to bearing vibration.
 - Bearing vibration typically manifests itself over time allowing longer term monitoring, trending and diagnostics.
 - The Annunciator response for bearing vibration also requires other corroborating information before RCP trip criteria is met. These other parameters also provide alarm to the Control Room.
 - Therefore, the six-minute duration of no data during re-boots does not create an operational risk.
- New frame vibration probes were installed in 1R22 that may resolve the value step change problem.
- It would be a very challenging effort to attempt to reinstall the original system due to the time and resource commitment required of the development of the design change and testing of the system.
 - While this would restore operational reliability, it would re-introduce a reliability risk to both units due to lack of spare parts.

The decision was made to accept the current performance of the installed system with the mitigations in place and to continue the actions to cancel the Unit 2 design, continue to monitor boot rate, replace frame probes in 1R22, enable PK 05-05 alarms for stator frame vibration, and investigate a method to identify/flag invalid data during input card reboots. The primary considerations were as follows:

- Minimal operational risk related to needing immediate operator action due to a changed bearing condition during the cumulative time the system would be re-booting
- Increased reliability risk on both Units due to unavailability of spare parts
- Essentially no operational risk related to vibration alarms alone.

It was also recognized that the communication of this decision will need to be effectively managed, with particular attention applied to Operations, and a communications plan was designed.

Conclusions: The DCPV Vibration Monitoring Program appeared satisfactory to monitor equipment vibration and to prevent vibration-induced equipment failures.

Recommendations: None

3.5 Tornado Missile Licensing Update

The DCISC FFT had a remote (virtual) meeting with Peter Swanson, Senior Consulting Engineer, for an update on DCPV tornado missile licensing. This is the DCISC's first review of this item.

Nuclear power plants are designed to prevent damage from external events such as floods, earthquakes, and tornado missiles, among others. Although the plant is located in an area not known for significant tornados or tornado missiles, DCPV's original design incorporated protections from potential tornado missiles as per NRC requirements at that time. In 2013 as part of the DCPV Licensing Basis Verification Project, it was determined that adequate attention had not been paid to tornado missile protection of the Emergency Diesel Generators (EDGs), specifically the EDG ventilation system, which had its fans exposed to the open behind metal bars. DCPV entered the issue into its Corrective Action Program and developed a Prompt Operability Assessment (POA), justifying continued operation while the issue was being resolved. It also developed the following compensatory measures:

- Evaluations for vehicles and material brought into the Tornado Zone of Influence (TZI)
- Three-hour action plans for more severe potential missiles
- Monitoring weather for potential tornado conditions
- Operational tracking of potential missiles in the TZI

This was an industry-wide issue as well. The NRC issued requests for additional information to plants in 2015 as part of their enforcement discretion. The Nuclear Energy Institute (NEI) issued its new Tornado Missile Risk Evaluation Model (TMRE) as a basis for industry risk-informed decisions on tornado missile protection. The NRC accepted this model, and the affected plants, including DCPV, employed it in their reanalysis. In 2020 DCPV completed its TMRE evaluation,

resulting in closing the issue on June 29, 2020, based on several changes, including modified procedures governing temporary storage of materials, severe weather actions, siting or anchoring of equipment and structures, and outage management organization.

Conclusions: DCP's evaluation and corrective actions to defend against tornado missiles, including the effects of a newly identified tornado missile threat to the Emergency Diesel Generator ventilation system, appeared satisfactory.

Recommendations: None

3.6 Winter Storm Response

The DCISC FFT had a remote (virtual) meeting with Brian Cunningham, Environmental Manager, and Dustin Platt, Secondary Systems Engineer, on winter storm procedures and activity during the 2020-2021 winter. The DCISC last reviewed this item in May 2017 (Reference 6.4), when it concluded the following:

During the 2016-2017 winter, there were three significant storms, which, in two cases, broke loose kelp and had the potential to temporarily reduce cooling water to the plant. The plant successfully operated through these storms by temporarily reducing power in two cases to 50% by properly using their storm procedures and equipment.

Because of its location on the Pacific Ocean, DCP has an excellent source of cooling water; however, it is also subject to winter storms. Severe winter storm swells can loosen kelp and force it into the DCP water intake bay and structure, which is the cooling water supply for both normal operation and emergency operation. If cooling water flow is significantly reduced or blocked by kelp, power must be temporarily reduced. The intake structure pumps draw water through bar racks designed to keep out large objects and through fine mesh (3/8 inch) traveling screens (similar to large vertical conveyer belts) to keep out kelp fragments. The traveling screens collect kelp and transport it away from the pumps' suctions to another area of the ocean.

Station Procedure OP O-28, "Intake Management," provides direction with respect to mitigating the effects of short-term debris loading on the intake traveling screens and condensers. The procedure defines and addresses high swell forecasting, high swell warning, and Operations response to high swell warnings. Pre-job briefs would be conducted for the Control Room operators as well as for the intake operators who would be expected to monitor intake conditions frequently. Maintenance and Security personnel would be directed to the intake along with Operations personnel to help ensure that systems and equipment (e.g., intake screens and wash pumps) are able to be operated at maximum capacity. Engineering could become involved, as appropriate, in developing a plant ramp

plan for reducing power level, and Learning Services could prepare training in which operators could practice ramping the units on the plant simulator. The response, when appropriate, would include operating the intake screens manually, controlling the screen speed appropriately, and staffing the intake with two operators.

DCPP utilizes its Swell Event Ratings Model to predict "impact ratings" for upcoming ocean storm events. The model utilizes the following inputs:

1. Swell direction from deep water
2. Dominant swell period in seconds
3. Maximum predicted significant swell height
4. Debris load estimates
5. Lowest and highest tides projected
6. Event number in current storm season
7. Number of calendar quarters since previous high swell event
8. Duration at high or advisory levels
9. Swell ramp rate
10. Main Condenser quadrant differential pressures

In addition to running this model prior to forecasting storm impacts, DCPD also performs "back-casting" runs to improve the model by using actual storm data. This is a good practice.

There were no big storms and no equipment issues during the winter of 2020-2021. A three-year design review completed in 2020 confirmed the effectiveness of the more robust debris grinding added in 2017; that there were no intake ocean debris issues; and that the improvement to the traveling screens was an effective upgrade

Conclusions: Although there were no big winter Pacific Ocean storms during the winter of 2020-2021, DCPD had available procedures and equipment, which had proved effective in the past when dealing with the storm surge and kelp debris.

Recommendations: None

3.7 Fire Protection Program - NFPA-805 Update

The DCISC FFT had a remote (virtual) meeting with Dan Ensminger, Manager of Fire Protection and Fire Chief; Carlos Lopez, Supervisor, Fire Protection; and John Cole, Fire Protection Engineer, for an update on DCPD's National Fire Protection Association (NFPA)-805 Program. The DCISC last reviewed DCPD Fire Detection and Protection Systems in August 2020 (Reference 6.5), concluding the following:

Over the last few years, an increased level of attention to the health of DCP's Fire Protection and Detection Systems has improved system performance, and the number of impairments has been significantly reduced. This is excellent performance and a notable contribution to improving overall safety at DCP.

The health report for the Program showed Green (good) performance for the period 4th quarter 2019 through 3rd quarter 2020. The health report reported the following:

PROGRAM STATUS SUMMARY: Fire Protection Program (FPP) health card is green (healthy) with the following contributors:

Program Personnel is currently green (healthy) with the following contributors:

Key personnel are fully qualified and each have more than 3 years experience in their roles. Industry Involvement for the reporting period is strong and includes NFPA Code training, 3M Firestop training, participation in the annual Region IV FP counterparts meeting, and ongoing participation in the NEI Fire Protection Taskforce and fire protection peer benchmarking requests.

Program Infrastructure is currently green (healthy) with the following contributors:

Program IDAPs continue to be revised in a timely manner to reduce procedural non-compliances. The last comprehensive self-assessment was August 2020 and the last industry benchmark was performed in September 2019.

Program Implementation is currently white (healthy) with the following contributors:

The 2018 Q4 NRC Triennial Fire Protection Inspection resulted in zero findings. The 2019 Q1 Fire Protection QA audit also resulted in zero findings. The 2019 WANO team concluded their inspection by identifying fire protection as a strength area. The 2020 NEIL Evaluation identified no observations or recommendations. One NRC Green NCV was identified by resident inspectors on the fire protection program during the reporting period. The NCV was regarding paint on fire sprinkler heads having not been identified by previous fire sprinkler system inspections. A full plant walkdown was performed and sprinkler head replacements have been performed or are being planned. Other actions included revising the surveillance test to specify a minimum flashlight brightness when performing future surveillances so that nonconforming sprinkler heads are not overlooked (51049099).

Procedure nonconformances occurred at "green" levels during the reporting period with less than 3 procedural non conformances per quarter.

Program/Equipment Performance is currently white (healthy) with the following contributors:

There are currently no ongoing impairments of fire protection equipment that require a fire watch. One system, firewater, continued to be monitored under MR(a)(1) status with all actions completed and is expected to be returned to (a)(2) status by 12/30/2020.

Overall Program Path to Maintain Green:

Procedures non conformances are expected to remain low based on recent revisions to fire protection procedures OM8.ID1 and OM8.ID4 and placing additional responsibilities on AD4.ID3 SISIP area owners to ensure their areas are staying in compliance. To prevent recurrence of the issues associated with the two quarterly NCVs received, all corrective actions have been implemented per 51049099. System 18b, firewater, is scheduled to return to (a)(2) status 12/30/2020 (50612597) further improving the program performance.

The FPP was last presented to PHC on 5/13/2020, the FPP was white (healthy) at the time.

Maintenance Rule issues in Fire Protection have all been resolved, and there have been no fire watches since the end of 2017 - this is good performance. Also, issues with fire doors have been resolved. There have been no actual fires in the last several years.

The NRC Triennial Fire Protection Inspection Report has just been issued resulting in acceptable performance, except for one Green Non-cited Violation for an improper test sequence involving a pilot valve in the CO2 system, which was entered into the DCPD Corrective Action Program.

The last Nuclear Energy Insurance Liability (NEIL) audit report of November 2020 resulted in positive results with several minor issues.

The Fire Department has moved into its new building. The department consists of six firefighters and one supervisor for each of three shifts for a total of 21. Fire protection exercises have continued through the COVID period. The February 2020 drill resulted in one human performance event - a component misposition - which was considered minor. The last exercise ended January 21, 2021 and was successful.

Conclusions: The DCPD National Fire Protection Association-805 Fire Protection Program and the Fire Department itself both appeared satisfactory based on periodic exercises and audits and inspections by regulatory organizations.

Recommendations: None

3.8 Maintenance Department Update

The DCISC FFT had a remote (virtual) meeting with Ken Pazden, Maintenance Support Manager, and Jeffrey Bryant, Assistant Director of Maintenance Services,

for an update on the DCPM Maintenance Department. The DCISC last reviewed the Maintenance Department in January 2020 (Reference 6.6), concluding the following:

The DCPM Maintenance Department organization and staffing were stable and effective with normal attrition, but a significant drop in personnel is expected after the end of the First DCPM Retention Period ends in August 2020. Only selected vacancies will be filled, and there will be selective use of contractors when necessary. Maintenance Key Performance Indicators are Green (Good).

The Key Maintenance Performance Indicator is Green (good) for March 2021, as is the Quality Performance Assessment Report (QPAR), and an industry evaluation. The DCPM Maintenance Index is Yellow (needs improvement) and Maintenance Current Events is White (good) as is Limiting Conditions of Operation. The QPAR summary states the following:

Maintenance Services (MA) continues GREEN and STABLE performance. During this period MA reached the top 12 in the US nuclear industry per INPO and is leading STARS performance. MA has exhibited overall strong performance this period as evidenced by completing a large amount of work including two Unit 2 emergent outages and a successful Unit 1 refueling outage with no consequential errors or significant challenges to continued strong performance.

Nuclear Work Management (NWM) improved to GREEN with a STABLE trajectory. Maintenance Outage Window (MOW) performance has improved with only a single MOW deviating from the industry standard of being completed predictably within 10 percent of the scheduled duration. QV identified a Finding related to incomplete reviews of Operability Verification Testing (OVT) for which corrective actions have been implemented.

Conclusions: The key performance indicators for the DCPM Maintenance Department all show strong (Green) performance for the period June 2020 to March 2021.

Recommendations: None

3.9 Nuclear Fuel Performance

The DCISC FFT had a remote (virtual) meeting with Ken Kargol, Reactor Engineering Supervisor; Daniel Efrom, Nuclear Fuel Program Manager; and Scott Stevens, Primary Chemistry Engineer, for an update on DCPM nuclear fuel performance. The DCISC last reviewed nuclear fuel in July 2018 (Reference 6.7),

when it concluded the following:

DCPP nuclear fuel has been performing as designed based on results of fuel inspections and chemistry sampling through Refueling Outage 1R20. DCPP plans to stay with its same Westinghouse fuel design throughout its remaining operating license in 2024 for Unit 1 and 2025 for Unit 2.

Unit 1 fuel, currently in Cycle 23, has completed 18 cycles since 1991 with no fuel defects. Unit 2, in its Cycle 22, has had no defects since 2011. This is excellent performance. In the recent Unit 1 refueling outage 1R22, no new debris has been found in the Reactor Vessel, and the fuel inspection camera has shown no abnormalities on the fuel assembly four sides and bottom nozzles. There has been some legacy debris from Steam Generator tube eddy current inspection equipment.

Looking ahead, fuel is being designed for shorter cycles (changing from 19-21 months to 17-18 months), typically from 590 to 480 Effective Full Power Days. The final fuel cycle for Unit 1 will last 12 months. Fuel enrichment is being reduced from 4.6-4.95 to 4.0-4.4 percent. DCPP is keeping the same design fuel from the same supplier (Westinghouse) for the remaining years of operation through 2025. Core design is a joint effort by DCPP and Westinghouse personnel. During refueling outages, Westinghouse personnel operate the manipulator crane and fuel bridge crane, and DCPP personnel operate the fuel transfer mechanism. The fuel handling equipment has performed well recently.

Conclusions: The DCPP nuclear fuel has for many years performed flawlessly with no defects or leakage. Unit 1 has performed without defects since 2011, and Unit 2 since 1991. This is excellent performance. DCPP is designing their fuel for the remaining operating life with lower enrichments and shorter cycles.

Recommendations: None

3.10 Meeting with the NRC Resident Inspector

The DCISC Fact-finding Team met with Ayesha Athar, NRC Resident Inspector for an update. The DCISC last met with the NRC in January 2021 (Reference 6.8), concluding the following:

The meeting with the NRC Senior Resident Inspector was beneficial, and the DCISC should continue the meetings.

The areas of discussion were the following:

- Security escorting not being implemented properly
- Procedures for Operations equipment postings
- Some sump debris found on Containment walkdown following the Unit 1

refueling outage

- The two NRC resident inspectors are each working two days physically at the plant on different days
- The FFT reviewed its agenda items for this fact-finding meeting

Conclusion: The meeting with the NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.

Recommendations: None

3.11 Observe Nuclear Safety Oversight Committee Meeting

The DCISC FFT met with Philippe Soenen, Decommissioning Licensing and Environmental Manager, for an update on DCP's future plans for management of Spent Fuel. The DCISC last reviewed the Spent Fuel management during its December 2019 Fact-Finding Meeting (Reference 6.12), when it concluded the following:

The DCISC has an agreement with DCP to maintain NSOC information confidential, and thus only limited information is presented here.

The DCISC FFT observed remotely the March 4, 2021 Nuclear Safety Oversight Committee (NSOC) March 4, 2021 exit meeting with DCP management. The DCISC last reviewed an NSOC meeting in November 2020 (Reference 6.9), when it concluded the following:

The DCP Nuclear Safety Oversight Committee (NSOC) appeared to be thorough and comprehensive in their investigations and candid in their reports. The DCISC should continue to attend NSOC exit meetings regularly and should follow up on two items discussed at this meeting.

The NSOC is a committee of six executive-level, external industry peers. The Committee typically visits DCP three times per year for four days each. The first three days are usually spent in the plant interviewing personnel, observing activities, and reviewing records in the following NSOC-Subcommittee areas:

- Operations, Chemistry and Environmental, Fire Department and Fire Safety, and Learning Services,
- Maintenance, Work Management, Industrial Safety and Cyber Security
- Engineering, Risk Assessment, Equipment Reliability, Regulatory Services
- Performance Improvement, Radiation Protection, Emergency Planning, Security
- Outages, Projects, Decommissioning
- Organizational Effectiveness, Safety Culture, Quality Verification

Due to the COVID-19 pandemic, on site interactions were limited for this particular meeting. Some NSOC members visited the plant to perform several days of direct observations in March, and the remainder of the NSOC observations were conducted via remote meetings. This exit meeting was held on NSOC's fourth day of remote meetings for the purpose of reporting its conclusions to DCP's Chief Nuclear Officer and leadership team. The NSOC reported on the status of several previously identified issues and concerns, closing some, but identified no new issues or concerns. No nuclear or personnel safety issues were identified. Overall, the NSOC evaluated DCP as continuing to be a strong performer.

Conclusions: The DCP Nuclear Safety Oversight Committee (NSOC) appeared to be thorough and comprehensive in their investigations and candid in their reports. The DCISC should continue to attend NSOC exit meetings regularly.

Recommendations: None

4.0 CONCLUSIONS

4.1 The DCP Station Excellence Plan is a comprehensive, high-level plan aligning departmental and other DCP plans. It is monitored by the new Station Oversight Committee comprised of seven of the plant's highest-level leaders. The DCISC Fact-finding Team concluded that the Station Excellence Plan was appropriate for DCP and had the potential to provide improved focus for the leaders' efforts in achieving and maintaining excellence. The DCISC should consider having DCP present the Plan at one of its next Public Meetings.

4.2 The DCP Quality Performance Assessment Report and Quality Digest appear to be effective tools for reporting performance in the Quality Verification area.

4.3 The DCP Plant (Reactor) Protection System has been operating as designed in a reliable manner. DCP reversed a decision to replace the System due to the 2025 shutdown and the acceptable health of the System.

4.4 The DCP Vibration Monitoring Program appeared satisfactory to monitor equipment vibration and to prevent vibration-induced equipment failures.

4.5 DCP's evaluation and corrective actions to defend against tornado missiles, including the effects of a newly identified tornado missile threat to the Emergency Diesel Generator ventilation system, appeared satisfactory.

4.6 Although there were no big winter Pacific Ocean storms during the winter of 2020-2021, DCP had available procedures and equipment,

which had proved effective in the past when dealing with the storm surge and kelp debris.

4.7 The DCPD National Fire Protection Association-805 Fire Protection Program and the Fire Department itself both appeared satisfactory based on periodic exercises and audits and inspections by regulatory organizations.

4.8 The key performance indicators for the DCPD Maintenance Department all show strong (Green) performance for the period June 2020 to March 2021.

4.9 The DCPD nuclear fuel has for many years performed flawlessly with no defects or leakage. Unit 1 has performed without defects since 2011, and Unit 2 since 1991. This is excellent performance. DCPD is designing their fuel for the remaining operating life with lower enrichments and shorter cycles.

4.10 The meeting with the NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.

4.11 The DCPD Nuclear Safety Oversight Committee (NSOC) appeared to be thorough and comprehensive in their investigations and candid in their reports. The DCISC should continue to attend NSOC exit meetings regularly.

5.0 RECOMMENDATIONS

5.1 None

6.0 REFERENCES

6.1 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.8, Section 3.3, "Quality Performance Assessment Report," and Section 3.4, "Quality Verification Audits and Nuclear Industry Evaluation Program."

6.2 "Diablo Canyon Independent Safety Committee Twenty-Eighth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2017 - June 30, 2018", Approved October 12, 2018, Volume II, Volume II, Exhibit D.5, Section 3.6, "Plant Protection System Review with System Engineer."

6.3 "Diablo Canyon Independent Safety Committee Twenty-ninth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2018 - June 30, 2019", Approved October 23, 2019, Volume II, Exhibit D.3, Section 3.4, "Vibration Monitoring Program."

6.4 "Diablo Canyon Independent Safety Committee Twenty-Eighth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2016 - June 30, 2017", Approved October 15, 2017, Volume II, Exhibit D.9, Section 3.3, "Winter Storm Events."

6.5 "Diablo Canyon Independent Safety Committee Thirty-first Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June 30, 2021", Approved October 18, 2021, Volume II, Exhibit D.2, Section 3.4, "Fire Protection and Detection Systems."

6.6 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.6, Section 3.2, "Maintenance Department Update and PIs."

6.7 "Diablo Canyon Independent Safety Committee Twenty-ninth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2018 - June 30, 2019", Approved October 23, 2019, Volume II, Exhibit D.1, Section 3.11, "Fuel Procurement Process."

6.8 "Diablo Canyon Independent Safety Committee Thirty-first Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June 30, 2021", Approved October 18, 2021, Volume II, Exhibit D.6, Section 3.5, "Meet with Nuclear Regulatory Commission (NRC) Senior Resident Inspector."

6.9 Ibid., Exhibit D.4, Section 3.12, "Nuclear Safety Oversight Committee Exit Meeting."

[31st Annual Report, Volume II, Exhibit D.8, Diablo Canyon Independent Safety Committee Report on Fact Finding Meeting at DCPD on April 27 and 28, 2021 by Peter Lam, Member, and Richard D. McWhorter, Consultant](#)

1.0 SUMMARY

The results of the April 27 and 28, 2021, Fact-Finding Meeting for the Diablo Canyon Power Plant (DCPP) in Avila Beach, CA are presented. Due to travel and attendance restrictions resulting from the COVID-19 pandemic, all meetings were conducted remotely. The subjects addressed and summarized in Section 3 are as follows:

1. Radiation Monitoring Systems
2. Meet with DCPD Officer
3. Auxiliary Building Ventilation System
4. Meet with Nuclear Regulatory Commission (NRC) Senior Resident Inspector
5. Human Performance Update
6. Maintenance Rule Program
7. Boric Acid Corrosion Control Program
8. Unit 2 Main Generator Issues and Root Cause Evaluation Update
9. Post-Shutdown Technical Specifications License Amendment Request
10. Low Temperature Overpressurization Protection System Event
11. Spent Fuel Cask Procurement Update
12. Observe Corrective Action Review Board Meeting

2.0 INTRODUCTION

This Fact-Finding Meeting for the DCPD was held to evaluate specific safety matters for the DCISC. The objective of the evaluation was to determine if Pacific Gas and Electric's (PG&E's) performance is appropriate and whether any areas revealed observations, which are important enough to warrant further review, follow-up, or presentation at a public meeting. These safety matters include follow-up and/or continuing review efforts by the Committee, as well as those identified as a result of reviews of various safety-related documents.

Section 4-Conclusions highlights the conclusions of the Fact-Finding Team based

on items reported in Section 3-Discussion. These highlights also include the team's suggested follow-up items for the DCISC, such as scheduling future Fact-Finding Meetings on the topic, presentations at future public meetings, and requests for future updates or information from DCPD on specific areas of interest, etc.

Section 5-Recommendations presents specific recommendations to PG&E proposed by the Fact-Finding Team (FFT). These recommendations will be considered by the DCISC. After review and approval by the DCISC, this Fact-Finding Report, including its recommendations, will be provided to PG&E. The Fact-Finding Report will also appear in the DCISC Annual Report.

3.0 DISCUSSION

3.1 Radiation Monitoring Systems

The DCISC FFT met remotely with Kevin O'Neil, Tactical Engineer for Radiation Monitors, and Mike Sullivan, Strategic Engineer for Radiation Monitors, for an update on the health of Radiation Monitoring (RM) Systems at DCPD. The DCISC last reviewed RM Systems in January 2018 (Reference 6.1) when it concluded the following:

DCPD plans to keep its current Radiation Monitoring System instead of making major upgrades to it. This is due to the Joint Proposal decision to not pursue license extension and the corresponding capital projects review to reduce capital spending. More importantly, DCPD indicated that with availability of spare parts and with good maintenance practices, DCPD believes the system will operate satisfactorily even without the upgrades until 2025 when DCPD will cease operations.

The RM System is designed to provide general area and process system radioactivity measurements and alarms, as well as automatic line isolations, in order to monitor and control personnel dose exposure and the release of radioactive fluids in compliance with applicable regulations. It consists of 101 channels of radiation detectors and associated electronic components, as well as wiring and displays located around the plant. The system components are diverse and came primarily from four manufacturers. The system components range in age from the 1970s to the 1990s and consist of both analog and digital components. Mr. O'Neil reported that the RM System was classified as a Tier 2 system and health reports for the system were no longer required. However, if a system color were to be assigned to reflect the current system health, he believed that the system would be rated as White (Acceptable but needing improvement) due primarily to reliability concerns.

Historically, the RM System had been managed according to a Long-Range Plan. The general strategy consisted of three major points:

1. Continue to maintain and improve existing equipment,
2. Modify and replace selected equipment in accordance with the Long-Range Plan, and
3. Plan for an entire system asset replacement concurrent with the plant relicensing period.

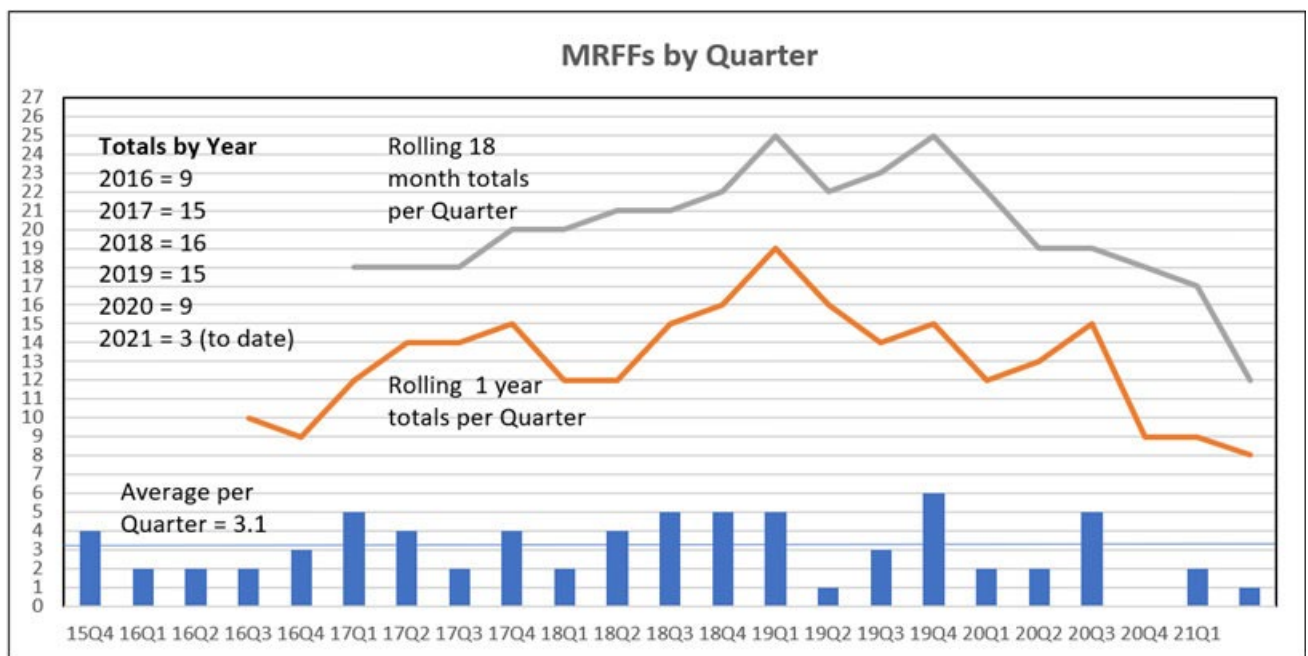
This strategy was to have been implemented through 2023; however, because of the capital review process associated with the decision not to pursue license extension, the plan for an entire RM System replacement was cancelled. Mr. O'Neil explained that DCPD was currently focused on maintaining and improving the reliability of the existing RM System by using the Preventative Maintenance program effectively and by low-cost modifications to the greatest extent possible.

In general, engineers and maintenance technicians were focused on improving the current equipment rather than performing large-scale upgrades or replacements.

Activities that were recently completed to improve the performance of the RM System consistent with this approach included:

- Replacement of the Containment Building atmospheric sampling pumps.
- Replacements of all control switches and alarm relays in equipment supplied by a specific vendor.
- Upgrades to replace control room chart recorders with multi-channel digital data loggers (consistent with similar control room chart recorder replacements on other systems).
- Various changes to the frequencies of Preventative Maintenance tasks in order to reduce the likelihood of failures.

Mr. O'Neil reported that this approach was generally proving effective in that the numbers of system failures were steadily decreasing over time. The FFT inquired if management was supportive of providing adequate funding for RM System improvements, and he responded that he did not recall a case in the last five years where management denied funding to any needed improvement that was technically justified.



Radiation Monitoring System Maintenance Rule Functional Failures for Last Six Years

The number of MRFFs currently placed several portions of the system into (a)(1) status under the MR Program, meaning that the system was not meeting established criteria for reliability. As numerous corrective actions had been completed and the MRFFs numbers were trending down, DCPD was approaching a point where most failures were one-of-a-kind failures that were difficult to prevent via changing maintenance practices or by planned component replacements. The station recently obtained the services of a consultant to review the MR Program performance criteria to make it more useful in identifying and tracking MRFFs that were truly due to inadequate maintenance or recurring failures. The consultant report was expected to be completed later in 2021.

The FFT inquired regarding the availability of spare parts, and Mr. O'Neil responded that there continued to be adequate spare parts available from the original manufacturers (several of which have been bought by other major suppliers), as well as from surplus at other nuclear plants that were upgrading their RM Systems.

Conclusions: DCPD's Radiation Monitoring System was in acceptable health overall, and DCPD was working to address reliability issues. The health of the system and the availability of spare parts appeared to be sufficient to support plant operations through the termination of power operations in 2025.

Recommendations: None.

3.2 Meet with DCPD Officer

The DCISC Member met remotely with Paula Gerfen, DCPD Site Vice President,

to discuss items from this fact-finding meeting and other items of mutual interest. The DCISC last met with a DCPD Officer in January 2021 (Reference 6.2), when it concluded the following:

The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

Conclusions: The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

Recommendations: None

3.3 Auxiliary Building Ventilation System

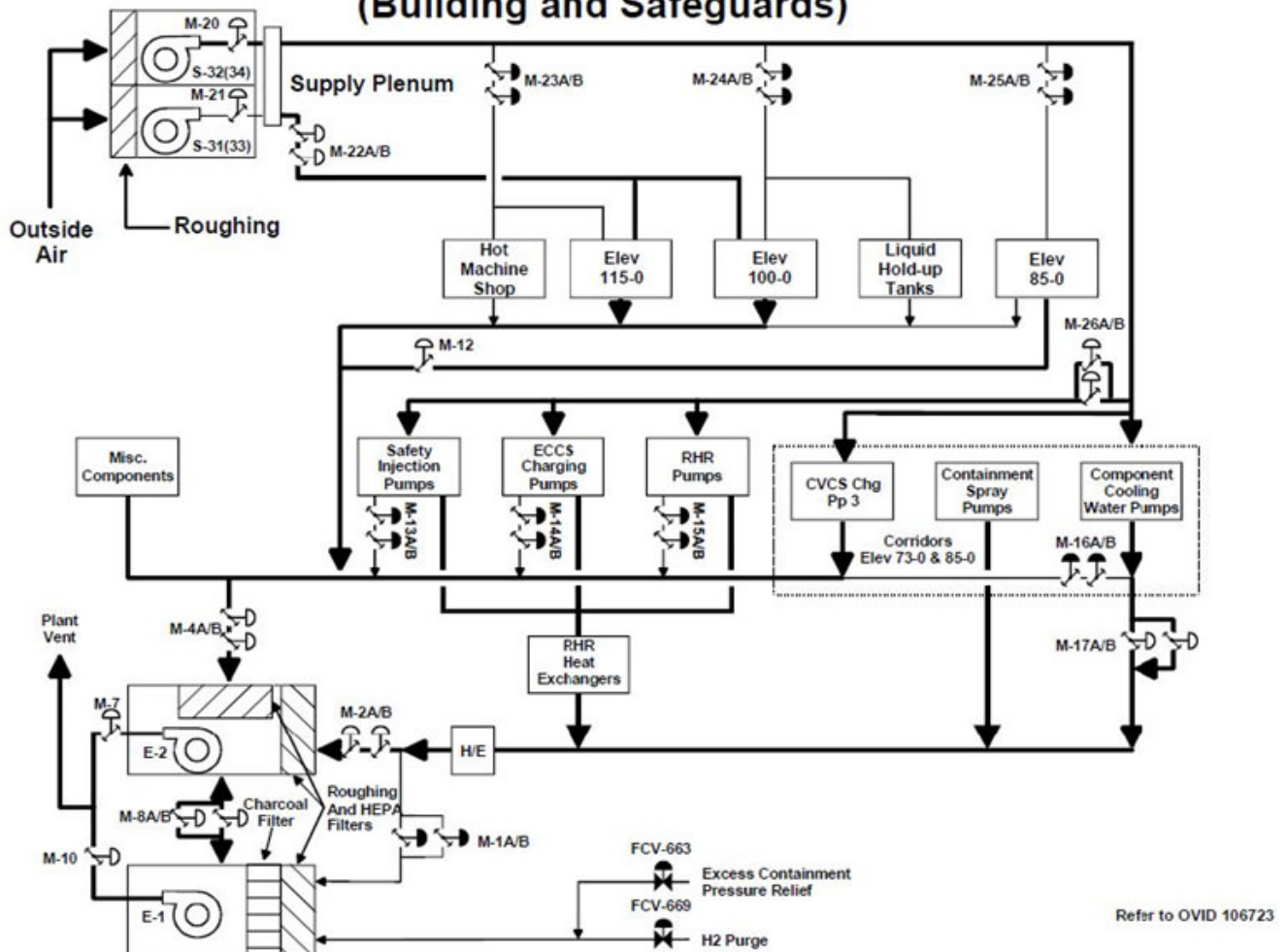
The DCISC FFT met remotely with John Harmon, Primary Systems Supervisor, for an update on the health of the Auxiliary Building Ventilation System (ABVS).

The DCISC last reviewed the health of the ABVS during its May 2020 Fact-finding Meeting (Reference 6.3), when it concluded the following:

DCPD's Auxiliary Building Ventilation System is in fair health and performs as expected. Corrective Actions have been completed for numerous Maintenance Rule Functional Failures of ABVS dampers over the last two years, and their effectiveness is being monitored. An issue with a charcoal filter failing a surveillance test for contaminant penetration is being properly managed, and corrective actions have been completed for an issue with seismic displacement of duct work between the Auxiliary and Turbine Buildings. The DCISC should review the health of the ABVS again in mid-2021.

The ABVS consists of fans, dampers, ducting, and filters whose function is to supply, heat and/or cool, filter, and discharge air for the Auxiliary Building. It is one of several ventilation systems at DCPD which serve various plant areas. The ABVS provides cooling and/or heating for both personnel and equipment, including several components of the Engineered Safety Feature system. The ABVS consists of two supply fan units with roughing filters and two discharge fan/filter units with roughing, High Efficiency Particulate Air (HEPA), and charcoal filters, along with extensive ducting throughout the building. Instrumentation and controls include flow instruments (elements, indicators, and switches), pressure instruments (indicators and switches), temperature instruments (controllers and switches), position switches, solenoid valves, vibration transmitters, dampers with actuators, and pressure regulating valves. Because there is potential for radioactive particulates and gases to enter the ABVS, the system is equipped with radiation monitors to preclude inadvertent releases via the Plant Vent. A simplified system diagram is shown below:

Auxiliary Building Ventilation (Building and Safeguards)



Auxiliary Building Ventilation System Diagram

The ABVS was classified as a Tier 2 system and as such, formal system health reporting was not required. However, Tier 2 systems were still assigned Strategic/System Engineers to monitor the system for adverse trends or degrading conditions and initiate appropriate action plans as required.

During the DCISC's last review, there were several issues with the ABVS that were being addressed. The ABVS for both units were in (a)(1) status under the Maintenance Rule (MR) Program, with Unit 1 having incurred three Maintenance Rule Functional Failures (MRFFs) and Unit 2 having incurred seven MPFFs within the last two years (see Section 3.6 for additional information about the MR Program). The majority of these failures were failures of various dampers to function properly during surveillance testing during 2018. The action plan concluded that the primary cause of the damper failures was inadequate preventative maintenance, and the frequency of performing preventative maintenance on the dampers was changed from twelve to six months along with other actions that were initiated to improve the overall health of ABVS dampers. The systems would be returned to MR (a)(2) status if they successfully passed

three successive periodic surveillance tests following repairs without any issues.

Mr. Harmon reported that while the number of damper failures had been significantly reduced, the ABVS remained in (a)(1) status under the MR Program. This was due primarily to an issue with indication failures for a damper that occurred in late 2020. Operators noted that the position of a damper did not indicate correctly after closing, and maintenance technicians cleaned the indicator collars. The problem later recurred, and technicians replaced the collars. This pair of failures was classified as an MPFF and prevented the ABVS from being returned to MR (a)(2) status in late 2020 as was previously forecasted. The rate of MPFFs occurring for dampers in the ABVS would continue to be monitored under the MR Program until such time that the criteria for returning to MR (a)(2) status (described above) could be achieved.

Other than the damper issue discussed above, Mr. Harmon reported that the ABVS was generally in good health. Partly in response to a charcoal filter sample analysis failure that occurred in late 2019, the charcoal filters on both units were completely replaced within the last year. Given a typical life for the charcoal media, it was expected that the charcoal media would not need to be replaced again prior to the termination of power operations in 2025. Mr. Harmon also noted that he was planning to have his engineering staff prepare an overall evaluation of the health of plant ventilation systems for presentation to the Plant Health Committee late in 2021.

In response to the FFT's questions regarding staffing in the Engineering Department, Mr. Harmon also reported that his group had recently lost two engineers to a retirement and an intracompany transfer. He was able to successfully get approval and hire one replacement engineer. The replacement engineer was previously a contract design engineer at the station and had a significant amount of experience specific to DCP. Mr. Harmon believed that DCP in general remained able to attract high-quality new employees as needed despite the planned future termination of power operations.

Conclusions: DCP's Auxiliary Building Ventilation System was in acceptable health and performs as expected. Corrective Actions have been completed for numerous Maintenance Rule Functional Failures of system dampers over the last two years, and the effectiveness of the corrective actions is being monitored.

Recommendations: None

3.4 Meet with NRC Senior Resident Inspector

The DCISC FFT met remotely with Don Krause, NRC Senior Resident Inspector, for an update. The DCISC meets regularly with the Resident Inspectors and last met with them in March 2021 (Reference 6.4), when it concluded the following:

The meeting with the NRC Resident Inspector was beneficial,

and the DCISC should continue the meetings.

The participants discussed the following topics:

1. Refueling Outage 2R22 performance
2. Recent NRC inspection results and concerns
3. COVID-19 Pandemic response

Conclusions: The meeting with the NRC Senior Resident Inspector was beneficial, and the DCISC should continue the meetings.

Recommendations: None

3.5 Human Performance Update

The DCISC FFT met remotely with Corey Kendall, Performance Process Supervisor, and Erin Bowe, Performance Improvement Coordinator, for an update on DCP's current trends in Human Performance. The DCISC last reviewed this topic in March 2020 (Reference 6.5), when it concluded the following:

DCP has identified significant negative trends in Operations Department human performance since mid-2019. Corrective actions have been initiated, and the corrective actions appear appropriate. The DCISC should review the effectiveness of the corrective actions in within the next few months.

DCP continuously tracks human error events to detect trends and to serve as a basis for making changes for human performance improvement. Events are categorized as to their severity as follows (most severe to least severe):

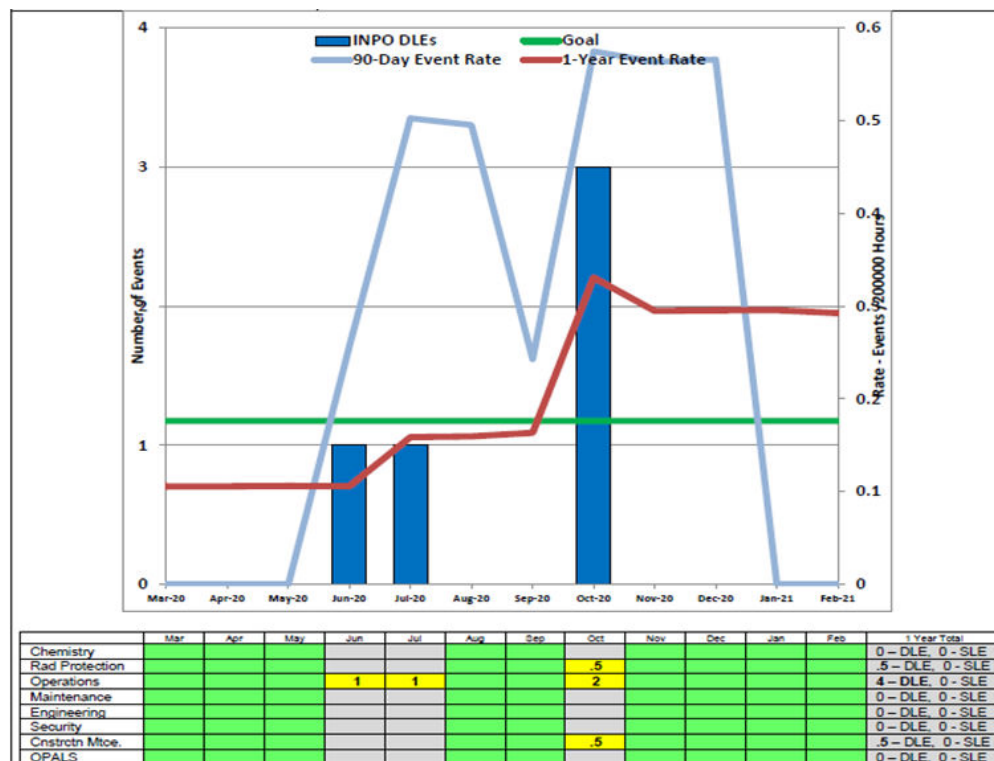
- Site Level Events (SLE)
- Department Level Events (DLE)
- Organizational Learning Opportunities (OLOs)

During its March 2020 review, the DCISC noted that DCP incurred a significant increase in the occurrence rate of SLEs. Specifically, prior to 2019, the last SLE at the station was recorded in August of 2014, but during the last six months of 2019, three SLEs occurred. Investigations were initiated to determine the possible causes and initiate corrective actions. The DCISC reviewed and evaluated as satisfactory the effectiveness of corrective actions during other intervening meetings. The purpose of this meeting was to review the overall trends in SLEs, DLEs, and OLOs in the last two years since the significant increase in SLEs in 2019.

Ms. Bowe reported that only one SLE had occurred since 2019, and that event happened just recently. On April 18, 2021, operators and maintenance personnel identified that two cooling water hoses inside the Unit 2 Main Generator had been incorrectly installed by a contractor. This error led to a higher-than-expected temperature in the generator and could have led to damage due to the restricted

flow of cooling water to one coil and one ring segment in the generator. The unit was taken offline in order to effect repairs. This was evaluated as an SLE due to the failure to achieve performance standards in maintaining the plant configuration during maintenance which resulted in a power reduction greater than 10%. This was the only SLE that occurred since December of 2019. This event is also discussed in Section 3.8 below and will be further evaluated by the DCISC as a part of its reviews of Unit 2 Main Generator issues.

Ms. Bowe provided and reviewed the DLE performance indicator graph (the rate of DLE occurrence per 200,000 person-hours worked). The graph (shown below) through February 2021 captured five DLEs occurring within the year ending in February which resulted in the 12-month rolling average (red line) being above the goal set by DCPD (green line) as follows:



Performance Indicator Graph for Department Level Events Through February 2021

The primary driver for the high 12-month rolling indicator were three DLEs that occurred during the Unit 1 Refueling Outage 1R22 in October of 2021. Two of the October DLEs involved clearance and work management issues, and the third DLE involved a violation of confined space entry procedures. Corrective actions were initiated, primarily within the Operations Department, and close monitoring of issues prior to and during Refueling Outage 2R22 in the spring of 2021 found that the corrective actions were generally effective. Ms. Bowe reported that one DLE had occurred since the Refueling Outage 1R22 which was a recordable personnel injury in March 2021. While working on a failed roll-up door in the Main Warehouse, a chain drive shifted and pinched a technician's finger which required stitches by the onsite medical staff.

Regarding OLOs, Ms. Bowe explained that DCPD did not typically track the number of OLOs as a performance indicator. Instead, OLOs are collected and monitored primarily by the Performance Improvement Coordinators (PICOs) for each major department at the station. The PICOs facilitated continuous performance monitoring meetings within each department, typically held monthly, during which the OLOs were reviewed to identify any possible trends and initiate corrective actions through the station's Corrective Action Program (CAP). Additionally, the PICOs from all departments reviewed the OLOs as needed to identify any station-wide trends requiring broader corrective actions. The results of these efforts were summarized monthly in Performance Improvement Dashboards for each of the five major departments - Operations, Maintenance, Engineering, Learning Services, and Security and Emergency Services. The DCISC regularly receives and reviews the monthly Performance Improvement Dashboards. Lastly, the results of all of the Performance Improvement programs are rolled together for management review and assessment via a station-level Performance Review Meeting which was typically held quarterly. The FFT was familiar with and regularly reviewed the Performance Improvement Dashboards and found them effective in tracking lower-level human performance events and trends.

The DCISC FFT was also provided with a Performance Improvement Dashboard prepared using data and events that occurred during the recently completed Refueling Outage 2R22. The roll-up showed that there were no SLEs, 1 DLE, and 21 OLOs during the outage. (One SLE occurred following the refueling outage as noted above.) Based primarily on the OLOs, six human performance-related trends were identified and entered into the CAP as follows:

- Dropped Object Events
- Confined Space Equipment Deficiencies
- Maintenance Services Events
- Station Safety Events
- Engineering Challenges
- Contractor Injuries

Additionally, the DCISC FFT received via its monthly documents a copy of a Quality Verification assessment on a related topic, "Station Response to 2R22 Human Performance Trend." The assessment provided an additional insight that Refueling Outage 2R22 trends were being addressed primarily at the department level only and recommended that the issues should be shared more widely across the station through the use of site-wide communications.

Conclusions: The DCISC found that human performance events at DCPD were being effectively captured and trended with appropriate corrective actions being initiated when needed. The station has improved its performance in reducing Station Level Events but recorded an undesirably high number of Department Level Events during Refueling Outage 1R22. The number of Department Level Events was reduced during Refueling

Outage 2R22. The DCISC should review this topic again in early 2021.

Recommendations: None

3.6 Maintenance Rule Program

The DCISC FFT met remotely with Laura Jagels, Strategic Engineer and Maintenance Rule (MR) Program Coordinator, for an update on the status of the MR Program at DCP. This was the DCISC's first review of this program. DCP's MR Program is governed by procedure MA1.ID17, "Maintenance Rule Monitoring Program," Revision 33. This procedure describes how the plant program complies with 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," (referred to as the NRC's "Maintenance Rule") using the guidance provided in industry document NUMARC 93-01, "Industry Guidelines for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." The major areas of implementing the program are aligned with NRC Regulatory Guide 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," which endorses NUMARC 93-01 and provides additional provisions and clarifications for complying with the 10 CFR 50.65.

DCP's MR Program follows the industry guidance closely and defines major parts of the rule as follows:

- (a)(1) - Defines when a Structure, System or Component (SSC) requires the establishment of additional goals and monitoring to assess that preventative maintenance performance is adequate.
- (a)(2) - Defines when an SSC is performance or condition is being effectively controlled through the performance of appropriate preventative maintenance.
- (a)(3) - Requires that performance and condition monitoring activities and associated goals and preventive maintenance activities shall be evaluated at least every refueling cycle.
- (a)(4) - Establishes the requirements for plants to assess and manage the potential increase in risk resulting from online maintenance activities. (Not covered in this meeting; risk-based scheduling of online maintenance is regularly reviewed by the DCISC as a separate topic.)

Ms. Jagels summarized the chief elements of the MR Program to the FFT as follows:

1. SSCs are evaluated according to risk significance determination for incorporation into the program using the guidance of NUMARC 93-01.
2. Risk-informed performance criteria are established to discern whether or not preventative maintenance activities are being effectively implemented for the SSC. Performance criteria typically consider both SSC reliability and availability. There are additional performance criteria that are also

established at the plant level.

3. According to part (a)(3), SSCs are routinely monitored against the established performance criteria, primarily by System/Strategic Engineers working within the CAP. If the SSC meets all performance criteria, it maintains a normal or "(a)(2) status" under the rule/program. If a problem occurs that results in the performance criteria for an SSC not being met, the problem is reviewed to determine if a Maintenance Preventable Functional Failure (MPFF) has occurred. An MPFF is defined as, "a failure that could have been prevented by the performance of appropriate maintenance."
4. If an SSC exceeds its performance criteria for unavailability, the numbers or types of MPFFs, or a repeat MPFF, then the system is elevated for additional action under section (a)(1) of the rule/program, also referred to as being in "(a)(1) status."
5. SSCs placed in (a)(1) status are further reviewed for additional corrective actions to improve maintenance, and goals are established to monitor the effectiveness of the additional maintenance actions. Once the additional actions are complete and monitoring goals are met, the system may be returned to (a)(2) status.

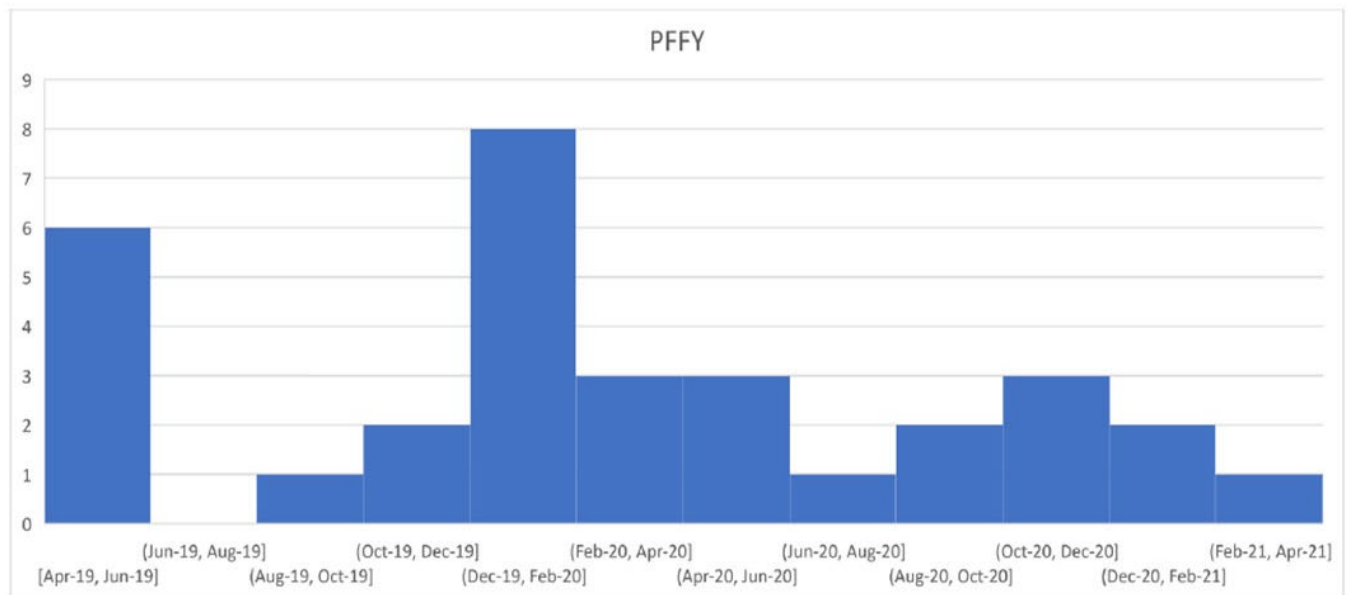
In addition to the role that System/Strategic Engineers play in implementing the MR Program, DCPD has a Maintenance Rule Expert Panel made up of representatives from operations, engineering, maintenance, and the probabilistic risk assessment group. The Expert Panel reviews any changes to the program, changes to performance criteria, transfers of SSCs between (a)(2) and (a)(1) status, and ensuring a periodic assessment of the program is performed at least every two years.

The FFT was provided copies of and reviewed the implementing procedure discussed above along with the most recent MR Program Self-Assessment covering the period from October 2018 to October 2020. The implementing procedure was well written and appeared to clearly define the program in a way that met the applicable regulations and industry guidance. The MR Program Self-Assessment concluded overall that DCPD had a strong and well documented MR Program which was effective in addressing system performance issues. The self-assessment reviewed numerous aspects of the program including 1) goals established for systems in (a)(1) status, 2) monitoring conducted for systems in (a)(2) status, 3) effectiveness of corrective actions, 4) optimizing the availability and reliability of SSCs, 5) review of program adequacy measured against guidelines, and 6) implementation for civil SSCs. The self-assessment identified three gaps, one enhancement, and four recommendations. The FFT found that the MR Program Self-Assessment was thorough and well documented.

The FFT inquired regarding current trends in the number of systems in (a)(1) status and the rate of MPFFs occurrences. The above self-assessment documented that overall, the number of systems in (a)(1) status declined from 31 in 2018 to 23 in 2020. Additionally, there were 22 systems in (a)(1) status for more than

one assessment period (two years) in 2018. The number of systems in (a)(1) status for more than one assessment period declined to 10 in 2020. Systems currently in (a)(1) status included Radiation Monitoring (see Section 3.1 above), Auxiliary Building Ventilation (see Section 3.3 above), Diesel Generator Fuel Oil Transfer, Unit 2 Spent Fuel Pool Cooling, and the Unit 2 Generator.

Regarding MPFFs, Ms. Jagels reported that data were trended quarterly and provided the FFT with a graph of the number of MPFFs by quarter. The graph showed that the number of MPFFs per quarter was trending downward slightly as follows:



Maintenance Preventable Functional Failures by Quarter

Conclusions: DCPP's Maintenance Rule Program was being effectively implemented in accordance with the applicable regulations and industry guidelines. The number of systems in (a)(1) status and the number of Maintenance Preventable Functional Failures was being monitored and showed downward (good) trends.

Recommendations: None

3.7 Boric Acid Corrosion Control Program

The DCISC FFT met remotely with Dave Gonzales, In-Service Inspection (ISI) Supervisor, and Chris Beard, ISI Engineer Program Owner, for an update on the DCPP Boric Acid Corrosion Control (BACC) Program. The DCISC last reviewed the BACC Program in April 2018 (Reference 6.6), when it concluded the following:

DCPP Boric Acid Corrosion Control Program is being implemented satisfactorily. There are some visible wet and dry leaks, which are being addressed to bring their health back to Green (Good) by August 2018.

DCPP, like other nuclear power plants, uses boric acid in the Reactor Coolant System for long-term, slow reactivity control along with the fast-acting control rods. Boron absorbs neutrons, and as the reactivity in the nuclear fuel drops due to burnup, the concentration of boron in the coolant is reduced. The use of boric acid makes the coolant more corrosive to carbon steel components, and this potential for corrosion must be properly managed to avoid equipment damage. The DCPP BACC Program is controlled by Procedure ER1.ID2, "Boric Acid Corrosion Control Program," Revision 7, a copy of which was provided to and reviewed by the FFT. The DCPP In-Service Inspection (ISI) Group has overall responsibility for the BACC Program.

The procedure provides instructions for documenting and evaluating boric acid leaks and any resulting material damage. Mr. Beard reported that accessible areas are typically inspected every six months, and inaccessible areas (primarily inside Reactor Containment) are typically inspected once every refueling cycle.

Additionally, Operations staff are trained specifically on how to identify and report boric acid leaks during their routine area inspections. Leaks are typically identified visually by the white coating of boric acid crystals on the leak area.

Any identified leaks are recorded via Notification into the Corrective Action System and included on the DCPP Boric Acid Leaker List. A Boric Acid Review Team, which is made up of representatives from many station functions, reviews items on the Boric Acid Leaker List and determines the required corrective actions and schedule for completion. Minor leaks may be corrected by tightening or re-torquing fasteners, adjusting valve packing, repairing gaskets, or repacking leaking valves.

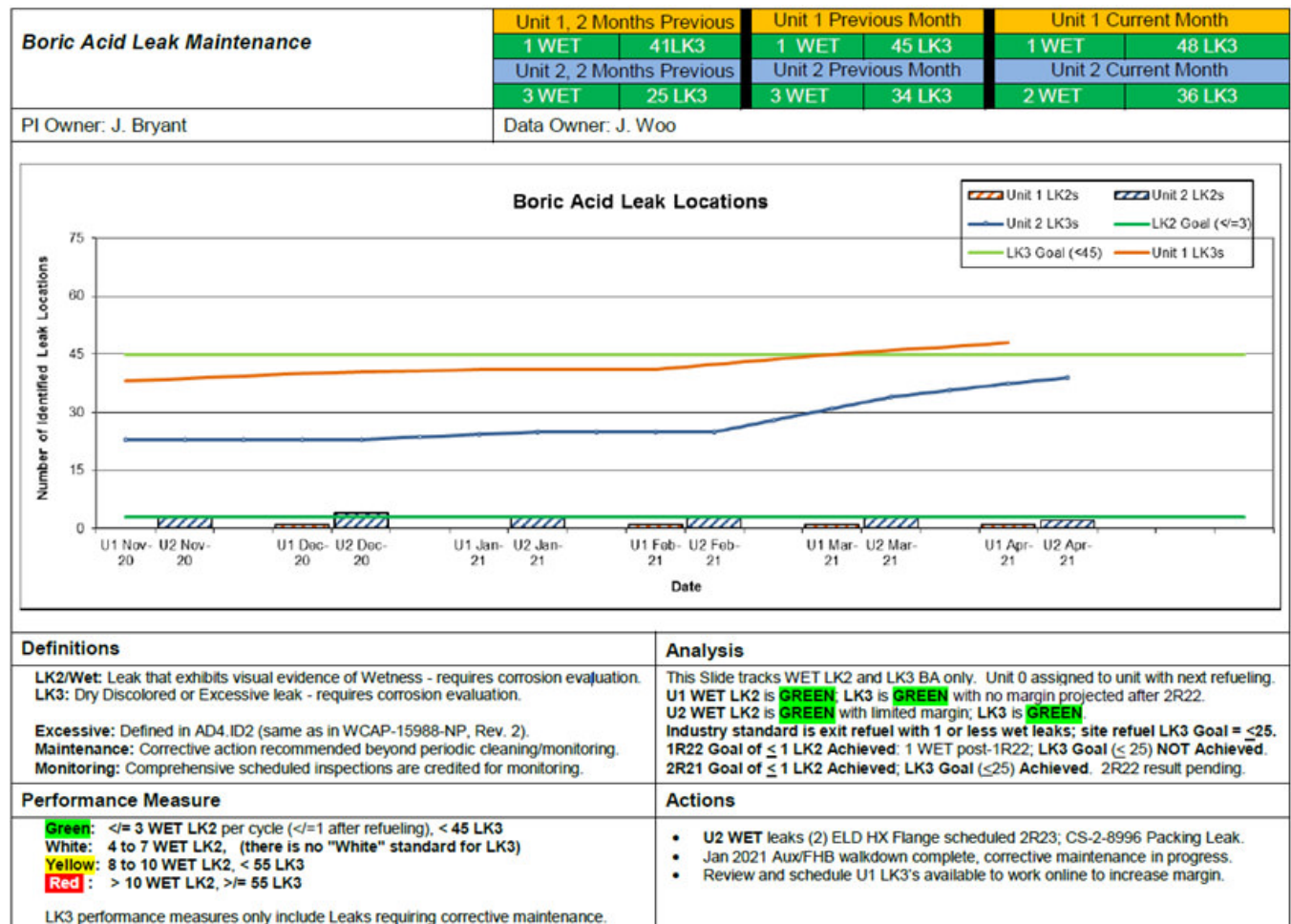
Long-term corrective actions include upgrading valve packing materials and loading configurations, gasket replacement, protective coatings and cladding to impede boric acid attack, material changes to replace low carbon steel with corrosion-resistant materials, or other design modifications. Additionally, qualified inspectors from the ISI Group inspect the leak area to determine if the boric acid has caused any damage to equipment. If damage is found, it is reviewed by qualified engineers to evaluate the extent of the damage and determine any impact on the functionality of the component. If a leak cannot be promptly repaired, a reinspection interval is established to ensure the continued functionality of the component.

BACC Program status is reflected in part by the significance and number of boric acid leaks being tracked on the Boric Acid Leaker List and the number of leaks is regularly included as a performance indicator in the monthly Plant Performance Improvement Report. Such leaks are classified as follows:

- LK2/Wet: Active leak; exhibits visual evidence of wetness.
- LK3: Inactive leak; dry, discolored, or excessive buildup (deposits on adjacent fasteners)

The most recent (April 2021) Boric Acid Leak performance indicators showed

"Green" (Healthy) statuses for both units for the last three months as shown below:



Boric Acid Leak Maintenance Performance Indicator

Conclusions: DCP's Boric Acid Corrosion Control Program was being effectively implemented in accordance with the applicable industry guidelines. The number of identified leaks was at an acceptable level, and leaks were being properly monitored and tracked for repairs.

Recommendations: None

3.8 Unit 2 Main Generator Issues and Root Cause Evaluation Update

The DCISC FFT met remotely with Mark Frauenheim, Design Engineering Manager, to review the cause and corrective actions for issues with the Unit 2 Main Generator that began in July 2020 and resulted in multiple Forced Outages. The DCISC reviewed this topic during several previous Fact-Finding Meetings and Public Meetings and last reviewed the topic in January 2021 (Reference 6.7), when it concluded the following:

DCPP was appropriately managing Unit 2's Forced Outage 2G22 which was driven by a hydrogen leak inside the Main

Generator that was similar to two leaks which previously occurred. The DCISC should continue to follow this issue and review the final Root Cause Evaluation during a future Fact-Finding Meeting as well as at a future Public Meeting.

In July 2020, Unit 2's Main Generator developed a leak of hydrogen into the Stator Closed Cooling Water System (SCCW). (This was the same Main Generator that had been extensively refurbished during Refueling Outage 2R21 in the fall of 2019.) Since that timeframe, Unit 2 has been shut down for Main Generator for troubleshooting and repairs on the following occasions:

Date Shutdown	Date Restarted	Outage Designation
July 16, 2020	August 2, 2020	2Y22
October 15, 2020	November 28, 2020	2Z22
December 2, 2020	January 12, 2021	2G22
February 3, 2021	April 17, 2021	2H22; extended into 2R22
April 19, 2021	April 25, 2021	2X23

At the time of the DCISC's last review during its Fact-Finding Meeting in January 2021, Unit 2 had been restarted following Forced Outage 2G22, and vibrations were being monitored during plant operations at higher power levels to determine the effectiveness of repairs. Mr. Frauenheim reported that in early February 2021, increasing vibrations and indications of a very small hydrogen leak were noted.

Unit power was decreased, and generator vibrations continued to increase above the acceptable limits. As a result, the unit was shut down on February 3 (Forced Outage 2H22). Based on the results of initial leak checks and inspections inside the generator, the decision was made to remove the rotor from the generator in order to facilitate additional generator internal inspections and modifications. Due to the forecasted duration of the generator inspections and repairs/modifications, the decision was made on February 17 to begin Refueling Outage 2R22 early (originally scheduled to begin on March 14, 2021).

Mr. Frauenheim reported that during Forced Outage 2H22/Refueling Outage 2R22, investigations included performing extensive vibration testing and nodal analyses for several internal components in the generator such as the end winding assemblies and the parallel ring collector assembly. Based on the results of these analyses, extensive modifications were made to internal generator components that displayed a tendency to have natural resonance frequencies near the natural frequencies of the generator (mostly around 120Hz). Completely new end manifolds for SCCW were fabricated and installed in the generator. Numerous additional structural supports and epoxy fill materials were also added for the end windings on the exciter end of the generator. At several stages during the work, vibration tests were again performed, and the results were analyzed to determine the effectiveness of the modifications. Additionally, major fasteners internal to the generator (core building bolts and through bolts) were checked for tightness and several were found to be loose. Finally, four new fiber-optic vibration sensor

assemblies were added inside the generator to assist with vibration monitoring during operation.

Following Forced Outage 2H22/Refueling Outage 2R22, Unit 2 was restarted on April 17, 2021. Shortly after restart and generator loading (at approximately 50% power), operators noted that one set of generator core thermocouples was reading slightly higher than adjacent thermocouples. This was reported to the generator vendor who reviewed the data and determined that it was likely that there was a problem with SCCW circuits inside the generator. A review of as-left photos taken during the previous outage identified that two SCCW hoses (of 96 total) inside the exciter end of the generator had been incorrectly swapped during installation. This reversal reduced SCCW flow to one section of the generator windings to an unacceptably low value. The unit was shut down, and the vendor was able to promptly restore the hoses to the correct configuration.

The hose installation error was considered a human performance error made by vendor personnel, and the vendor was performing a cause evaluation to determine how the hoses were swapped. Additionally, this human performance error was classified as a Station Level Event (see Section 3.5 Above). The unit was restarted on April 25, and it was ramping up in power without any additional issues at the time of the FFT's meeting. The generator vendor, PG&E, and a vibration consultant were continuing to monitor and review the generator's vibration data on a regular basis.

The FFT inquired regarding the status of the Root Cause Evaluation (RCE), and Mr. Frauenheim responded that the RCE Team was continuing its work to review the issues and causes for the events. The RCE would also include in the evaluation PG&E's own investigations and conclusions regarding the SCCW hose installation error discussed above. Currently, the RCE was expected to be completed in mid-2021. The DCISC should follow up in the future to review the RCE after it is final.

Conclusions: DCPD was appropriately managing Unit 2's recent Forced Outages which were driven by Main Generator high vibrations and hydrogen leaks. The DCISC should continue to follow this issue and review the final Root Cause Evaluation during a future Fact-Finding Meeting as well as at a future Public Meeting.

Recommendations: None

3.9 Post-Shutdown Technical Specifications License Amendment Request

The DCISC FFT met remotely with Philippe Soenen, Decommissioning Licensing and Environmental Manager, for an update on a License Amendment Request (LAR) submitted by DCPD to the NRC to eliminate multiple Technical Specification requirements following the termination of power operations. This was the DCISC's first review of this topic.

The FFT's interest in this matter was prompted by the DCISC's receipt of copies of

PG&E's submission of an LAR submitted by PG&E to the NRC titled, "Proposed Technical Specifications and Revised License Conditions for the Permanent Defueled Condition," dated December 3, 2020. (The LAR was docketed in the NRC ADAMS document management system under document number ML20338A546.) Mr. Soenen explained that the LAR was submitted relatively early in the decommissioning process in order to allow PG&E to take advantage of the time for subsequent preparations and timely submittal of its Defueled Safety Analysis Report (DSAR). Pursuing gaining approval for the Technical Specification (TS) and Facility Operating License condition changes first would provide for a clear definition of the accident analyses that would then be subsequently addressed in the DSAR. The remaining TS would be incorporated as the Permanently Defueled Technical Specifications. The TS changes would not be effective until the following three conditions are met:

1. PG&E has certified to the NRC that final offload of nuclear fuel has been completed from both reactors.
2. Both units have been shut down for greater than 45 days.
3. Certification programs for fuel handler training and qualification have been implemented.

The 45 days contained in Condition 2 above was based upon analyses that demonstrated (using the recently approved revised source term calculations) that after that amount of time, there are no longer any safety-related Systems, Structures, or Components that are required to prevent or mitigate the consequences of accidents (including a fuel handling accident) that could result in potential offsite exposures exceeding regulatory limits. No credit was taken for onsite ventilation and filtration systems in those analyses.

Mr. Soenen provided a broad overview of the information contained in the LAR. Key points about the LAR included:

- The LAR would reduce the number of design basis accidents applicable to the facility to a single accident scenario, a Fuel Handling Accident.
- The LAR would remove all TS from applicability to the plant except for those TS pertaining to Spent Fuel Pool (SFP) level, boron concentration, and Spent Fuel arrangement.
- Continuous staffing requirements would be reduced to one Shift Manager (certified in fuel handling) and one operator (non-certified) per unit, replacing the current requirements for licensed Reactor Operators and Senior Reactor Operators.
- The number of NRC General Design Criteria applicable to the facility would be reduced.
- License Conditions regarding Quality Assurance and Fire Protection Programs would be reduced.

Mr. Soenen noted that PG&E was not planning to request any changes in license

requirements during the interim period where one reactor was defueled and the other was still operating. Any changes in license requirements would only be effective after both units were defueled.

The FFT inquired regarding the applicable requirements for maintenance and operation of SFP Cooling systems under the proposed LAR. Mr. Soenen responded that SFP Cooling systems were not currently covered by TS because the current accident analyses allowed for boiling in the SFP. However, the requirements for maintaining an adequate inventory (level) of borated water would be maintained in the TS. Also, the DSAR would cover plans for maintaining SFP makeup systems, cooling systems, and backup electrical generating capability. Post-Fukushima commitments for instrumentation and the availability of portable (FLEX) equipment would also be covered in the DSAR.

Mr. Soenen also noted that in addition to the submittal of this TS Change LAR and the future submittal of the DSAR, the other major future licensing action for decommissioning would be the submission of proposed changes to the facility Emergency Plan. It was currently planned that future Emergency Plan changes would take place in three stages: 1) changes covering the first 16 months following core offloads, 2) changes covering the permanently defueled period (with fuel remaining in the SFP), and 3) changes covering the period after all Spent Fuel has been removed from the SFP to the Independent Spent Fuel Storage Installation.

Conclusions: DCP's approach in submitting a License Amendment Request covering Technical Specifications that would remain applicable following removal of fuel from the units appeared appropriate. The DCISC should continue to follow DCP's activities related to modifying regulatory requirements following the termination of power operations.

Recommendations: None

3.10 Low Temperature Overpressurization Protection System Event

The DCISC FFT met remotely with Stan Williams, Operations Manager, and Ryan West, Strategic Engineering Manager, to review the final Apparent Cause Evaluation for an event that occurred during Refueling Outage 1R22 when the Low Temperature Overpressurization Protection (LTOP) System was unexpectedly actuated. The DCISC last reviewed this topic in January 2021 (Reference 6.8), when it concluded the following:

DCP's actions taken in response to an unexpected actuation of the Low Temperature Overpressure Protection System appeared appropriate. The DCISC should review the results of the Cause Evaluation when it is fully complete.

The LTOP system protects the Reactor Coolant System (RCS) from overpressure transients that could occur at low operating temperatures during startup and

shutdown operations. At low temperatures, the Reactor Vessel is more vulnerable to brittle fracture and the LTOP system, in the event of an RCS pressure transient, maintains RCS pressure below a predetermined pressure-temperature limit curve.

The LTOP system consists of two mutually redundant and independent systems, and each system receives RCS pressure and temperature signals as inputs.

Whenever the system is enabled and RCS temperature is below the low temperature setpoint, a high-pressure signal will automatically open a Pressurizer Power Operated Relief Valve (PORV) until the pressure drops below the reset value. During normal operations at higher temperatures, the system is off because the Reactor Vessel material is less vulnerable to brittle fracture.

As a part of plant startup following Refueling Outage 1R22, Operators completed RCS Vacuum Refill which placed the RCS in water solid conditions and brought the RCS pressure up to 350 psig. These conditions were maintained while Operators started bringing Reactor Coolant Pumps (RCPs) online. RCPs 1-2 and 1-4 were started successfully. However, RCP 1-1 tripped on overcurrent, and RCP 1-3 was secured due to elevated vibration and a lack of indication on seal return flow.

While these issues related to RCP 1-1 and 1-3 were being investigated, Operators commenced drawing a bubble in the Pressurizer. It was later determined that a 'slow roll' of RCP 1-3 would be necessary for restart, and that that evolution would require securing all of the running RCPs. Operators then secured drawing a bubble in the Pressurizer and placed the RCS back in water solid conditions with no RCPs running. Approximately seven hours later, Operators restarted RCP 1-3 after verifying proper RCS temperature and pressure conditions. Operators then noted a sudden rise in RCS pressure and maximized RCS Letdown flow in an attempt to reduce the rise in RCS pressure. The increase in RCS Letdown flow was insufficient to mitigate the pressure rise, and the LTOP System actuated about one minute after RCP 1-3 was started and opened both PORVs for approximately two seconds. Operators then successfully stabilized RCS pressure, and plant startup activities were later continued.

At the time of the DCISC's previous review, the Apparent Cause Evaluation for the event was incomplete as DCPD had not yet identified a definitive cause for the unexpected RCS pressure increase. Typically, such an RCS pressure increase while solid would be caused by either an injection of mass into the RCS or by the addition of heat to the RCS. Neither occurrence could definitely be confirmed from the available data, although staff currently believed that flow from starting the RCS likely caused heat to be introduced from an unknown source in the system.

DCPD was working to obtain assistance from the Reactor/RCS vendor in order to understand how and why heat may have been introduced into the RCS during the RCP start.

Mr. West informed the FFT that the information requested from the Reactor/RCS vendor was received in early February, and the Apparent Cause Evaluation had been completed shortly thereafter. The FFT was provided with a copy of the Apparent Cause Evaluation (SAPN 51095730) which included the vendor report.

Mr. West summarized that typically when RCPs are started in solid-water

conditions, the RCS and associated Steam Generators (SGs) are at uniform temperatures. However, the vendor analysis showed that the interrupted plant heatup sequence described above resulted in a situation where the masses of metal and water in the SGs were at a higher temperature than the RCS loops with the RCS in a solid-water condition. When RCP 1-3 was started for the second time, there was a 10-12 °F difference in temperature between the SGs (higher temperature) and the rest of the RCS (lower temperature). The vendor analysis confirmed that under solid-water conditions, this 10-12 °F difference in temperature was sufficient to heat up the RCS overall when the pump started, which resulted in volumetric expansion and LTOP actuation.

The two major corrective actions for the event involved initiating changes to DCPD procedure, OP A-6:1, "Reactor Coolant Pumps - Place in Service." The first change was to reduce the allowable differential temperature between the SGs and RCS from 50 °F to zero. (RCS temperature must be equal or above SG temperature.) The second change was to add a requirement that if all RCPs are stopped during an RCS heatup, a bubble must be drawn in the pressurizer before restarting an RCP. These corrective actions appeared appropriate. The FFT also inquired regarding the risk-significance of the event, and Mr. West responded that the event was very low risk because the LTOP system performed as designed and actual RCS pressure was maintained well below brittle fracture limits.

Conclusions: DCPD's Apparent Cause Evaluation and corrective actions performed in response to an unexpected actuation of the Low Temperature Overpressure Protection System appeared appropriate.

Recommendations: None

3.11 Spent Fuel Cask Procurement Update

The DCISC FFT met remotely with Philippe Soenen, Decommissioning Licensing and Environmental Manager, for an update on DCPD's procurement of Spent Fuel Storage Casks. The DCISC previously reviewed this topic at its October 2020 Public Meeting as well as during a Fact-Finding Meeting in March 2020 (Reference 6.9), when it concluded the following:

PG&E continues to progress on completing a study of Spent Fuel management risks and plans to issue the study in March 2020. The DCISC should follow up on this topic with a review of the Spent Fuel risk study following its final completion.

In early 2020, the DCISC reviewed a study of Spent Fuel management risks commissioned by PG&E. PG&E incorporated the information contained in that study along with other requirements and issued a Request for Proposals (RFP) for procurement of the Spent Fuel Casks needed for storage of Spent Fuel following the termination of power operations. Mr. Soenen reported that in mid-2020, proposals were received in response to the RFP from multiple vendors, all of which

were qualified and responsive to the requirements of the RFP.

As of the time of the FFT's meeting, all of the technical and commercial reviews of the proposals were complete. He reported that two representatives from the California Energy Commission (CEC), Dr. Justin Cochran and Mr. Ken Ryder, observed portions of the reviews, and their participation was subject to terms of non-disclosure agreements. The CEC representatives were provided with access to all of the technical review materials, and PG&E later received a letter from the CEC in appreciation of their cooperation.

Mr. Soenen reported that the next step in the process was for senior leadership to approve moving forward on further commercial discussions with one or more vendors. Once those discussions were successfully completed, PG&E believed that the first quarter of 2022 was realistic for the execution of a final contract. He noted that the California Public Utilities Commission needed to first approve the Nuclear Decommissioning Cost Triennial Proceeding that was currently before it for review. A decision in that case has been deferred several times but was currently hoped to be received before September 2021. Lastly, he informed the FFT that PG&E was scheduled to publicly brief the Diablo Canyon Decommissioning Engagement Panel on the status of cask procurement at its upcoming meeting on May 26, 2021.

The FFT inquired as to the sufficiency of the schedule to complete cask procurement in time to support moving Spent Fuel from the Spent Fuel Pools (SFPs) to the Independent Spent Fuel Storage Facility (ISFSI) as soon as technically possible. Mr. Soenen stated that he believed that the selected vendor was likely to be successful in obtaining the necessary regulatory approvals and in manufacturing the new casks in time to support the start of fuel movement as soon as needed. Assuming that approvals and cask production occurred on schedule, the technology proposed by the vendors would allow removing all of the Spent Fuel from the SFPs to the ISFSI within four years of the termination of power operations (2028 for Unit 1 and 2029 for Unit 2). PG&E expected that some time could be gained by the vendors through performing some production tasks early on an 'at risk' basis while awaiting final regulatory approvals.

Mr. Soenen also reminded the FFT about the size of the cask procurement project with up to 80 Spent Fuel Casks being needed along with up to 10 casks for the storage of Class C radioactive waste. Previous plans to possibly store Class C waste casks on the perimeter of the ISFSI had been changed, and it appeared that Class C waste casks would be placed in a newly designated storage area near the old Steam Generator storage area. In response to the FFT's questions, Mr. Soenen stated that DCPD was still planning to submit its application for renewal of the existing ISFSI cask licenses by the end of 2021, and pre-application inspections of the existing casks (including corrosion measurements) were scheduled to be performed in June 2021.

Conclusions: DCPD's procurement of new Spent Fuel storage casks was

making steady progress towards execution of a contract in early 2022. Cask procurement proposals appear to be capable of supporting movement of all Spent Fuel from the Spent Fuel Pools to the Independent Spent Fuel Storage Installation within four years of the termination of power operations for each unit.

Recommendations: None

3.12 Observe Corrective Action Review Board Meeting

The DCISC FFT remotely observed the April 28, 2021, meeting of the DCPD Corrective Action Review Board (CARB). The DCISC last observed a CARB meeting in August 2020 (Reference 6.10), when it concluded the following:

The DCPD Corrective Action Review Board meeting on August 19, 2020, appeared satisfactory in that the meeting met the intended objectives. Discussion of the significant items was comprehensive.

The CARB is governed by DCPD Procedure OM4.ID15, "Corrective Action Review Board," and its purpose is to provide a significant venue for station personnel to demonstrate commitment to Corrective Action Program (CAP) excellence. The CARB fulfills a need for senior management oversight of the CAP, and this oversight function includes:

- Reviewing Root Cause Evaluations (RCEs) for accuracy, completeness and alignment of the problem, causes and corrective actions
- Approving extensions to the due dates for Corrective Actions to prevent recurrence.
- Approving Effectiveness Evaluations for CAP documents
- Periodically reviewing CAP metrics to ensure the CAP is meeting management expectations
- Reviewing and dispositioning requests for Cause Evaluation downgrades
- Reviewing notifications screened by the Notification Review Team

The membership of the CARB consists of regular and alternate members designated in writing by the Station Director. CARB meetings are held as necessary, typically on a weekly basis. This meeting was chaired by Cary Harbor, the Station Director.

Copies of the agenda for the meeting and all documents to be discussed were provided to and reviewed by the FFT. The agenda for this meeting included the following:

- Safety Assignments
- Facilitative Leadership Minute
- Review Desired Outcomes

- Verify Quorum
- Assign a Meeting Skeptic
- Review of Previous Meeting Action Items and Evaluation
- Review and Approve Previous Meeting Minutes
- Cause Evaluation Downgrade - SAPN 5116798
- Industry Event Report Effectiveness Review - SAPN 51103890
- Review Condition Reports and CAP Trends
- Leadership Insight Task Review
- Review Actions Items and Meeting Evaluation

The CARB reviewed and discussed the following significant items during this meeting:

- Cause Evaluation Downgrade 51103890, "DA-T11090R SCCW Temp Reads 10 °F High." The CARB reviewed the administrative closing of this Cause Evaluation and adding the investigation and corrective actions into the larger RCE for Unit 2 Main Generator Issues (Section 3.8 above). The CARB approved this item.
- Industry Event Report Effectiveness Review 51103890, for SAPN 50708615, "IER L2-15-23: Ineffective Dose Monitoring." The CARB reviewed the effectiveness of actions taken in response to an industry event notification regarding ineffective dose monitoring for radiation workers. The CARB approved this item.

Conclusions: The DCPD Corrective Action Review Board meeting on April 28, 2021, appeared satisfactory in that the meeting met the intended objectives. Discussion of the significant items was comprehensive.

Recommendations: None

4.0 CONCLUSIONS

4.0 CONCLUSIONS

4.1 DCPD's Radiation Monitoring System was in acceptable health overall, and DCPD was working to address reliability issues. The health of the system and the availability of spare parts appeared to be sufficient to support plant operations through the termination of power operations in 2025.

4.2 The regular meetings between DCISC Members and DCPD Officers and Directors continue to be beneficial for both organizations.

4.3 DCPD's Auxiliary Building Ventilation System was in acceptable health and performs as expected. Corrective Actions have been completed for numerous Maintenance Rule Functional Failures of system

dampers over the last two years, and the effectiveness of the corrective actions is being monitored.

4.4 The meeting with the NRC Senior Resident Inspector was beneficial, and the DCISC should continue the meetings.

4.5 The DCISC found that human performance events at DCPD were being effectively captured and trended with appropriate corrective actions being initiated when needed. The station has improved its performance in reducing Station Level Events but recorded an undesirably high number of Department Level Events during Refueling Outage 1R22. The number of Department Level Events was reduced during Refueling Outage 2R22. The DCISC should review this topic again relatively soon.

4.6 DCPD's Maintenance Rule Program was being effectively implemented in accordance with the applicable regulations and industry guidelines. The number of systems in (a)(1) status and the number of Maintenance Preventable Functional Failures was being monitored and showed downward (good) trends.

4.7 DCPD's Boric Acid Corrosion Control Program was being effectively implemented in accordance with the applicable industry guidelines. The number of identified leaks was at an acceptable level, and leaks were being properly monitored and tracked for repairs.

4.8 DCPD was appropriately managing Unit 2's recent Forced Outages which were driven by Main Generator high vibrations and hydrogen leaks. The DCISC should continue to follow this issue and review the final Root Cause Evaluation during a future Fact-Finding Meeting as well as at a future Public Meeting.

4.9 DCPD's approach in submitting a License Amendment Request covering Technical Specifications that would remain applicable following removal of fuel from the units appeared appropriate. The DCISC should continue to follow DCPD's activities related to modifying regulatory requirements following the termination of power operations.

4.10 DCPD's Apparent Cause Evaluation and corrective actions performed in response to an unexpected actuation of the Low Temperature Overpressure Protection System appeared appropriate.

4.11 DCPD's procurement of new Spent Fuel storage casks was making steady progress towards execution of a contract in early 2022. Cask procurement proposals appear to be capable of supporting movement of all Spent Fuel from the Spent Fuel Pools to the Independent Spent Fuel Storage Installation within four years of the termination of power operations for each unit.

4.12 The DCPD Corrective Action Review Board meeting on April 28,

2021, appeared satisfactory in that the meeting met the intended objectives. Discussion of the significant items was comprehensive.

5.0 RECOMMENDATIONS

None

6.0 REFERENCES

6.1 "Diablo Canyon Independent Safety Committee Twenty-Eighth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2017 - June 30, 2018," Approved October 24, 2018, Volume II, Exhibit D.7 Section 3.3, "Radiation Monitoring System."

6.2 "Diablo Canyon Independent Safety Committee Thirty-First Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June 30, 2021," Approved October 20, 2021, Volume II, Exhibit D.6, Section 3.6, "Meet with DCPD Officer."

6.3 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.9, Section 3.9, "Auxiliary Building Ventilation Systems."

6.4 "Diablo Canyon Independent Safety Committee Thirty-First Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June 30, 2021," Approved October 20, 2021, Volume II, Exhibit D.7, Section 3.10, "Meet with NRC Resident Inspector."

6.5 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.7, Section 3.2, "Operations Department Human Performance."

6.6 "Diablo Canyon Independent Safety Committee Twenty-Eighth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2017 - June 30, 2018," Approved October 24, 2018, Volume II, Exhibit D.9 Section 3.6, "Boric Acid Corrosion Control."

6.7 "Diablo Canyon Independent Safety Committee Thirty-First Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June 30, 2021," Approved October 20, 2021, Volume II, Exhibit D.6, Section 3.13, "Unit 2 Main Generator Issues and Root Cause Evaluation Update."

6.8 Ibid., Exhibit D.5, Section 3.8, "Low Temperature Overpressurization Protection System Event."

6.9 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on

the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.7, Section 3.11, "Future Spent Fuel Management."

6.10 "Diablo Canyon Independent Safety Committee Thirty-First Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June 30, 2021," Approved October 20, 2021, Volume II, Exhibit D.2, Section 3.5, "Attend Corrective Action Review Board Meeting."

31st Annual Report, Volume II, Exhibit D.9, Diablo Canyon Independent Safety Committee Report on Fact Finding Meeting at DCPD on May 18-19, 2021 by Per F. Peterson, Member, and R. Ferman Wardell, Consultant

1.0 SUMMARY

The results of the DCISC Fact-finding meeting held on May 18-19, 2021, for the Diablo Canyon Power Plant (DCPP) in Avila Beach, CA are presented. Due to travel and attendance restrictions resulting from the COVID-19 virus, all meetings were conducted remotely via MS Teams. The subjects addressed and summarized in Section 3 are as follows:

1. Reactivity Management Update
2. Meet with the NRC Senior Resident Inspector
3. Wildfire Risk
4. Independent Spent Fuel Storage Installation (ISFSI) Update
5. DCPD After COVID Pandemic
6. Reactor Vessel Specimen Testing Program
7. Emergency Preparedness Virtual Capabilities
8. Meet with Paula Gerfen, DCPD Site Vice-President
9. Quality Verification (QV) Audits
10. Operator Concerns/Issues

2.0 INTRODUCTION

This Fact-Finding meeting with DCPD was made to evaluate specific safety matters for the DCISC. The objective of the evaluation was to determine if Pacific Gas and Electric's (PG&E's) performance is appropriate and whether any areas revealed observations, which are important enough to warrant further review, follow-up, or presentation at a public meeting. These safety matters include follow-up and/or continuing review efforts by the Committee, as well as those identified as a result of reviews of various safety-related documents.

Section 4-Conclusions highlights the conclusions of the Fact-Finding Team based on items reported in Section 3-Discussion. These highlights also include the team's suggested follow-up items for the DCISC, such as scheduling future Fact-Finding Meetings on the topic, presentations at future public meetings, and requests for

future updates or information from DCPD on specific areas of interest, etc.

Section 5-Recommendations presents specific recommendations to PG&E proposed by the Fact-Finding Team. These recommendations will be considered by the DCISC. After review and approval by the DCISC, the Fact-Finding Report, including its recommendations, will be provided to PG&E. The Fact-Finding Report will also appear in the DCISC Annual Report.

3.0 DISCUSSION

3.1 Reactivity Management Update

The DCISC Fact-Finding Team (FFT) had a remote (virtual) meeting with Sam Williams, Operations Services Manager, for an update to DCPD's Reactivity Management Program (RMP). The DCISC last reviewed the RMP in November 2019 (Reference 6.1) with the following conclusion:

DCPD's Reactivity Management performance is rated as Green (Healthy) for both units and the program appears to be managed well.

Reactivity is defined in DCPD's controlling Procedure OP1.ID3, "Reactivity Management Program," as "the fractional change in neutron population from one neutron generation cycle to the next, or the measure of departure from criticality." In general, it is a measure of the potential for a nuclear core to increase or decrease in its chain reaction rate or power level. It is important to control reactivity in order to maintain safe control of the nuclear reactor itself.

Procedure OP1.ID3 defines the roles, responsibilities and actions associated with the control of reactivity to ensure safe and reliable operation. It provides the guidance to ensure that all plant evolutions affecting reactivity will be controlled, safe, and conservative. The goal of the RMP is to prevent reactivity-related events. The procedure states:

"The Reactivity Management Program ensures conservative reactivity management by promoting a reactivity conscious culture when operating and maintaining the plant, and by providing reactivity management expectations and standards. The standards are derived from industry standards and reactivity management experience. The proper control of core reactivity and spent fuel has been a long-standing fundamental principle in maintaining nuclear plant safety and reliability."

The Operations Manager is responsible for plant reactivity management, including the direct control of reactivity, and for ensuring conservative actions with regard to nuclear fuel integrity during operations, fuel handling, and storage. He/she has the single-point accountability for operational decision-making associated with reactivity management and is responsible for the overall management and

implementation of the RMP in consultation with the Reactivity Management Leadership Team (RMLT). The RMLT is a team of individuals representing Operations Services, Maintenance Services, Engineering Services, Learning Services, and the Corrective Action Program. The team reviews reactivity events and adverse trends to identify needed corrective actions and recommend additional training or qualification for groups that can affect reactivity.

RMLT activities include the following:

- a. Develop and implement reactivity management performance indicators.
- b. Review the following areas for reactivity events, adverse trends, and needed corrective actions or opportunities for RMP improvements:
 - Notifications and event trend records
 - RMP performance indicators
 - Plant and industry operating experience, self-assessment recommendations and benchmarking lessons learned
 - Maintenance schedules and corrective maintenance backlogs
 - Licensed operator initial and continuing training
- c. Classify and categorize reactivity events.
- d. Recommend additional training or qualification for groups that can affect reactivity to improve performance.

Reactor Operators (ROs) and Senior Reactor Operators (SROs) are responsible for fulfilling the requirements of the RMP, including: (1) ensuring that expected responses to a reactivity change are identified and fully understood prior to initiating any action that affects reactivity, (2) closely monitoring appropriate indications for reactivity changes to verify the expected magnitude, direction, and effects, (3) remaining alert for situations that could affect reactivity, and initiating appropriate conservative corrective actions, (4) reducing reactor power or tripping the reactor without the need for concurrence of the unit Shift Foreman or reactivity SRO when the RO deems that the action is immediately necessary to protect the reactor core, and (5) maintaining the reactor core parameters within established limits.

Reactor Engineering provides technical support for the RMP and also provides a Reactor Engineering representative to the RMLT. Reactor Engineering is responsible for providing reactivity management recommendations to Operations with emphasis on reactor safety, based on the most accurate core information available.

Reactivity manipulations for the operation of Control Rods, Reactor makeup control, and Main Turbine control are described and controlled by operating procedures. Other system operations, surveillance test procedures or maintenance activities that may affect reactivity are required to be preceded by an operating crew reactivity brief to ensure that the reactivity impact is understood

and managed. Examples include starting a Reactor Coolant Pump, manual control of Steam Dump Valves, paralleling or stopping a Turbine Generator, Main and Auxiliary Feedwater Pump operational changes at power, and core offload and reload. Reactor Engineering is also intimately involved with controlling reactivity whenever one of the reactors enters an outage, during each outage, and as the reactor emerges from an outage and ascends to power.

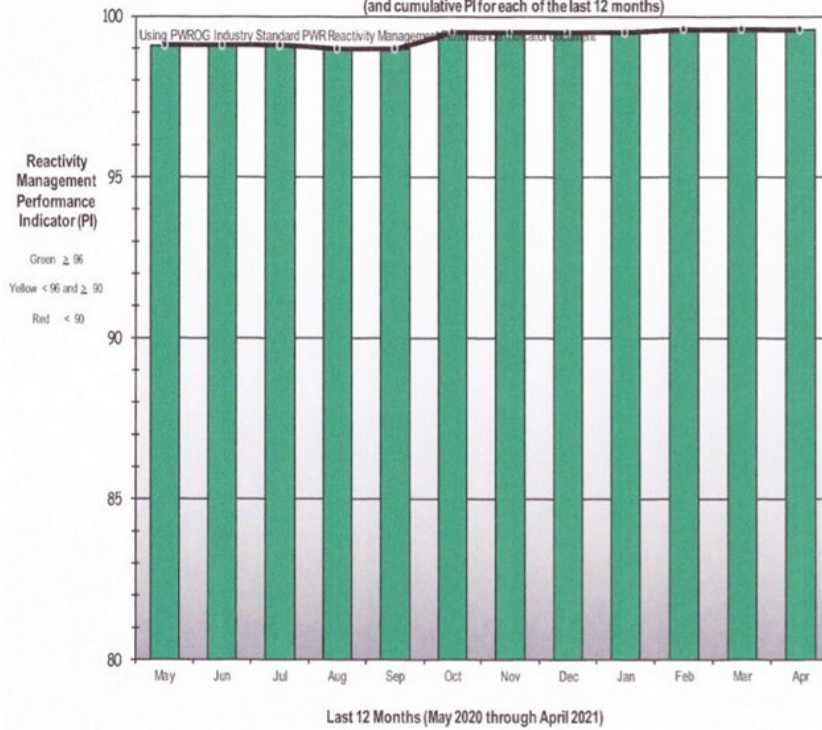
The Shift Foreman conducts reactivity briefs at the beginning of each operating shift, prior to planned plant evolutions, and following plant transients. Reactivity briefs include a review by the operator at the controls of expected control rod movement, Reactor Coolant System boron level dilutions and increases, and Main Turbine load changes anticipated to maintain or establish desired plant conditions. The reactivity brief at the beginning of each shift includes all control room licensed operators for the unit and a review of the Reactor Engineering Reactivity Briefing Sheet. Reactivity manipulations require oversight by an active SRO, normally the unit Shift Foreman. The RO at the controls must obtain SRO approval and oversight for each reactivity manipulation during normal operation, except during fast-developing emergencies. Activities that might distract the operator at the controls are suspended during reactivity manipulations.

The DCISC FFT received and reviewed the December 16, 2020, RMLT Quarterly Meeting Minutes and the May 19, 2021, meeting agenda. The meeting appeared to have followed the applicable procedure and focused closely on reactivity-related events, none of which was significant. The meeting appeared to meet all objectives.

DCPP's performance measures for Reactivity Management are shown below. They are based on 12-month rolling data. Unit 1 and Unit 2 are both Green (Healthy). [The Yellow Unit 2 measures for seven months reflect RM events during that time, which , which then improved to Green with improved performance.] This is good performance.

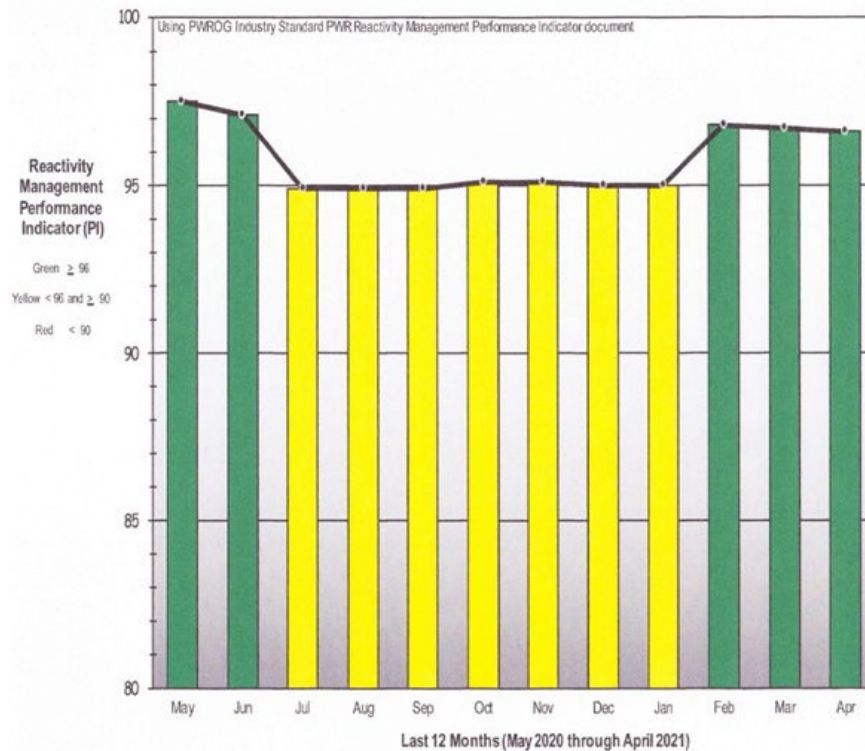
DCPP Unit 1 Reactivity Management PI through 4-30-2021: 99.6

(and cumulative PI for each of the last 12 months)



DCPP Unit 2 Reactivity Management PI through 4-30-2021: 96.6

(and cumulative PI for each of the last 12 months)



Conclusions: DCPD has an effective Reactivity Management Program, which ensures conservative reactivity management by promoting a reactivity-conscious culture. The proper control of core reactivity and spent fuel continues to be a long-standing fundamental principle in maintaining nuclear plant safety and reliability.

Recommendations: None

3.2 Meet with NRC Senior Resident Inspector

The DCISC FFT had a remote (virtual) meeting with Don Krause, NRC Senior Resident Inspector, for an update. The DCISC last met with the NRC in April 2021 (Reference 6.2), concluding the following:

The meeting with the NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.

The attendees discussed the following:

- Unit 2 generator hydrogen leak
- Unit 2 condenser leak
- Biennial NRC operator requalification inspection
- NRC current COVID activity
- Spent fuel storage
- NRC's monitoring of DCPD's staff adequacy
- A recent event involving chains under fire doors
- The DCISC fact-finding meeting agenda

Conclusions: The meeting with the NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.

Recommendations: None

3.3 Wildfire Risk

The DCISC FFT had a remote (virtual) meeting with Dan Ensminger, DCPD Fire Protection Manager and Fire Chief; Jeff Gator, Operations Chief; and Kelly Kephart, Land Stewardship Team Member for an update on DCPD wildfire risk. The DCISC last reviewed wildfire risk in November 2015 (Reference 6.3), when it concluded the following:

Based on the discussion and the background information, the Fact-finding Team is satisfied that an offsite fire, including in the presence of very high winds either generated independently or generated by the fire itself, does not pose a significant threat to plant safety.

This review covers certain *offsite* fires. The specific topic was the potential threat to the DCPD plant's safety arising from an offsite fire accompanied by very severe high winds. Two different phenomena were discussed. One is an offsite fire that, by chance, might occur when high winds are also present. The second is a phenomenon in which the fire itself, if it produces a sufficiently high thermal output, can produce its own "wind storm," which is sometimes termed a "fire storm" in that eventuality. This latter phenomenon occurs from time to time in coastal California, especially in canyons or similar topographies near the Pacific Ocean's coast, and sometimes it has caused very major property damage and even occasional deaths to individuals caught in a fire storm that can develop very suddenly. The phenomenon can be especially violent where very large amounts of dry vegetative "fuel" are present, on the ground or in trees or shrubs, that can ignite quickly and spread very rapidly.

The DCPD team explained that the threat from this phenomenon was reviewed in the original plant Safety Analysis Report submitted to the NRC, and that it does not pose a threat to plant safety, on the basis of the following facts:

- First, the vicinity of the plant site, especially in the area inland of the nuclear facilities themselves, has been cleared of most vegetative matter (trees, shrubs, grass, etc.) so that not enough fuel exists to sustain a large fire if a smaller fire were to ignite.
- Second, if a fire were nevertheless to ignite, which of course cannot be excluded, it could not generate enough thermal energy to produce a self-sustaining "fire storm." This conclusion is based on a review of the amount of fuel on the ground and its distribution.
- Third, if a fire were to ignite when very high winds were present simply by coincidence, no fire in such a situation could grow to a size large enough to threaten the plant's safety.
- Fourth, the major reason for the low risk is that the facilities themselves are sufficiently fire-resistant that nothing that an offsite fire could threaten, except certain offsite electrical equipment, would present a threat to plant safety. The potential loss of certain offsite electrical equipment, including the power lines feeding the plant, presents a special challenge. Although its loss in an offsite fire is possible, that loss would not threaten the plant's safety because sufficient alternative means of electric power supply exist to maintain plant safety.
- The IFSFI: The Independent Spent Fuel Storage Installation is located many hundred feet further inland than the main nuclear power plant itself, and at a much higher elevation. The DCPD staff explained that the IFSFI was designed and analyzed to withstand the most severe external fire that might arise in the vicinity, and hence its safety too would not be threatened.

The Fact-finding team's discussion explored various "what if" scenarios. For each of them, the DCPD team explained that the scenario has been analyzed and resolved satisfactorily as part of the plant's NRC licensing basis.

Throughout the territory, PG&E is taking immediate action on enhanced vegetation management work to further reduce the risk of wildfire and keep their customers, families and communities safe. In response to the recent and dramatically increasing wildfire threat in California, PG&E is accelerating the vegetation and safety work that is part of the Community Wildfire Safety Program in extreme fire-threat areas, as designated by the California Public Utilities Commission High Fire-Threat District map. This map was developed in coordination with Cal Fire and based on input from electric utilities, communications infrastructure providers, and local public safety agencies.

The Land Stewardship Team at Diablo Canyon (DCLST) has prepared a Fire Risk Mitigation plan in an effort to reduce the risks to the Diablo Canyon Power Plant (DCPP) and critical supporting infrastructure. This plan is in alignment with the goals, objectives and compliance requirements of the DCLST and is outlined in the DCLST Program Charter (PG&E 2017).

Two fire risk reduction programs are implemented by the DCLST: yearly maintenance of fire lines and vegetation management activities in the area known as "Parcel P." These programs are discussed below.

Fire Lines:

A fire line is a linear fire barrier where flammable vegetation (small trees and shrubs) is preemptively removed to prevent fires from spreading. On the DCPP lands, fire lines are around 15 feet wide, and sited on the tops of ridges. Flammable vegetation is shredded mechanically using heavy equipment in these areas versus removed by bulldozer, which is the preferred best management practice as it reduces more permanent scarring of the landscape.

Parcel P Vegetation Management:

Management of fuels close to critical infrastructure is another part of a successful fuel management plan. To control fuel load on DCPP lands and reduce the risk of impacts to operations such as transmission assets and facilities from fire, a Vegetation Management Program is implemented annually in the area known as Parcel P, and other areas of the DCPP property in consultation with Cal Fire. The goal of fuel management is to convert heavy fuels under electrical conductors to lighter fuels (shrubs to native grass) that would exhibit shorter flame lengths and thereby not impact electric transmission and plant operations in the event of wildfire. This is accomplished by using a combination of grazing, mechanical equipment, herbicides, and prescribed burning.

DCPP performed, in concert with California Fire (CalFire) and the San Luis Obispo Air Pollution Control District, a Vegetation Management Project (VMP) consisting of control vegetation burns in February 2020. The burn included 270 acres in Mal Paso Canyon. In preparation for the VMP a risk analysis was performed as well as a contingency plan for various problems which might occur, such as fire escape. The contingency plan provided backup equipment and personnel in case uncontrolled fire mitigation measures were needed. The burn was successfully

completed. Another control burn of 230 acres is planned for the end of November 2021.

Conclusions: Wildfire risk at DCPD has been reviewed extensively, and DCPD has fire prevention and mitigation plans to maintain fire lines and manage vegetation such that the risk of damage to the plant was determined to be acceptably low.

Recommendations: None

3.4 Independent Spent Fuel Storage Installation (ISFSI) Update

The DCISC FFT had a remote (virtual) meeting with Rich Hagler, Supervisor of Dry Used Fuel Management Group, and Tom Jones, Director for Strategic Initiatives for PG&E Generation, for an update on the DCPD ISFSI and the process for procuring new spent fuel casks. The DCISC last reviewed this subject in April 2021 (Reference 6.4) when it concluded the following:

DCPD's procurement of new Spent Fuel storage casks was making steady progress towards execution of a contract in early 2022. Cask procurement proposals appear to be capable of supporting movement of all Spent Fuel from the Spent Fuel Pools to the Independent Spent Fuel Storage Installation within four years of the termination of power operations for each unit.

DCPD does not have any active or planned spent fuel loading campaigns from the Spent Fuel Pool to the ISFSI. It is awaiting the DCPD review of proposals from manufacturers regarding the design and cost of a new ISFSI design cask. DCPD expects to issue a purchase order for the new casks in the first quarter of 2022. The delivery schedule of these new casks will determine how soon all spent fuel can be moved to the ISFSI; however, DCPD believes all spent fuel will be in the ISFSI in 2029, roughly four years following the shutdown of Unit 1.

The DCPD ISFSI 40-year license is coming to an end, and DCPD is preparing a November 2021 application submittal to NRC for license renewal for an additional 40 years to be issued in March 2022.

Meanwhile, in September 2021 DCPD plans to inspect the sides of eight ISFSI casks with robotic equipment to ascertain any corrosion or other problems. The inspection will also include the inside walls of the ISFSI overpacks.

Conclusions: DCPD is well along on procuring new casks for the Independent Spent Fuel Storage Installation (ISFSI) and expects to issue purchase orders in the first quarter of 2022. Meanwhile there are no active or planned campaigns to move spent fuel from the Spent Fuel Pool to the ISFSI until the new casks arrive. DCPD plans to have all spent fuel moved from the Spent Fuel Pools to the ISFSI in 2029.

Recommendations: None

3.5 DCPP After COVID Pandemic

The DCISC FFT had a remote (virtual) meeting with Justin Rogers, Generation Training Manager, to discuss what DCPD will be like following the end of the COVID Pandemic. The DCISC last reviewed DCPD pandemic practices in January 2021 (Reference 6.5), concluding the following:

DCPD continued to be responding properly to the COVID-19 Pandemic in that appropriate actions were being taken to ensure that the facility would continue to be safely operated and maintained. Plans to vaccinate employees were in place and being coordinated with health authorities in the local community.

PG&E believes that the COVID Pandemic is not over, and DCPD has taken an active role in providing vaccinations to over 900 DCPD plant employees who requested them and to over 400 other PG&E employees in San Luis Obispo County. To date over 60% of PG&E local employees have been vaccinated.

DCPD has found that employees working from home have generally been effective, resulting in a work force that has continued to be acceptably effective. Part of this is more efficient use of at home time to perform medical and other appointments and visits, rather than taking time to and from the plant. Employees have become proficient in using MS Teams for remote meetings, including the "breakout room" feature. DCPD's training plan is to move from remote to in-person training and to record each lesson for later use including at home use, if necessary. For engineering training and testing, DCPD will use remote proctoring. Simulator training, best performed in person, will be changed from several partial-day sessions to a full-day session for each Operations shift. DCPD laptop computers have been issued to the NRC Resident Inspectors to permit them to monitor plant conditions from home. System engineers will continue their periodic system walkdowns but with better scheduling and only as needed. The three following actions are anticipated to help move progress along for ending selected pandemic requirements:

1. The CDC (US Centers for Disease Control and Prevention) issued its notice that masks are not required if one has been vaccinated.
2. Cal OSHA issued a similar notice.
3. The California Governor is expected to update his guidance in mid-June.

Conclusions: DCPD has taken a strong, proactive approach against the COVID Pandemic by having employees work from home, wear masks when in the plant, wash or sanitize hands, and maintain social distancing. They have also provided vaccinations to those employees requesting them. There have been few occurrences of COVID-19 at DCPD.

Recommendations: None

3.6 Reactor Vessel Specimen Testing Program

The DCISC FFT had a remote (virtual) meeting with Waleed Ahmed, Primary Strategic Engineer for Reactor Coolant System (RCS) and Containment Spray System, for an update on the DCPD Reactor Vessel Specimen Testing Program. The DCISC last reviewed this program in March 2017 (Reference 6.6), when it concluded the following:

The DCPD Reactor Vessel Material Surveillance Program appears satisfactory for assuring compliance with NRC regulations to prevent Pressurized Thermal Shock.

The DCPD Reactor Vessel Material Surveillance Program manages loss of fracture toughness of reactor vessels due to neutron embrittlement in reactor vessel materials exposed to neutron fluence. Coupons (samples) of reactor vessel material are periodically removed from the vessels during the course of plant operating life. Neutron embrittlement is evaluated through coupon testing and evaluation, ex-vessel neutron fluence calculations, and actual measurement of reactor vessel neutron fluence. Data resulting from the program are used to determine RCS pressure-temperature limits, minimum temperature requirements, and end-of-life fracture toughness requirements. Fracture toughness relates to the ability of a material to withstand Pressurized Thermal Shock (PTS).

The test coupons have been placed in locations in the reactor that receive significantly higher neutron dose rates than the actual vessel, and thus provide information on the longer-term conditions of the reactor vessel. The DCPD plant possesses enough metallic coupons, either in the reactor itself or already removed and in the Spent Fuel Pool, to support the plant's need to determine the capability of the reactor vessel to withstand the effects of PTS out to the full 40-year lifetime of the plant. DCPD is also able to rely on additional backup information from tests conducted on specimens from another nuclear plant because the reactor vessel at that plant, and the accompanying metallic specimens, were fabricated from the same batch of metal as were the reactor vessels at DCPD. DCPD's two reactor vessels are slightly different in composition. Hence, they have slightly different metallic properties, slightly different susceptibilities to PTS, and different specimens for testing.

DCPD's program committed to the NRC to remove and test a minimum of four coupons per unit containing both base metal and weld material for analysis. On Unit 1, 12 coupons have been installed in the inner core barrel area of the vessel.

Of these 12, 7 have been removed to date, and 5 remain in the vessel. One of the five coupons currently remaining in the Unit 1 vessel, Coupon B, had been scheduled for removal in October 2010, but was stuck and could not be removed as scheduled without applying excessive force. That coupon is currently scheduled to be removed by cutting at the end of Unit 1 operation in 2024 with data to be

provided to the Electric Power Research Institute. Three of the seven removed Unit 1 coupons have been tested, and four are stored in the Spent Fuel Pool.

Without Coupon B, testing of the other three coupons alone could not provide results that met the requirements for maximum data scatter and the Unit 1 sample results could not alone be deemed as creditable for use in analyses to demonstrate the vessel's compliance with NRC regulations to prevent PTS. Accordingly, additional evaluations were performed under the NRC Standard Review Plan, Branch Technical Position 5.3. The evaluations demonstrated the vessel's compliance with NRC regulations through end of life in 2024 for Unit 1 and 2025 for Unit 2.

For Unit 2, six coupons have been installed and all have now been removed. Four of the Unit 2 coupons have been analyzed, and two remain in storage in the Spent Fuel Pool. The results of the testing for the four Unit 2 coupons provided results that met the requirements for maximum data scatter and were determined to be creditable without additional sampling for use in analyses which demonstrated the vessel's compliance with NRC regulations to prevent PTS.

Conclusions: Both DCPD units' Reactor Vessel specimens have been removed from the vessel and have been successfully physically analyzed for fracture toughness. The results support operation through the end of life in 2024 for Unit 1 and 2025 for Unit 2.

Recommendations: None

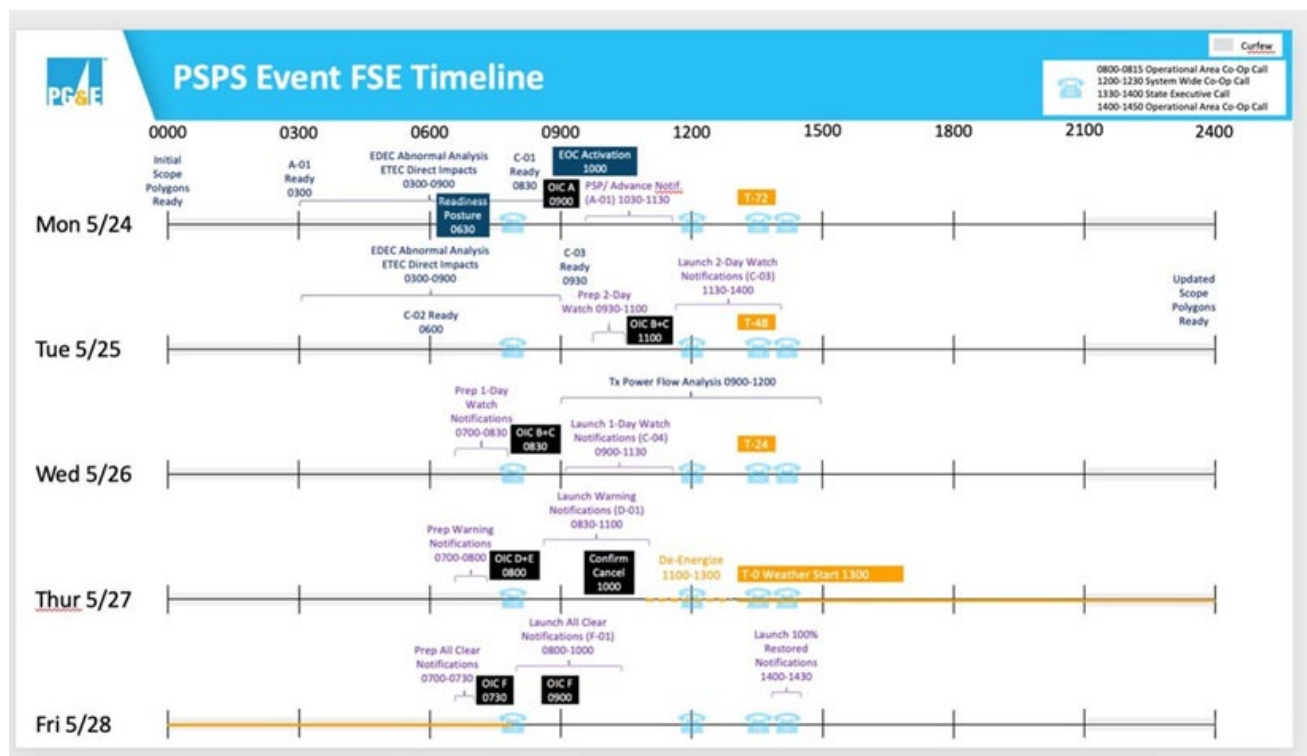
3.7 Emergency Preparedness Virtual Capabilities

The DCISC FFT had a remote (virtual) meeting with Mike Ginn, DCPD Emergency Preparedness (EP) Manager; Samantha Caldwell, EP Coordinator; and Tracy Vardas, Manager EP and Response Corporate, for an update on DCPD EP virtual capabilities. The DCISC last reviewed EP in the October 2020 DCISC Public Meeting (Reference 6.7). In that public meeting review of EP DCISC Member Dr. Peterson stated the following:

Dr. Peterson stated this [some (EP) capabilities, knowledge and skill sets can be provided much quicker using a virtual platform such as are now being utilized in response to the pandemic would be an appropriate topic for a future fact-finding by the DCISC with particular emphasis placed upon the area of emergency response.

DCPD EP has been using MS Teams to train and qualify Emergency Response Organization (ERO) personnel. EP has been meeting weekly virtually with NRC EP personnel, and meeting virtually with the Nuclear Energy Institute Remote EP Task Force. The next PG&E EP exercise is a virtual five day exercise with PG&E Corporate participation beginning on May 24 (see schedule below). The next DCPD evaluated exercise is planned for September 15, 2021, which will use some virtual

technology, but also in person activities.



Conclusions: DCPPE Emergency Preparedness (EP) has conducted personnel training and qualification and emergency exercises successfully during the COVID pandemic using remote technology such as MS Teams. Use of remote technology in some areas will continue as needed to maintain or improve the effectiveness of EP.

Recommendations: None

3.8 Meet with Paula Gerfen, DCPPE Site Vice-President

The DCISC FFT had a remote (virtual) meeting with Paula Gerfen, DCPPE Site Vice-President, to discuss agenda items on this fact-finding meeting and other items of mutual interest. The DCISC last met with a DCPPE officer in April 2021 (Reference 6.8), concluding the following:

The regular meetings between DCISC Members and DCPPE Officers and Directors continue to be beneficial for both organizations.

Conclusions: The regular meetings between DCISC Members and DCPPE Officers and Directors continue to be beneficial for both organizations.

Recommendations: None

3.9 Quality Verification (QV) Audits

The DCISC FFT had a remote (virtual) meeting with Dan Gibbons, Supervisor,

Nuclear Quality Assurance, for an update on DCPD audits. The DCISC last reviewed this topic in April 2020 (Reference 6.9), concluding the following:

The 2020 Nuclear Industry Evaluation Program Biennial Evaluation concluded that DCPD's development, documentation, and implementation of its independent oversight functions were effective. The DCISC Fact-finding Team believed the Evaluation was intrusive and comprehensive. The DCPD Audit Program appeared to be effective.

The DCPD audit procedure, OM4.ID13, "Nuclear Power Generation Internal Auditing," appeared satisfactory. Audits since the beginning of 2021 included the following findings:

- Fire Protection error in drawings
- Problems with calibrations of measuring and test equipment
- Fire Protection purchasing outside of the standard DCPD process
- Chemistry records problems
- San Ramon Technical Services activities

These items are being responded to by the affected Department and are not significant. There have been no audit finding escalations in 2021. The Quality Digest reports on audit findings. The latest DCPD audit schedule is shown below.



Nuclear Internal Audit Schedule

Performance Based Evaluation Plan:

This revision satisfies the six-month audit schedule review specified in Chapter 17 of the DCPD FSAR Update for the internal audit schedule. Audit frequencies were determined by a performance-based evaluation plan. These comments document the results of the plan. This plan uses assessment indicators to identify and schedule audits based on performance results and importance of the activity relative to safety. The assessment indicators may include:

- QV Department metrics - No additional oversight was scheduled based on review of QV 2020 metrics.
- QV staff input - Security and Emergency Plan audit/assessment are conservatively established on a 12-month basis due to performance. During each audit schedule review QV management will discuss performance that would allow these programs to move to the 24-month frequency allowed by

regulation.

- Quality Performance Assessment Reports (QPAR) - No additional auditing identified during QPAR review.
- Industry issues and trends - No Industry Event Reports were produced that impact audit frequency or scope.
- HBPP: All of the HBPP audits (except the RP Audit which will be conducted with the DCP RP Audit) will now be cycled to be completed together on a biennial basis. The schedule has been updated to reflect the scheduled date for consolidating all HBPP audits into a single audit.
- Organizational, personnel, operational, or programmatic changes - Changes to the organizational structure to include additional DCP functions moving to the Business and Technical Services organization. The list of DCP functions that now reports to Business and Technical services now includes Performance Improvement, Regulatory Services, Training, and Nuclear Fuels. This organizational change will be considered when planning audits. Access to the site continues to be limited to the COVID-19 pandemic. Audit scope has been adjusted, with in plant observations being scheduled as needed. Plant closure remains an area of focus and any impact on performance will be assessed by exception during scheduled audits.
- Program Performance (indicators and corrective action program) - Fitness for Duty Program performance has been satisfactory over the past six months and requires no additional audit activities before the scheduled audit.

Activity Type		Title	Audit Schedule			
Audit	Assmt		Frequency	Cycle Entrance	Next Entrance Required	Tentative Entrance
X		Applied Technical Services	24 months	1/8/19	1/8/21	4/5/21*
X		Emergency Preparedness Assessment (50.54t (ii))	24 months (all elements) 24 months (QA elements) 12 months (evaluation as applicable)	1/28/19 (all) 1/28/19 (QA) 2/3/2020	2/5/21 (all) 2/5/21 (QA) 2/3/2021	2/1/21
X		Fire Protection	24 months	3/25/19*	2/6/21	3/22/21*
X		Fitness for Duty Access Authorization – PADS	24 months	3/4/19	3/4/21	4/12/21*
X		Special Processes & In-Service Inspection/In Service Testing	24 months	4/16/19	4/16/21	TBD

X		Security / Cyber Security	24 months (all elements) 24 months (QA elements) 12 months (evaluation as applicable)	6/24/19 (all) 6/24/19 (QA) 6/8/20	6/24/21 (all) 6/24/21 (QA) 6/8/21	6/7/21
X		ISFSI and Fuel Management	24 months	7/8/19	7/8/21	6/28/21
X		Corrective Action Program	24 months	8/26/19*	6/8/21	8/23/21*
X		Engineering, Geosciences, And Maintenance Rule	(periodic)	10/28/19*	10/17/21	10/25/21
X		Radiation Protection/ Radiological Monitoring & Controls Program/ Radioactive Waste Management	24 months	1/6/20	1/6/22	TBD
X		Procurement	24 months	3/2/20*	2/8/22	TBD
X		Operations Activities, Tech Spec/Testing, and Licensing	24 months	5/4/2020*	4/4/22	TBD
X		Accredited Training/ Qualification Audit	24 months	6/29/20	6/29/22	TBD
X		Maintenance	24 months	7/27/20	7/27/22	TBB
X		Quality Assurance Programs/AMSAC/RG 1.97 Category 2 and 3/FLEX/SFP Instrumentation	24 months or evaluation	8/31/20	8/31/22	TBD
	X	Pre-NIEP Assessment (Internal Assessment)	Prior to NIEP Assmt.	9/9/19	N/A	2021
X		Chemistry/ Radiochemistry, Environmental Protection Program, Environmental Monitoring	24 months	1/11/21*	1/7/23	TB
		Annual communication of QA Performance to Chief Nuclear Officer	Annual	1/8/19	1/8/20	1/8/20
	X	NIEP Assessment (External)	24 months	2/10/20	2/10/22	TBD

The latest Quality Digest is shown below.



Quality Digest

May Edition 2021 – Updated 5/3/2021

STN	OP	MA	ENG	NWM	RP	CEO	SEC	EP	LS	PI	OR
W	W	G	W	G	G	G	G	G	G	Y	W
↔	↑	↔	↓	↔	↔	↔	↔	↔	↔	↔	↔

QV Escalated Issues					
Description	Owner	SAPN	Due	Age	
None					

QV Elevated Issues (includes Findings/ARMAs)					
ARMA - Equipment Reliability					
DCPP has been challenged by unanticipated equipment failures that led to plant shutdowns and impacted plant performance goals. A station equipment reliability policy with clear roles and responsibilities across departments has been developed and a change management and excellence plan are also in progress to ensure clear communication of the cross-functional expectations of the policy.					
Owner	FA	SAPN	Age	Next Action	Escalation
West	ER	51106226	89	6/3/21	6/3/21

Finding – Fire Protection Pre-Plans					
Technical errors and omissions were identified in several Fire Protection Pre-Plans including incorrect component identifiers, omitted hazardous materials, incorrect component labels, and references to CP M-10 which no longer exists. The extent of this condition was not fully understood or corrected when similar issues were identified during the 2019 Fire Protection Audit. Guidance needed in high-stress, high-consequence situations such as a plant fire, must be accurate, complete, and user-friendly. Erroneous information on Fire Pre-Plans would create undue confusion and unnecessarily complicate the station response.					
Owner	FA	SAPN	Age	Next Action	Escalation
Ensminger	FP	51113367	35	7/27/21	8/22/21

Finding – Inconsistent Logging of M&TE					
Maintenance craft have not properly logged out Measurement and Test Equipment (M&TE) to applicable work packages. An initial review found four instances in three welding work packages where M&TE was not electronically logged out to the order/operation. In some of these same cases, the M&TE was also not documented in the M&TE section of the work package. Further review of six work packages in other maintenance disciplines identified one example in Electrical where M&TE was not appropriately logged out to the associated order/operation. Failure to identify M&TE appropriately to the work where it was used hinders traceability and the ability to adequately perform out of tolerance evaluations.					
Owner	FA	SAPN	Age	Next Action	Escalation
Jackson	MA	51116295	13	5/21/21	8/8/21

Finding – Fire Brigade Procurement Practices					
Fire Brigade personnel have procured and installed components outside appropriate procurement processes. Fire hoses were being installed without being traced to the installation work order, and fire extinguisher parts were being ordered outside of the established procurement process. These applications involved graded quality components and these processes ensure that components are installed for their approved application and provide traceability for the end use.					
Owner	FA	SAPN	Age	Next Action	Escalation
Ensminger	XF	51116864	12	5/22/21	8/10/21

QV Elevated Issues (includes Findings/ARMAs) cont.					
Finding – "Port Exhaustion" failure mode not recognized					
Digital Engineering missed an opportunity to identify a maintenance strategy to address an industry recognized reliability issue with computer servers known as port exhaustion. As a result, some important computer systems such as the Emergency Response Data System have spuriously failed putting the station in an unplanned ECG and requiring emergent maintenance to restore functionality.					
Owner	FA	SAPN	Age	Next Action	Escalation
Maulle	EN	51108170	74	5/14/21	6/18/21

ARMA – Engineering Work Product Review Team Implementation					
Engineering has significantly reduced the use of the EWPRT to review engineering work products, including some reviews required by procedure TSS.DC3. In a few cases this has contributed to inferior engineering work products. The reduction of these reviews coincided with the pandemic required transition to working from home changed routine oversight norms and is a missed opportunity for engineering management to be self-critical and ensure a good understanding of engineering product quality.					
Owner	FA	SAPN	Age	Next Action	Escalation
Conner	EN	51111400	46	5/27/21	7/18/21

QV Observations and Current Perspective	
Description	Owner
An audit of the AA/FFD/PADS programs was conducted in April and identified one deficiency for a procedural error in the FFD program. The team determined that this is primarily due to a strong environment for continuous learning through self-criticality and an established low tolerance for errors. This program performance is primarily attributed to the conduct of thorough self-assessments, and intrusive management oversight of administrative processes (i.e. AA file reviews, FFD collector proficiency).	Kirven
The guidance in OP AP-30, "Main Generator Malfunction," Section G, "Stator Wtr Clg System Trouble," contains incorrect logic ties that may impact entering the Response Not Obtained (RNO) instructions when appropriate (SAPN 51137641). Additionally, two steps to address the same condition of elevated stator thermocouple temperatures have different guidance. Finally, QV requested a review of trip criteria that appears in the Siemens operating manual for the generator (Delta T of 25 degrees) but does not appear in OP AP-30, Section G.	Birkel

Color and Trajectory Comments	
Description	Owner
Review in aggregate, and develop mitigating actions as appropriate, to address the increasing workload and turnover at key positions within Engineering. Improvement is needed regarding leader ownership and responsiveness to issues, and creating an environment of continuous learning, including self-criticality during program monitoring (51109245).	EN

Select Upcoming QV Activities	
Description	Owner
Special Processes Audit (April)	Various
First Period 2021 Quality Performance Assessment Report	Various

Conclusions: The DCPP Quality Verification Audit Program appears satisfactory in that audits are appropriately scheduled and performed to determine the effectiveness of various departmental and functional activities in meeting quality requirements.

Recommendations: None

3.10 Operator Concerns/Issues

The DCISC Fact-finding Team met with Dennis Petersen, DCPP Operations Services Director, for an update on operator concerns and issues. The DCISC last reviewed these items in August 2016 (Reference 6.10) and March 2014 (Reference 6.11), concluding the following, respectively:

DCPP's "no solo" (i.e., limited solo activity) licenses are being appropriately managed. Because of PG&E's recent decision to not pursue license renewal for DCPP, a Retention Plan has been put in place and overstaffing has been authorized to help ensure that adequate numbers of licensed operators remain on board through the end of the current plant license. The DCISC should follow closely the success of the Retention Plan in retaining adequate numbers of licensed operators specifically

along with adequate numbers of qualified facility staff in general.

DCPP operator issues are minimal. There is apparently good cooperation between represented operators and management, and operator performance measures, such as Plant Status Control and the Operational Focus Index, a measure of operator distractions, are positive.

The industry has minimum physical condition requirements for operators. Operators at DCPD are tested and certified as meeting the industry standard by the plant Medical Officer and reviewed by NRC physicians. Operator "no solos" are operations personnel whose health (e.g., high blood pressure, heart condition, obesity, diabetes, etc.), as determined by the plant Medical Officer, prevents them from being allowed to work alone in the plant. The number of "no solos" has been reduced from past years and remains steady at less than 10% of the total operations staff.

It was also noted that for large nuclear power plants such as DCPD, operators never perform control room duties alone. Also, the Fact-finding Team inquired regarding the status of the union relationship and was informed that it was satisfactory overall.

The Fact-finding Team inquired regarding the effect upon operations of PG&E's decision that it will not pursue license renewal for DCPD. The plant must remain fully staffed with licensed control room operators until the day it ceases operation in 2025. To achieve that goal, PG&E has developed a Retention Plan which offers 25% annual salary bonuses for each employee who commits to continue working at the station for a set number of years. For licensed operators, license premium pay will be included in the base for calculating the bonus.

Mr. Petersen reported the following:

- There are no current union issues - there is a good relationship between represented operators and plant management.
- Operations is appropriately staffed for safe operation through 2025.
- The Retention Plan is working to keep enough qualified operators.
- DCPD is not hiring new operators, and the Initial License Training classes have stopped.
- The last Initial License Training class operators passed their NRC exam with a 100% pass rate.
- Licensed Operator Continuing Training continues.
- The simulator continues to perform effectively for operator training.
- Clearance and tagging performance have returned to Green.
- DCPD has an active process for the placement of DCPD personnel in other parts of the company, with educational benefits, and in other parts of the

nuclear industry.

Conclusion: DCPD operators are performing well with no significant issues or concerns. With the Retention Plan, DCPD anticipates having enough operators to operate safely until operations cease in 2025.

Recommendations: None

4.0 CONCLUSIONS

4.1 DCPD has an effective Reactivity Management Program, which ensures conservative reactivity management by promoting a reactivity conscious culture. The proper control of core reactivity and spent fuel continues to be a long-standing fundamental principle in maintaining nuclear plant safety and reliability.

4.2 The meeting with the NRC Resident Inspector was beneficial, and the DCISC should continue the meetings.

4.3 Wildfire risk at DCPD has been reviewed extensively, and DCPD has fire prevention and mitigation plans to maintain fire lines and manage vegetation such that the risk of damage to the plant was determined to be acceptably low.

4.4 DCPD is well along on procuring new casks for the Independent Spent Fuel Storage Installation (ISFSI) and expects to issue purchase orders in the first quarter of 2022. Meanwhile there are no active or planned campaigns to move spent fuel from the Spent Fuel Pool to the ISFSI until the new casks arrive. DCPD plans to have all spent fuel moved from the Spent Fuel Pools to the ISFSI in 2029.

4.5 DCPD has taken a strong, proactive approach against the COVID Pandemic by having employees work from home, wear masks when in the plant, wash or sanitize hands, and maintain social distancing. They have also provided vaccinations to those employees requesting them. There have been few occurrences of COVID-19 at DCPD.

4.6 Both DCPD units' Reactor Vessel specimens have been removed from the vessel and have been successfully physically analyzed for fracture toughness. The results support operation through the end of life in 2024 for Unit1 and 2025 for Unit 2.

4.7 DCPD Emergency Preparedness (EP) has conducted personnel training and qualification and emergency exercises successfully during the COVID pandemic using remote technology such as MS Teams. Use of remote technology in some areas will continue as needed to maintain or improve the effectiveness of EP.

4.8 The regular meetings between DCISC Members and DCPD Officers

and Directors continue to be beneficial for both organizations.

4.9 The DCPD Quality Verification Audit Program appears satisfactory in that audits are appropriately scheduled and performed to determine the effectiveness of various departmental and functional activities in meeting quality requirements.

4.10 DCPD operators are performing well with no significant issues or concerns. With the Retention Plan, DCPD anticipates having enough operators to operate safely until operations ceases in 2025.

5.0 RECOMMENDATIONS

5.1 None

6.0 REFERENCES

6.1 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.3, Section 3.3, "Reactivity Management Program."

6.2 "Diablo Canyon Independent Safety Committee Thirty-first Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June 30, 2021", Approved October 18, 2021, Volume II, Exhibit D.8, Section 3.4, "Meet with NRC Senior Resident Inspector."

6.3 "Diablo Canyon Independent Safety Committee Twenty-sixth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2015 - June 30, 2016", Approved October 15, 2016, Volume II, Exhibit D.5, Section 3.3, "Risk Posed by Offsite Fires Accompanied by Severe High Winds."

6.4 "Diablo Canyon Independent Safety Committee Thirty-first Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June 30, 2021", Approved October 18, 2021, Volume II, Exhibit B.3, "Independent Spent Fuel Storage Installation Update."

6.5 Ibid., Exhibit D.6, Section 3.11, "COVID-19 Pandemic Response."

6.6 "Diablo Canyon Independent Safety Committee Twenty-seventh Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2016 - June 30, 2017", Approved October 16, 2017, Volume II, Exhibit D.7, Section 3.7, "Reactor Vessel Material Specimen Program."

6.7 "Diablo Canyon Independent Safety Committee Thirty-first Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2020 - June 30, 2021", Approved October 18, 2021, Volume II, Exhibit B.3, "Update on

Emergency Preparedness Programs Including Changes Made in Response to the COVID-19 Pandemic."

6.8 Ibid., Exhibit D.8, Section 3.2, "Meet with DCPD Officer."

6.9 "Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020", Approved October 29, 2020, Volume II, Exhibit D.3, Section 3.4, "Quality Verification Audit and Nuclear Industry Evaluation Program."

6.10 "Diablo Canyon Independent Safety Committee Twenty-seventh Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2016 - June 30, 2017", Approved October 16, 2017, Volume II, Exhibit D.2, Section 3.4, "Review of Operator Aging."

6.11 "Diablo Canyon Independent Safety Committee Twenty-seventh Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2013 - June 30, 2014", Approved October 13, 2014, Volume II, Exhibit D.7, Section 3.6, "Operator Concerns Update."

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface](#) | [Executive Summary](#)

[Volume I TOC](#) | [Volume II TOC](#) | [PG&E Response](#) | [Contact the DCISC](#)

[31st Annual Report, Volume II, Exhibit G-1, Email Correspondence Log](#)

2020-2021

31st Annual Report Period

The log is intended to provide a memorandum of contacts initiated by individual members of the public, citizen, or public interest group representatives, media representatives or similar persons or organizations with the Committee Members, Technical Consultants or Legal Counsel.

DATE INITIATED	FROM	STATUS	COMMENTS/INFORMATION
7/6/2020	Mr. David Weisman Alliance for Nuclear Responsibility	Complete	7/6/20 Email with A4NR comments to CPUC on rail transport for decommissioning waste; 7/6/20 Email response of Diablo Canyon Decommissioning Panel; 7/6/20 Email to Members/Consultants.
7/11/2020	Ms. Linda Seeley	Complete	7/11/20 Email re COVID-19 during outage with copy of letter re Fermi 2 Power Plant.
7/23/2020	Ms. Rochelle Becker, Executive Director Alliance for Nuclear Responsibility	Complete	7/23/20 Email re SWQCB OTC oversight and request for DCISC joinder in opposition to DCPD compliance date waiver; 7/24/20 Email acknowledgement sent; 7/24/20 Email to Members/Consultants; 7/26/20 Email response sent declining as out of DCISC purview.
8/26/2020	Ms. Rochelle Becker, Executive Director Alliance for Nuclear Responsibility	Complete	8/26/20 Email with copy of letter to CEC re LAR for AFW System; 8/27/20 Email response sent; 8/27/20 Email to Members/Consultants.
9/14/2020	Ms. Linda Seeley	Complete	9/14/20 Email with Sierra Club Final Guidance on Hi-Level Waste Mgmt.; 9/14/20 Email response sent; 9/15/20 Email to Members/Consultants.

9/25/2020	Mr. Tom Marre	Complete	9/25/20 Email w/news article re U-2 outage/LAR due AFW pipe corrosion; 9/27/20 Email response sent; 9/27/20 Email to Members/Consultants
9/28/2020	Ms. Rochelle Becker, Executive Director Alliance for Nuclear Responsibility	Complete	9/28/20 Email w/news article re U-2 outage/LAR due AFW pipe corrosion; 9/28 Email response sent; 9/28/20 Email to Members/Consultants.
10/5/2020	Mr. Ken Thompson Avila Valley Advisory Council	Complete	10/5 Email re next DCISC public mtg; 10/5/20 Email response sent.
10/21/202	Mr. David Weisman Alliance for Nuclear Responsibility	Complete	10/21/20 Email w/news article re U-2 outage re Main Generator; 10/21/20 Email response sent; 10/21/20 Email to Members/Consultants.
10/22/2020	Mr. Tom Marre	Complete	10/22/20 Email re ocean-related deposits on Irish Hills; 10/22/20 Response provided during public meeting.
10/23/2020	Mr. Tom Marre	Complete	10/23/20 Email re PG&E financial condition; 10/23/20 Response provided at public meeting; 10/23/20 Email acknowledgment provided.
10/29/2020	Ms. Rochelle Becker, Executive Director Alliance for Nuclear Responsibility	Complete	10/29/20 Email re PG&E role in CA wildfires & bathtub curve; 10/29/20 Email response sent; 10/30/20 Email to Members/Consultants.
11/5/2020	Mr. David Weisman Alliance for Nuclear Responsibility	Complete	11/5/20 Email re NRC AFW piping inspection; 11/6/20 Email response sent; and email to Members/Consultants.
11/23/2020	Mr. Ken Thompson Avila Valley		11/23/20 Email with copy of advisement of meeting of Diablo Canyon Decommissioning Engagement Panel.

	Advisory Council	Complete	
11/22/2020	Dr. Gene Nelson Californians for Green Nuclear Power	Complete	11/22/20 Email with information re earthquake hazard; 11/24/20 Email response sent; 11/24/20 Email to Members/Consultants.
12/4/2020	Mr. David Weisman Alliance for Nuclear Responsibility	Complete	12/4/20 Email re Unit-2 Main Generator stator failure; 12/4/20 Email response sent; and email to Members/Consultants.
12/13/2020	Mr. Ken Thompson Avila Valley Advisory Council	Complete	12/13/20 Email cc msg re mtg of Diablo Canyon Decommissioning Panel and U-2 outage and presentation by PG&E's Eric Daniels; 12/13/20 Email to Members/Consultants 12/13/20 Email re AVAC meeting and DCISC Member attendance; 12/13/20 Email to K. Thompson; 12/14/20 Email response recd.
12/21/2020	Mr. John Geeseman Alliance for Nuclear Responsibility Legal Counsel	Complete	12/21/20 Email re A4NR Comments on Proposed Decision in CPUC Application A-16- 08-006.
12/23/2020	Mr. Ken Thompson Avila Valley Advisory Council	Complete	12/23/20 Email re operational update on U- 2; 12/23/20 Email response sent; email to Members/Consultants.
2/14/2021	Mr. Greg Haas Congressman Carbajal's Office	Complete	2/14/21 Email re February 21 PM and Unit 2 matters; 2/15 Email response and reply recd.
2/16/2021	Mr. David Weisman Alliance for Nuclear Responsibility	Complete	2/16/21 Email re DCISC scheduling on Jewish holiday; 2/16/21 Dr. Budnitz provided a response. 2/16/21 Email to DCISC with D. Lochbaum analysis re reactor valve closure, acknowledged at public meeting and copy of PowerPoints provided per request.
2/17/2021	Ms. Rochelle Becker Alliance for Nuclear		2/17/21 Email re PG&E corporate culture issues re power line maintenance; 2/17/21 acknowledged at public meeting.

	Responsibility	Complete	
2/17/2021	Mr. Tom Marre	Complete	2/17/21 Email thanking DCISC for providing public meeting forum.
2/25/2021	Mr. Rochelle Becker Alliance for Nuclear Responsibility	Complete	2/25/21 Email with copy of a portion of PG&E 10K SEC filing; 2/26/21 email acknowledgement sent; 10/26 Email response recd.; 2/27/21 Email to DCISC with correspondence thread.
3/14/2021	Ms. Rochelle Becker Alliance for Nuclear Responsibility	Complete	3/14/21 Email re CalMatters media report on price of electricity, 3/15/21 email acknowledgement sent,, 3/15/21 email to Members & Consultants.
3/31/2021	Dr. Lauren Brown Diablo Canyon Decommissioning Engagement Panel	Complete	3/31/21 Email re Dr. Brown's replacement as DCDEP liaison to DCISC, 4/1/21 email correction; 4/2/21 email acknowledgment sent and cc'd to Members & Consultants.
4/2/2021	Ms. Linda Seeley Diablo Canyon Decommissioning Engagement Panel	Complete	4/2/21 Email from new DCDEP liaison; 4/5/21 email acknowledgement sent and cc'd to Members & Consultants.
5/9/2021	Mr. Tom Marre	Complete	5/9/21 Email with question re attendance at February '21 PM; 5/10/21 response provided.
6/18/2021	Mr. Greg Haas Congressman Carbajal's Office	Complete	6/18/21 Email re aging equipment and existence of alternative standards re closure; 6/18/21 reply sent; 6/18/21 email rec'd., 6/18/21 email response provided re June 2021 PM venue for inquiry.
6/21/2021	Ms. Jill ZamEk	Complete	6/21/21 Email re meting dates, 6/21/21 email response provided with correction.
6/20/2021	Mr. Tom Marre	Complete	6/20 21 Email re agenda packet; 6/21 response provided; 6/21/21 email rec'd. with thanks.
6/22/2021	Dr. Gene Nelson Californians for Green Nuclear Power	Complete	6/22/21 Email with CGMP recent local, state and federal filings; 6/23 email provided to Members & Consultants; 6/23/21 copy of statement made at public meeting provided.
6/23/2021	Mr. Tom Marre		6/23/21 Email re vibration ad hydrogen leak

		Complete	on Unit 2 generator, 6/23/21 email response provided, 6/23/21 email to Members & Consultants; 6/23/21 Mr. Tom Marre's statement read into the record at the public meeting.
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EXHIBIT G.2

DCISC CORRESPONDENCE

DAVID WEISMAN
Outreach Coordinator

Alliance for Nuclear Responsibility
PO Box 1328
San Luis Obispo, CA 93406
(805) 704-1810 cell
davidjweisman@gmail.com
www.a4nr.org

From: Charles Anders <canders@strategicinit.com>
Sent: Monday, July 6, 2020 11:33 AM
To: davidjweisman@gmail.com
Cc: dcddep@googlegroups.com; Jones, Thomas; pns3@pge.com; Kara Woodruff; Sherri Danoff; Trevor Keith; Alex Karlin; Linda Seeley; Guy Savage; Adam Hill; Bruce Gibson; Debbie Arnold; Lynn Compton; John Peschong; Cochran; Luster, Tom@Coastal; info@dcisc.org; Zizmor, David; Haas, Greg; Chuck Anders
Subject: Re: A4NR comments on Decommissioning waste via Rail Transport re: UCLA Garrick Study presented to DCDEP
Attachments: 07032020 A4NR-DCDEP-Transportation01.pdf

Mr. Weisman,

Thank you for providing your comments on behalf of A4NR regarding the analysis of rail transport for Diablo Canyon decommissioning waste. I will make sure the comments are forwarded to the Panel members and PG&E and also included in the Panel's official comments record.

Thanks for your interest and ongoing participation with the Diablo Canyon Decommissioning Engagement Panel.

Chuck Anders
DCDEP Facilitator
(805) 459-6215

Begin forwarded message:

From: David Weisman <davidjweisman@gmail.com>
Subject: A4NR comments on Decommissioning waste via Rail Transport re: UCLA Garrick Study presented to DCDEP
Date: July 6, 2020 at 10:48:58 AM PDT
To: dcddep@googlegroups.com, canders@strategicinit.com, "Jones, Thomas" <tpj2@pge.com>, pns3@pge.com
Cc: karaslo@charter.net, sherri33@charter.net, Keith@co.slo.ca.us, Alex Karlin <akarlin@law.com>, "cc: Linda Seeley" <linda@seeley.com>, Guy Savage <gsavage@co.slo.ca.us>, Adam Hill <ahill@co.slo.ca.us>, Bruce Gibson <brgibson@co.slo.ca.us>, Debbie Arnold <darnold@co.slo.ca.us>, Lynn Compton <lcompton@co.slo.ca.us>, John Peschong <jpeschong@co.slo.ca.us>, Cochran <justin.cochran@energy.ca.gov>, Tom Luster <coastal.ca.gov>, info@dcisc.org, "Zizmor, David" <david.zizmor@cpuc.ca.gov>, "Haas, Greg" <greg.haas@mail.house.gov>

Dear Mr. Anders, DCDEP et al.,

Please see attached comments of A4NR regarding the analysis of rail transport for Diablo Canyon decommissioning waste as presented in the UCLA-Garrick report.

Yours truly,

G.2 - 1



ALLIANCE FOR NUCLEAR RESPONSIBILITY

July 3, 2020

via email

Diablo Canyon Decommissioning Engagement Panel
c/o Chuck Anders, Facilitator

Re: Public meeting of June 24, 2020 regarding decommissioning transportation issues

Dear Mr. Anders and panel members:

This letter supplements my public comments during the above captioned meeting in regard to certain assumptions made in the "Transportation Risk Analysis by the B. John Garrick Institute for the Risk Sciences at UCLA" (June 2020), hereinafter "the Report."

The Report provides a thorough analytical review of the safety/accident risks involved in the use of railroad transportation to move extremely large volumes of decommissioning waste from the Pismo Beach Rail Yard south towards Los Angeles and beyond. My critique is not with regard to the use of rail and its relative safety as a mode of conveyance; it is about the lack of consideration by the Report as to whether rail will remain or even be a possible mode of conveyance over a dozen years from now when the largest volume of material is estimated to leave the Diablo site (2032-2035). Without access to rail as the mode of transport, calculations regarding the number of truck trips over a parallel route, and thus quantification of additional GHG production, would need to be revised drastically.

My principle concern is that the Coast Route, as illustrated by maps contained within the Report, is owned by the Union Pacific Railroad (UP), a private corporation; and that the Report has not investigated whether the UP intends to maintain or continue ownership of that line as far into the future as the Report estimates will be needed for the Diablo decommissioning. Given the precipitous drop in freight traffic on that line, coupled with ongoing and likely increased maintenance, there may be little incentive for the UP to continue investing in the route, absent perhaps a state takeover of the line for the limited passenger trains that remain.

Oil traffic has been a staple of the Coast Line since its inception, however pipelines took away most of that business over the years, as well as depletion of the oil resource. The operation of the "oil cans" train between San Ardo and southern California ended in December of 2018. A summary of the situation along the coast is provided in a specialized rail publication:

G.2 - 2

The Coast Line is a secondary freight carrier. It has for years been primarily a passenger carrier with the San Joaquin Line the primary freight hauler. It is available to relieve the San Joaquin Line when needed due to congestion, but most of the time the UP doesn't have much traffic on it. The Coast Line is in much better shape under the UP than it was under the SP 30 years ago. Still it is expensive to maintain. Much of it is wedged between ocean and cliffs. Erosion is a constant problem with the ocean undermining the tracks and there is the threat of landslide from nearby cliffs and hillsides. Recent history has seen an increase in violent storms which create much damage to infrastructure, particularly in low lying areas such as in Ventura and Santa Barbara Counties where the Coast Line runs.¹ [emphasis added]

Since that article was first published (2012) rail traffic has further deteriorated along the Coast Line. Shifts in global markets, international trade, and oil production have drastically altered the economic landscape of freight railroading. Private railroads are undergoing drastic realignments forcing them to reevaluate their priorities. Maintaining the Coast Line may not be in the UP's best financial interest:

One underutilized UP route that would seem to be redundant under PSR [Precision Scheduled Railroading] tenets is California's Coast Route. (Union Pacific owns between Oakland and Moorpark.) From a system freight perspective, it is circuitous, underutilized and without much current and future online freight potential. Except for local freight service and an occasional through freight, the line is an expensive holdover and congestion safety valve for the UP. From UP's perspective, what little traffic there is can be drayed to the Central Valley and loaded onto rail cars at load centers or large efficient cold warehouses (perishables). Added to this evaluation is the future risk of rising sea levels, floods and tide enhanced storm surge....
(In addition if UP focuses on minimizing costs, sells the route to another operator or if the route is severed by a natural disaster, California's costs will rise as the Coast Route becomes more and more a passenger only railroad (i.e. Raton Pass).²

One option to keeping the Coast Line viable and maintained would be for the state or other local entity to purchase the railroad for passenger use, but even that option would circumscribe its usefulness as a freight railroad, or at least create potential conflicts for dual use, with attendant costs and expenses for capital improvements:

One of the benefits of the state and counties buying the Coast Line is that they would gain ownership of the excess capacity that exists on segments of the line

¹ Braymer, Noel, "Why Not Lease The Coast Line?" *Steel Wheels*, December 2012 as reprinted in *Steel Wheels*, Rail Passenger Association of California and Nevada, Second Quarter, 2019, pp. 8-9.
² Roberts, Steve, "California's Coast Route, Let's Make a Deal," *Steel Wheels*, Rail Passenger Association of California and Nevada, First Quarter 2019, pp. 6-7.

today. Capacity requirements can be set for the needs of the passenger operation, not locked up to protect a theoretical freight rail line capacity of 20 through freight trains per day, a volume unlikely to appear. This protection of theoretical freight capacity drives future service expansion capital needs. Passenger oriented ownership would mean more passenger rail frequencies with less capacity investment (i.e., extended sidings). This would be a partial offset to the purchase price.

State/county ownership changes the relationship with the freight carriers. Any freight trains operated under the agreement would have to fit the existing sidings and siding spacings or the freight railroad would pay to extend the sidings.³ [emphasis added]

Thus, at some point in the next decade, both the politics and economics of railroading may impact freight capacity, operations and line maintenance in a manner that would deserve weighted consideration in the context of planning and risk management for rail transport of the largest volume of Diablo's decommissioning waste.

As a contemporary example of the problems of ongoing coastal rail maintenance, I reference the following, from the 2019 staff summary of the issue currently under consideration by the California Coastal Commission:

The Union Pacific Railroad (UPRR) proposes to replace Narion Bridge, which provides rail access across San Antonio Creek on northern Vandenberg Air Force Base in Santa Barbara County. The existing bridge is over 120 years old and its steel supports have deteriorated, threatening the integrity of the bridge. Replacing the bridge is needed to maintain vital commercial rail transport and continued public travel on Amtrak's Pacific Surfliner and Coast Starlight rail lines.⁴ [emphasis added]

An issue worthy of investigation by PG&E is a determination of how many other bridges, trestles and structures are aged or degraded to the point of presenting a hazard, and an evaluation of how likely is further degradation in the next dozen years before the intense volume of Diablo wastes will be moving across them. What are the costs of repair or restoration and will either the private railroad or a public entity have the resources necessary to enact those before they are needed by PG&E? As well, it would be important to also consider the various time frames for permitting (and possible mitigation costs) needed for any such work. If, by 2035, PG&E's Diablo waste is the only freight traffic on the line, who would pay those costs? Has PG&E made any contact with UP management with regard to this?

In its responses to the above mentioned permit, the UP makes its case for approval of the needed coastal permits, and in doing so provides a statistical analysis of the line's use.

³ Id.

⁴ Staff Report, Consistency Certification No.: CC-0003-19, Th11a; California Coastal Commission, April 24, 2019, Page 1.

G.2 – 5

Currently there is only one freight train per week in each direction (which consists of mostly empty containers being ferried from one end to the other) and as the previous quotes have noted, that volume is unlikely to grow.

A Commission objection to the proposed bridge replacement would result in adverse coastal resource effects, [including]: (3) adverse air quality, water quality, greenhouse gas emissions, and excessive energy use, which would occur if users of the rail line needed to convert to automobile and truck transport, or significantly longer alternative rail corridors. UPRR states:

Direct rail travel between San Luis Obispo and Santa Barbara is 119 rail miles. Train travel from San Luis Obispo to Santa Barbara would need to go through Sacramento, to Barstow, through Los Angeles, and back up to Santa Barbara, a route that covers over 1,000 miles.

If rail transport is not available between San Luis Obispo and Santa Barbara due to bridge failure or outage, surface road transport would add more than 1,000 commercial trucks per week and 1,000 cars (at 2 persons/car/day), or 7,000 cars per week x 4 weeks or about 32,000 vehicle trips per month. Alternative rail travel would route trains via Sacramento, through the Central Valley, across the Tehachapi Range to Barstow, in order to connect to Los Angeles.

Amtrak runs 6 trains per day across the Narion Bridge. Freight (long-haul loads) uses the rail 2 times per week, plus local haulers use the rail 2 times per week. Each freight train provides the equivalent of approximately 250 commercial truck trips per train.⁵ [emphasis added]

In conclusion, A4NR remains concerned that the UCLA Report analyzes railroad transport safety from an abstract point of view without, quite literally, looking at the tracks on the ground. It is one thing to use "modeling" for railroad analysis; it is yet another to be a "model railroader." When large volumes of waste are involved, some of it potentially low-or-high-level in radioactivity, it is best to remember we are not playing with toy trains.

We appreciate your attention to this matter and look forward to your response.

Yours truly,

/s/

David Weisman
Outreach Coordinator

⁵ Id., page 17.

G.2 – 6

Info@DCISC.org

From: info@dcisc.org
Sent: Monday, July 6, 2020 12:45 PM
To: peterlam1@aol.com; Robert J. Budnitz; 'PER PETERSON'; 'Ferman Wardell'; 'Rick McWhorter'
Cc: info@dcisc.org
Subject: FW: A4NR comments on Decommissioning waste via Rail Transport re: UCLA Garrick Study presented to DCDEP
Attachments: 07032020 A4NR-DCDEP-Transportation01.pdf

Members & Consultants:

FYI – received the attached communication today from David Weisman/A4NR, addressed to the Decommissioning Panel, concerning continuing viability of rail transport during DCPD decommissioning.

Bob R
(831) 424-3672 (home)
info@dcisc.org

From: David Weisman <davidjayweisman@gmail.com>
Sent: Monday, July 6, 2020 10:49 AM
To: dcddep@googlegroups.com; canders@strategicinit.com; Jones, Thomas <tpj2@pge.com>; pns3@pge.com
Cc: karaslo@charter.net; sherr139@charter.net; tkeith@co.slo.ca.us; Alex Karlin <askenviro1aw@gmail.com>; cc: Linda Seeley <lindaseeley@gmail.com>; Guy Savage <gsavage@co.slo.ca.us>; Adam Hill <ahill@co.slo.ca.us>; Bruce Gibson <bgibson@co.slo.ca.us>; Debbie Arnold <darnold@co.slo.ca.us>; Lynn Compton <lcompton@co.slo.ca.us>; John Peschong <jpeschong@co.slo.ca.us>; Cochran <Justin.cochran@energy.ca.gov>; Tom Luster <coastal.ca.gov>; info@dcisc.org; Zimor, David <david.zimor@cpuc.ca.gov>; Haas, Greg <greg.haas@mail.house.gov>
Subject: A4NR comments on Decommissioning waste via Rail Transport re: UCLA Garrick Study presented to DCDEP

Dear Mr. Anders, DCDEP et al.,

Please see attached comments of A4NR regarding the analysis of rail transport for Diablo Canyon decommissioning waste as presented in the UCLA-Garrick report.

Yours truly,

DAVID WEISMAN
Outreach Coordinator

Alliance for Nuclear Responsibility
PO Box 1328
San Luis Obispo, CA 93406
(805) 704-1810 cell
davidjayweisman@gmail.com
www.a4nr.org

G.2 – 7

DAVID WEISMAN
Outreach Coordinator

Alliance for Nuclear Responsibility
PO Box 1328
San Luis Obispo, CA 93406
(805) 704-1810 cell
davidjayweisman@gmail.com
www.a4nr.org

G.2 – 8

From: Linda Seeley <lindaseeley@gmail.com>
 Sent: Saturday, July 11, 2020 1:44 PM
 To: dcsafety@dcisc.org
 Cc: dcsep@googlegroups.com
 Subject: Outages
 Attachments: WebPage.pdf

Peter Dietrich
 Senior Vice President and Chief Nuclear Officer

DTE Energy Company
 6400 N. Dixie Highway, Newport, MI 48166
 Tel: 734.586.4133 Fax: 734.586.1431
 Email: peter.dietrich@dteenergy.com

DTE

Dear DCISC Members,

At your last meeting in SLO, I mentioned my concern about the possibility of the spread of COVID-19 during the upcoming outage at Diablo Canyon. My concerns centered around the outage workers who come into town from all across the country and who, I believe, are by their nature, risk-takers. This letter from the DTE, owner of the Fermi plant in Monroe, MI, to NRC is a good example of the concerns I raised.

I have done some digging into the back story at Fermi. Apparently, the number of infections is not reflected in the Monroe County public health data because traveling workers who contract COVID are accounted for in their own home jurisdictions.

I am copying the DCDEP on this email so that they are aware of the seriousness of this problem.

Sincerely,
 Linda Seeley

<https://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber=ML20188A339>

July 6, 2020
 NRC-20-0045

10 CFR 26.205(d)

U.S. Nuclear Regulatory Commission
 Attention: Document Control Desk
 Washington, DC 20555-0001

Fermi 2 Power Plant
 NRC Docket No. 50-341
 NRC License No. NPF-43

Subject: Fermi 2 Work Hour Limits Exemption Request due to COVID-19 Supplement

- References:
1. NRC Letter from H. Nieh to NEI, "U.S. Nuclear Regulatory Commission Planned Actions Related to the Requirements for Work Hour Controls During the Coronavirus Disease 2019 Public Health Emergency," March 28, 2020 (ML20087P237).
 2. DTE Electric letter to NRC "Fermi 2 Work Hour Limits Exemption Request Due to COVID-19" NRC-19-0024, dated May 11, 2020 (ML20132A239)
 3. NRC Letter to DTE, "Fermi-2 – Exemption from Select Requirements Of 10 CFR PART 26 (EPID L-2020-LLE-0056 [COVID-19])," dated May 14, 2020 (ML20133K055)

As a result of the Coronavirus Disease 2019 (COVID-19) public health emergency (PHE), DTE Electric Company (DTE) requested NRC approval for Fermi Unit 2 (Fermi 2) to proactively enter into the alternative work hour controls in Reference 2. By implementing the alternate work hour controls, DTE is proactively taking steps to complete necessary refueling outage work, testing, and inspections in a manner that supports worker and neighboring community safety to limit the spread of the COVID-19 virus. Due to a COVID-19 outbreak affecting the Torus recoating effort, the Fermi 2 refueling outage has extended to over 100 days. Additional alternative work hour controls are needed to support completion of the Torus recoating effort and refueling outage. The 60 days of alternate control exemptions requested in Reference 2 will expire prior to completion of the refueling outage. This request is for an extension to the alternate work hour controls until August 10, 2020 so Fermi 2 can effectively support efforts to maintain Center for Disease Control recommendations related to social distancing, worker screening, and limiting close-proximity work. Extension of the alternative work hour controls

G.2 – 9

G.2 – 10

USNRC
 NRC-20-0045
 Page 2

will facilitate worker and community protection as we complete the current outage and subsequent operation safely and efficiently.

As the US Departments of Homeland Security and Energy have stated in their guidance, the electric grid and nuclear plant operation make up the nation's critical infrastructure similar to the medical, food, communications, and other critical industries. The Fermi 2 outage and subsequent operation must be conducted such that the plant is available when needed.

In accordance with Reference 1, the following information is provided in the table below:

- Positions (as described in § 26.4(a)(1) – (5)) for which either current work-hour controls will be maintained, or for which alternative controls will be required as a preventive measure.
- The date and time for which alternative controls (if necessary) will be implemented for the listed positions.

	Positions	Compliance	Begin Implementation
26.4(a)(1)	Operators	Will use site-specific alternative controls as defined in Reference 1	Will implement the alternative approach upon NRC approval
26.4(a)(2)	Health Physics and Chemistry		
26.4(a)(3)	Fire Brigade		
26.4(a)(4)	Maintenance		
26.4(a)(5)	Security		

Fermi 2 site-specific COVID-19 PHE fatigue-management controls are consistent with the constraints outlined in Reference 1 and its attachment. Fermi 2 will continue to follow the fatigue management controls, behavioral observation requirements, and self-declaration allowances currently delineated within the Fermi 2 work hour control program and procedures (MGA10 and MGA16).

Upon NRC approval, Fermi 2 will implement the alternative controls described below and discussed in Reference 1 for the management of fatigue during the period of the exemption. These controls ensure that covered workers are subjected to the following minimum controls:

- (1) not more than 16 work-hours in any 24-hour period and not more than 86 work-hours in any 7-day period, excluding shift turnover;
- (2) a minimum 10-hour break is provided between successive work periods;
- (3) 12-hour shifts are limited to not more than 14 consecutive days;
- (4) a minimum of 6 days off are provided in any 30-day period;
- (5) requirements are established for behavioral observation and self-declaration during the period of the exemption

G.2 – 11

USNRC
 NRC-20-0045
 Page 3

As described above, the requirements of 10 CFR 26.33, "Behavioral observation"; 10 CFR 26.209, "Self-declarations"; and 26.211, "Fatigue assessments" remain in effect during the period of the exemption. These requirements provide reasonable assurance that should personnel become impaired due to fatigue, requirements and processes are in place to identify the impairment through observation by plant staff or by worker self-declaration, and to assess and address instances of impairment through fatigue assessments.

Upon NRC approval, Fermi 2 will continue to implement the alternative controls described in Reference 1 for the management of fatigue until August 10, 2020. The extension beyond the initial period of 60 days will provide Fermi 2 time needed to complete the refueling outage and transition back to online rules for covered workers.

DTE requests approval of this request by no later than July 10, 2020.

No new commitments are being made in this submittal.

Should you have any questions or require additional information, please contact Ms. Margaret Offerle, Manager – Nuclear Licensing, at (734) 586-5076.

Sincerely,



Peter Dietrich
 Senior Vice President and Chief Nuclear Officer

cc: NRC Project Manager
 NRC Resident Office
 NRC Region III Branch Chief Division of Reactor Projects Branch 4
 Regional Administrator, Region III

G.2 – 12

Info@DCISC.org

From: info@dcisc.org
Sent: Tuesday, July 21, 2020 9:51 AM
To: 'Robert J. Budnitz'; 'Peter Lam'; 'PER PETERSON'; 'Ferman Wardell'; 'Rick McWhorter'
Cc: info@dcisc.org
Subject: FW: Unit 2 Offline - 2Y22 Update

Members & Consultants:

I saw Bob's email this morning concerning the news article on KSBY about Unit-2 being offline. I went back and found that Hector only sent the notice on Saturday to info@dcisc.org and not to the Members or Consultants.

My apologies for not having noticed this and not having sent the email message from Paula Gerfen out to you all before this.

Bob R
(831) 424-3672 (home)
info@dcisc.org

From: Garcia, Hector M <HMG4@pge.com>
Sent: Saturday, July 18, 2020 12:03 PM
To: info@dcisc.org
Cc: Baldwin, Thomas <TRB1@pge.com>
Subject: Unit 2 Offline - 2Y22 Update

DCISC,

This notice is for awareness. That unit 2 is offline.

Regards
Hector

From: A Message from Paula Gerfen <AMessagefromPaulaGerfen@pge.com>
Sent: Friday, July 17, 2020 7:44:13 PM
To: DCPNP *NPG Nuclear Power Generation Business Unit <DCPPNPG@pge.com>
Subject: Unit 2 Offline - 2Y22 Update



G.2 - 13

DCPP Team,

This afternoon, operators completed a shutdown of Unit 2 to Mode 3 to allow for emergent maintenance on the main generator hydrogen system. This work can only be performed with the unit offline. To be clear, this maintenance issue has no impact to the health and safety of the public or to plant personnel.

The Outage Control Center has been activated since last Sunday in order to support the planned Maintenance Outage Window for Diesel Emergency Generator 1-2. Early this morning, operators identified a noticeable increase in hydrogen usage in the Unit 2 main generator. Per OM7.ID1, *Problem Identification and Resolution*, subsequent breakout meetings and troubleshooting commenced in order to inform a plan, and the decision was made to take the unit offline. Taking Unit 2 offline reflects our conservative decision making, commitment to maintain the plant in a safe and stable condition, and our dedication to safely operating this station.

Per regulations, we made a non-emergency notification to the Nuclear Regulatory Commission (NRC) and have been in communication with our NRC Resident Inspectors. We will be working closely with a team of specialists from Siemens on this issue. Once the maintenance is safely completed, we will return Unit 2 to full power.

We will keep you updated as we methodically work through this forced outage.

Please stay focused on safety and maintain all protocols to protect your health as well.

Paula

G.2 - 14

Info@DCISC.org

From: info@dcisc.org
Sent: Friday, July 24, 2020 6:44 AM
To: 'Rochelle Becker'
Cc: info@dcisc.org
Subject: RE: PG&E's request for SWQCB OTC compliance waiver

Rochelle -

This will acknowledge and thank you for your message and the request that the DCISC join A4NR in its opposition to the SWRCB's proposed extension in the draft OTC Policy Amendment of the administrative compliance date for Unit-2's waiver to allow Unit-2 to operate to August 2025, which is to be heard by the Board at its meeting on September 1, 2020.

I will of course forward your email with request and the attached letter from the Alliance, together with the link to the article regarding positive tests for Covid-19 among for workers at DCP to our Members and Consultants. As I know you understand very well, in order for the DCISC Members to discuss and consider taking action on a substantive matter such as that before the SWRCB on September 1, the Committee would need to do so at a public meeting.

Thank you for your good wishes. My wife and I are staying close to home so as to shelter-in-place whenever possible and so far we're doing well but like so many folks, beginning to feel a bit restricted in our summer activities! I hope all is and will continue to be well with you and your family - and once again thank you for contacting the DCISC.

Bob
(831) 424-3672 (home)
info@dcisc.org

From: Rochelle Becker <rochellea4nr@gmail.com>
Sent: Thursday, July 23, 2020 9:38 AM
To: DCISC <info@dcisc.org>; DCSafety Dcisc <dcisafety@dcisc.org>
Subject: PG&E's request for SWQCB OTC compliance waiver

Hi Rob,

I hope you and your family are doing well in these chaotic times. I did watch the last DCISC and fully support the comments of Mr. Geesman and Mr. Weisman.

As you know, the Alliance for Nuclear Responsibility was appointed as a member of the SWQCB's OTC oversight meeting before the Joint Proposal to retire Diablo Canyon. It is in that capacity that I write hoping that the DCISC will join A4NR in our letter of concern.

Please see the attached request of the Alliance for Nuclear Responsibility to sever the Diablo Canyon Nuclear Power Plant compliance date waiver from the Draft OTC Policy Amendment scheduled for consideration at the SWRCB meeting on September 1, 2020.

G.2 - 15

TODAY's news:

This morning it was announced that there have been 10 positive tests for employees and contract workers at Diablo, I have also included the link to this article as we have expressed concern in the past, especially as PG&E prepares for an outage. https://kompostrecord.com/news/local/diablo-canyon-employees-contractors-tested-positive-for-covid-19/article_1d934cf8-0172-573c-ab4c-36f31acbc161.html

In Peace
Rochelle

Rochelle Becker, Executive Director
Alliance for Nuclear Responsibility
PO 1328
San Luis Obispo, CA 93406
www.a4nr.org

G.2 - 16



ALLIANCE FOR NUCLEAR RESPONSIBILITY

PO Box 1328
San Luis Obispo, CA 93406
(858) 337-2703
(805) 704-1810
www.a4nr.org

July 23, 2020

Eileen Soback
Executive Director
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Transmitted by e-mail

RE: Request to sever the Diablo Canyon Nuclear Power Plant compliance date waiver from the Draft OTC Policy Amendment scheduled for consideration at the SWRCB September 1, 2020 meeting.

Dear Ms. Soback:

The Alliance for Nuclear Responsibility ("A4NR") strongly urges you to remove the gratuitous compliance waiver bestowed upon PG&E's Diablo Canyon Nuclear Power Plant from the recommended Draft OTC Policy Amendment coming before the Board at its September 1, 2020 meeting.

Because of its around-the-clock operation, the entrainment impact on marine organisms from extending Diablo Canyon's Unit 2 compliance date for an additional eight months in 2025 will significantly exceed the aggregated amounts attributable to the current 1-3-year extensions contemplated for the four, seldom operated, Southern California peaking plants.¹ Yet the 2021-2023 "grid reliability" rationale for the Southern California extensions is clearly inapplicable to the 2025 Diablo Canyon extension. Instead, the March 18, 2020 Draft Staff Report explains that the Diablo Canyon waiver is in response to a request from PG&E just two months earlier that "will address a previously-known discrepancy while implementing the terms of an agreement approved by the CPUC to retire Diablo Canyon."² The Draft Staff Report characterizes this waiver as "administrative" in nature.

¹ Based upon Table 2 of the SWRCB's 2010 Final Substitute Environmental Document.

² March 18, 2020 SWRCB Draft Staff Report, page 7.

1

G.2 - 17

- PG&E's letter purports to merely be implementing a previously promised, but nowhere documented, correction by SWRCB staff of "an inaccurate compliance date." Reference is made to the transcript of the May 4, 2010 adoption hearing, but that transcript confirms the SWRCB's clarity in adopting the December 31, 2024 compliance date,⁸ and includes no mention of any concern about an "inaccurate compliance date" in testimony by PG&E's very same lobbyist at the May 4, 2010 adoption hearing.
- PG&E's letter falsely implies that "compliance date alignment" is a key step in implementing CPUC Decision 18-01-022, which approved the Joint Proposal. The CPUC decision is completely silent about the OTC Policy and the Diablo Canyon compliance deadline, and expressly contemplates Unit 2 retirement by 2025 rather than in 2025.
- PG&E's letter claims that Diablo Canyon's generation is a "significant benefit" to the state's ongoing effort to combat global climate change, but given the high cost of electricity from Diablo Canyon (which PG&E projects to be \$1.258 billion above-market in 2020), the greenhouse gas displacement PG&E claims comes at a cost of \$157.25 - \$209.67 per million metric ton. The price paid in California's cap-and-trade auction has never exceeded \$17.87 per million metric ton, meaning that if Diablo Canyon's above-market cost was considered a carbon surcharge, it could be used to purchase between 8.8 and 11.7 times more carbon displacement elsewhere.
- PG&E's letter also speaks of Diablo Canyon's "disproportionately low level of impingement and entrainment impact," but neglects to acknowledge that the plant's exceptionally large cooling water flows caused the SWRCB's 2010 environmental document to find significant entrainment impacts (an average 10.8% mortality effect) for nine taxa of rocky reef fish across an offshore area of roughly 93 square miles.

I attended each meeting of the SWRCB's Review Committee for nuclear-fueled power plants and there was never any mention of "a previously-known discrepancy" or "an inaccurate compliance date" for Diablo Canyon. The SWRCB staff explained its reasoning for the Diablo Canyon compliance date at the Board's December 1, 2009 workshop: "we changed the compliance date for the Diablo Canyon Power Plant. Our intent was that the nuclear plants would need to comply by the earliest relicensing dates, and we received some information that the final compliance date for the Diablo Canyon Power Plant Unit 1 had changed to November 2nd, 2024, so we changed the final compliance date for Diablo Canyon to December 31st, 2024."⁹ The SWRCB transcript shows that the 2024 deadline was acknowledged by PG&E's

⁸ May 4, 2010 SWRCB transcript, page 23, lines 5-7.

⁹ December 1, 2009 SWRCB transcript, page 27, lines 1-7.

3

G.2 - 19

As a member of the SWRCB's Review Committee for nuclear-fueled power plants established under Section 3.D(3) of the OTC Policy, and as a member of the subcommittee¹⁰ tasked by the Review Committee to submit written comments to the SWRCB in 2014, let me say that the approach taken by the March 18, 2020 Draft Staff Report to the Diablo Canyon waiver is an extremely inappropriate means by which to amend an important state policy. As noted in the first sentence of the subcommittee's 2014 comments, "the Subcommittee ... finds that there is no basis for an exemption from the once-through-cooling (OTC) Policy for Diablo Canyon Power Plant ..."¹¹ The fact that neither the subcommittee nor the Review Committee appear to have been consulted in the development of the compliance waiver recommendation should constitute a red flag.

Similarly, notwithstanding the March 18, 2020 Draft Staff Report's oblique reference to "(b)aseline support for grid reliability" stemming from the Diablo Canyon waiver,¹² there is simply no discussion of modifying the 2024 Diablo Canyon compliance date anywhere in the referenced January 23, 2020 SACCWIS¹³ Report. In fact, beginning with its 2016-2017 Transmission Plan, the California Independent System Operator has assumed (and planned for) a 2024 retirement date for Diablo Canyon in each of its past four annually adopted transmission plans.¹⁴

A4NR was one of the co-sponsors of the 2016 Joint Proposal for the retirement of Diablo Canyon that is mentioned in the March 18, 2020 Draft Staff Report. Section 6.2 of the Joint Proposal addressed PG&E's plan to request an amendment of the OTC Policy, noting that "The Parties will review the amendment request and reserve the right to oppose it or seek additional conditions." Rather than uphold its contractual commitment to advance review and discussion by the Joint Proposal signatories, PG&E unilaterally dispatched its lobbyist to seek the Unit 2 compliance date extension.

The January 17, 2020 written request from PG&E's director of state agency relations to the SWRCB staff, unsurprisingly (given its lack of external review), contains several material misrepresentations:

¹⁰ As noted in its written comments, the subcommittee was comprised of representatives from the California Energy Commission, the California Public Utilities Commission, the Center for Energy Efficiency and Renewable Technologies and the Alliance for Nuclear Responsibility.

¹¹ https://www.waterboards.ca.gov/water_issues/programs/otc/cw3316/rctfpp/docs/subcommittee_111313.pdf

¹² March 18, 2020 Draft Staff Report, p. 19.

¹³ SACCWIS is an acronym for the joint-agency Statewide Advisory Committee on Cooling Water Intake Structures: that was established under Section 1.1 of the OTC Policy to "advise the State Water Board on the implementation of this Policy to ensure that the implementation schedule takes into account local area and grid reliability." The SACCWIS is comprised of representatives of the California Energy Commission, the California Public Utilities Commission, the California Independent System Operator, the California Coastal Commission, the California State Lands Commission, the California Air Resources Board, and the SWRCB.

¹⁴ California Independent System Operator, 2016-2017 Transmission Plan, page 14; 2017-2018 Transmission Plan, page 16; 2018-2019 Transmission Plan, page 18; and 2019-2020 Transmission Plan, page 21.

2

G.2 - 18

lobbyist (without complaint) three separate times during the December 1, 2009 workshop.¹⁰ The SWRCB staff restated this rationale at the May 4, 2010 adoption hearing ("And the Diablo Canyon final compliance date was extended to 2024; that was to line up with the relicensing period."¹¹), again with no objection voiced by PG&E.

The United States Supreme Court's recent decision to uphold the immigration relief program known as Deferred Action for Childhood Arrivals invoked a governance standard that the SWRCB would be wise to heed:

Justice Holmes famously wrote that "[m]en must turn square corners when they deal with the Government." *Rock Island, A. & L. R. Co. v. United States*, 254 U. S. 141, 143 (1920). But it is also true, particularly when so much is at stake, that "the Government should turn square corners in dealing with the people." *St. Regis Paper Co. v. United States*, 368 U. S. 208, 229 (1961) (Black, J., dissenting). The basic rule here is clear: An agency must defend its actions based on the reasons it gave when it acted. This is not the case for cutting corners to allow DHS to rely upon reasons absent from its original decision.¹²

PG&E's reputation as one of the most notorious corner-cutters and string-pullers in California history is well-established, but the SWRCB should not allow its widely heralded OTC Policy to be so easily subverted. A4NR urges that you withdraw the Diablo Canyon compliance date waiver from the recommended Draft OTC Policy Amendment, and respectfully requests that you reopen the comment period if necessary to enable this letter to become part of the record.

Sincerely,

/s/

Rochelle Becker
Executive Director

cc: Board Members
Jonathan Bishop, Chief Deputy Director

¹⁰ December 1, 2009 SWRCB transcript, page 124, line 7; page 124, line 18; and page 132, line 3.

¹¹ May 4, 2010 SWRCB transcript, page 23, lines 5-7.

¹² *Department of Homeland Security v. Regents of Univ. of Cal.*, 591 U. S. ____ (2020) (slip op., at 17).

4

G.2 - 20

From: info@dcisc.org
 Sent: Friday, July 24, 2020 11:39 AM
 To: 'Peter Lam'; 'Robert J. Budnitz'; 'PER PETERSON'; 'Ferman Wardell'; 'Rick McWhorter'
 Cc: info@dcisc.org
 Subject: FW: Request for DCISC to Join A4NR in Opposing SWRCB OTC Compliance Waiver for DCP
 Attachments: 07232020 A4NR-SWRCB01.pdf; SWRCB Staff Report - Adjustment of DCP OTC Compliance Schedule - July 21 2020 Meeting (003).pdf

Members & Consultants –

Please see the email below with its attachment and the link to a news article.

On behalf of A4NR, Ms. Becker is requesting the Committee consider joining with A4NR in opposition to the State Water Resources Control Board's proposed extension in the draft OTC Policy Amendment of the administrative compliance date for Unit-2's waiver, which if granted would allow Unit-2 to operate to August 2025. This matter is to be considered by the SWRCB at its meeting on September 1, 2020. This is the same issue on which Ms. Becker previously contacted the Committee in her email on June 8 which I forwarded to you on that same date (at 4:11 p.m.). I have again attached the draft staff report on this issue (it was previously sent on June 8 and I can forward that email to anyone upon request). DCP is referenced on Pages 6-7, on 18-21 and on 23-25 and in the references (for the Joint Proposal and for CPUC Decision 18-01-022 approving plant closure). The draft OTC Policy Amendment is also available online if anyone is interested in reviewing it.

I have responded to Ms. Becker and acknowledged receipt of her request and thanked her for her message (and the link to the news article on positive COVID-19 tests for DCP workers). I also informed her that in order for the DCISC to take any action on a substantive topic such as writing in support of A4NR's position to the SWRCB that the matter would need to be considered and acted upon at a noticed public meeting. As the SWRCB is scheduled to hear the matter on September 1 and the DCISC does not meet until October 22-23 this would require a DCISC meeting to be convened for this purpose before September 1.

As this represents a scheduling issue Members are free to exchange views on whether the matter warrants a special meeting and I can then respond to Ms. Becker accordingly. Your substantive comments on the Committee's response to this request are most welcome and I will incorporate them into a further response to Ms. Becker's request.

Hope everyone continues to be well. I will be off work for a short vacation next week which I am very much looking forward to although no real plans for any travel.

Best,

Bob R
 (831) 424-3672 (home)
info@dcisc.org

G.2 – 21

DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
 ROBERT J. BUDNITZ
 PETER LAM
 PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

July 23, 2020

The Honorable David Hochschild
 Commissioner & Chair
 California Energy Commission
 1516 Ninth Street, MS-34
 Sacramento, California 95814

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations.

Dear Chairman Hochschild:

At its October 23, 2019, public meeting in Avila Beach the Diablo Canyon Independent Safety Committee decided to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Dr. Justin Cochran. The two bound volumes which comprise the Annual Report were sent previously to your office.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. We are particularly interested in information concerning the utility of the Committee continuing to provide the report as a compact disk. The Twenty-ninth Annual Report is now available on the Committee's website at www.dcisc.org in both php and pdf versions and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format.

If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
 Robert W. Rathie
 DCISC Assistant Legal Counsel

RWR:ms
 Enclosure
 Cc w/o encl.: DCISC Members

From: Rochelle Becker <rochelle4nr@gmail.com>
 Sent: Thursday, July 23, 2020 9:38 AM
 To: DCISC <info@dcisc.org>; DC Safety Dcisc <dc_safety@dcisc.org>
 Subject: PG&E's request for SWQCB OTC compliance waiver

Hi Rob,

I hope you and your family are doing well in these chaotic times. I did watch the last DCISC and fully support the comments of Mr. Geesman and Mr. Weisman.

As you know, the Alliance for Nuclear Responsibility was appointed as a member of the SWQCB's OTC oversight meeting before the Joint Proposal to retire Diablo Canyon. It is in that capacity that I write hoping that the DCISC will join A4NR in our letter of concern.

Please see the attached request of the Alliance for Nuclear Responsibility to sever the Diablo Canyon Nuclear Power Plant compliance date waiver from the Draft OTC Policy Amendment scheduled for consideration at the SWRCB meeting on September 1, 2020.

TODAY'S news:

This morning it was announced that there have been 10 positive tests for employees and contract workers at Diablo, I have also included the link to this article as we have expressed concern in the past, especially as PG&E prepares for an outage. https://hmpgnewsrecord.com/news/local/diablo-canyon-employees-contractors-tested-positive-for-covid-19/article_1d934cfr-0172-571c-ab4c-36f31acbc151.html

In Peace
 Rochelle

Rochelle Becker, Executive Director
 Alliance for Nuclear Responsibility
 PO 1328
 San Luis Obispo, CA 93406
www.a4nr.org

G.2 – 22

DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
 ROBERT J. BUDNITZ
 PETER LAM
 PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

July 23, 2020

Dr. Justin Cochran
 Senior Nuclear Policy Advisor
 California Energy Commission
 1516 Ninth Street, MS-39
 Sacramento, California 95814

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations.

Dear Dr. Cochran:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee decided to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Chairman Hochschild. The two bound volumes which comprise the Annual Report were sent previously to Chairman Hochschild's office.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. We are particularly interested in information concerning the utility of the Committee continuing to provide the report as a compact disk. The Twenty-ninth Annual Report is now available on the Committee's website at www.dcisc.org in both php and pdf versions and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format.

If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
 Robert W. Rathie
 DCISC Assistant Legal Counsel

RWR:ms
 Enclosure
 Cc w/o encl.: DCISC Members

DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

July 23, 2020

Megan K. Hey, Esq.
Deputy Attorney General
Office of the California Attorney General
300 South Spring Street
Los Angeles, California 90013

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Ms. Hey:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. The two bound volumes which comprise the Annual Report were sent previously to the attention Senior Assistant Attorney General, Natural Resources Section.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. We are particularly interested in information concerning the utility of the Committee continuing to provide the report as a compact disk. The Twenty-ninth Annual Report is now available on the Committee's website at www.dcisc.org in both php and pdf versions and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RRW:rr
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL • ROBERT R. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY, CA • 93940
TELEPHONE (800) 439-6688/(831) 647-1044 • FACSIMILE (831) 373-7106 • INFO@DCISC.ORG

G.2 – 25

DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

July 23, 2020

David Zizmor, Esq.
California Public Utilities Commission
Energy Division
505 Van Ness Avenue
San Francisco, California 94102

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Zizmor:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. Compact disks are also being sent to Ms. Maria Salinas and Ms. Shannon O'Rourke the two bound volumes which comprise the Annual Report were sent previously to the office of the CPUC Executive Director and to Mr. Truman Burns of ORA.

The Members of the Committee welcome and invite any thoughts and comments which you might have concerning the value and usefulness of this and the previous DCISC annual reports. We are particularly interested in information concerning the utility of the Committee continuing to provide the report as a compact disk. The Twenty-ninth Annual Report is now available on the Committee's website at www.dcisc.org in both php and pdf versions and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

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G.2 – 27

DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

July 23, 2020

Ms. Shannon O'Rourke
Chief of Staff
Office of President Batjer
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, California 94102

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Ms. O'Rourke:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. Compact disks are also being sent to David Zizmor, Esq. and Ms. Maria Salinas of the Energy Division. The two bound volumes which comprise the Annual Report were sent previously to the office of the CPUC Executive Director and to Mr. Truman Burns of ORA.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. We are particularly interested in information concerning the utility of the Committee continuing to provide the report as a compact disk. The Twenty-ninth Annual Report is now available on the Committee's website at www.dcisc.org in both php and pdf versions and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL • ROBERT R. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY, CA • 93940
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G.2 – 26

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DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

July 23, 2020

Ms. Maria Salinas
California Public Utilities Commission
Energy Division
505 Van Ness Avenue
San Francisco, California 94102

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Ms. Salinas:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. Compact disks are also being sent to Ms. Shannon O'Rourke and David Zizmor, Esq. The two bound volumes which comprise the Annual Report were sent previously to the office of the CPUC Executive Director and to Mr. Truman Burns of ORA.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
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G.2 – 28

DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

July 23, 2020

Mr. Joseph Guzzardi
Emergency Services Manager
Office of Emergency Services
County of San Luis Obispo
County Government Center
San Luis Obispo, California 93408

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Guzzardi:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
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G.2 - 29

DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

July 23, 2020

Mr. Hector Garcia
Chief Nuclear Officer Support Manager
Pacific Gas & Electric Company
Diablo Canyon Power Plant
P.O. Box 56
Mail Code 104/6/641
Avila Beach, California 93424

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Garcia:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Vice President, Nuclear Generation and Chief Nuclear Officer James Welsch, Director of Generation Business Planning Mr. Thomas Baldwin, the Director Government Relations, Mr. John Lindsay, Communications Representative, Ms. Suzanne Hosn, Senior Manager and to DCCP Chief Counsel Jennifer Post, Esq. of PG&E's Law Department. The two bound volumes which comprise the Annual Report were sent previously to Mr. Welsch.

The Members of the Committee welcome and invite any thoughts and comments which you might have concerning the value and usefulness of this and the previous DCISC annual reports. We are particularly interested in information concerning the utility of the Committee continuing to provide the report as a compact disk. The Twenty-ninth Annual Report is now available on the Committee's website at www.dcisc.org in both php and pdf versions and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
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OFFICE OF LEGAL COUNSEL • ROBERT R. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY • CA • 93940
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G.2 - 31

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DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

July 23, 2020

Jennifer K. Post, Esq.
Pacific Gas & Electric Company
Chief Council, DCCP
77 Beale Street, B30A
San Francisco, California 94177

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on
Safety of Diablo Canyon Nuclear Power Plant Operations.

Dear Ms. Post:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Senior Vice President Generation and Chief Nuclear Officer James Welsch, Director of Generation Business Planning Mr. Thomas Baldwin, the Director Government Relations, Mr. John Lindsay, Communications Representative, Ms. Suzanne Hosn, Senior Manager, and Mr. Hector Garcia, Chief Nuclear Officer Support Manager at Diablo Canyon. The two bound volumes which comprise the Annual Report were sent previously to Mr. Welsch.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL • ROBERT R. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY • CA • 93940
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G.2 - 30

DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

July 23, 2020

Director, Government Relations
Pacific Gas & Electric Company
1415 L Street, Suite 280
Sacramento, California 95814

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Sir or Madam:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Senior Vice President Generation and Chief Nuclear Officer James Welsch, Director of Generation Business Planning Mr. Thomas Baldwin, Mr. John Lindsay, Communications Representative, Ms. Suzanne Hosn, Senior Manager, Mr. Hector Garcia, Chief Nuclear Officer Support Manager, and to DCCP Chief Counsel Jennifer Post, Esq. of PG&E's Law Department. The two bound volumes which comprise the Annual Report were sent previously to Mr. Welsch.

The Members of the Committee welcome and invite any thoughts and comments which you might have concerning the value and usefulness of this and the previous DCISC annual reports. We are particularly interested in information concerning the utility of the Committee continuing to provide the report as a compact disk. The Twenty-ninth Annual Report is now available on the Committee's website at www.dcisc.org in both php and pdf versions and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL • ROBERT R. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY • CA • 93940
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G.2 - 32

DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE: WWW.DCISC.ORG

July 23, 2020

Mr. James Welsch
Senior Vice President Generation & Chief Nuclear Officer
Pacific Gas & Electric Company
Diablo Canyon Power Plant
P.O. Box 56
Avila Beach, California 93424

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Welsch:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Director of Generation Business Planning Mr. Thomas Baldwin, DCCP Chief Counsel Jennifer Post, Esq., PG&E Law Department, the Director of Government Relations, Mr. John Lindsay, Communications Representative, Ms. Suzanne Hohn, Senior Manager and Mr. Hector Garcia, Chief Nuclear Officer Support Manager at Diablo Canyon. The two bound volumes which comprise the Annual Report were sent previously to your office.

The Members of the Committee welcome and invite any thoughts and comments which you might have concerning the value and usefulness of this and the previous DCISC annual reports. We are particularly interested in information concerning the utility of the Committee continuing to provide the report as a compact disk. The Twenty-ninth Annual Report is now available on the Committee's website at www.dcisc.org in both php and pdf versions and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure

Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL • ROBERT B. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY • CA • 93940
TELEPHONE (800) 439-6686/(831) 647-1044 • FACSIMILE (831) 373-7106 • INFO@DCISC.ORG

G.2 – 33

DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

WEBSITE: WWW.DCISC.ORG

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

July 23, 2020

R.E. Kennedy Library
Documents & Maps Department
Attn: Mr. Tim Strawn
Director of Collections Strategy and Discovery
California Polytechnic State University
San Luis Obispo, California 93407

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Strawn:

At its October 24, 2018 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein. Please make it available to the public. Compact disks are also being sent to the San Luis Obispo, Arroyo Grande and Shell Beach public libraries. The two bound volumes which comprise the Annual Report were sent previously to the Reference Department Desk at Kennedy Library.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. We are particularly interested in information concerning the utility of the Committee continuing to provide the report as a compact disk. The Twenty-ninth Annual Report is now available on the Committee's website at www.dcisc.org in both php and pdf versions and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure

Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL • ROBERT B. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY • CA • 93940
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G.2 – 35

DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

WEBSITE: WWW.DCISC.ORG

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

July 23, 2020

Martin A. Mattes, Esq.
Nossaman, Guthrie, Knox & Elliott, LLP
50 California Street
San Francisco, California 94111

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Mattes:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files.

The Members of the Committee welcome and invite any thoughts and comments which you might have concerning the value and usefulness of this and the previous DCISC annual reports. We are particularly interested in information concerning the utility of the Committee continuing to provide the report as a compact disk. The Twenty-ninth Annual Report is now available on the Committee's website at www.dcisc.org in both php and pdf versions and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure

Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL • ROBERT B. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY • CA • 93940
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G.2 – 34

DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

WEBSITE: WWW.DCISC.ORG

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

July 23, 2020

City Library
City of San Luis Obispo
995 Palm Avenue
San Luis Obispo, California 93401

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Librarian:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein. Please make it available to the public. Compact disks are also being sent to the County Public Library Branches at Arroyo Grande and Shell Beach and to the R.E. Kennedy Library at Cal Poly. The two bound volumes which comprise the Annual Report were sent previously to the Reference Department Desk at the Cal Poly Library.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this annual report. We are particularly interested in information concerning the utility of the Committee continuing to provide the report as a compact disk. The Twenty-ninth Annual Report is now available on the Committee's website at www.dcisc.org in both php and pdf versions and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RRW:mr
Enclosure

Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL • ROBERT B. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY • CA • 93940
TELEPHONE (800) 439-6686/(831) 647-1044 • FACSIMILE (831) 373-7106 • INFO@DCISC.ORG

G.2 – 36



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

WEBSITE - WWW.DCISC.ORG

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

July 23, 2020

County Library
County of San Luis Obispo
Arroyo Grande Branch
800 W. Branch
Arroyo Grande, California 93420

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Librarian:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's comments incorporated therein. Please make it available to the public. Compact disks are also being sent to the San Luis Obispo City Library, to the Shell Beach County Branch Library and to the R.E. Kennedy Library at Cal Poly. The two bound volumes which comprise the Annual Report were sent previously to the Reference Department Desk at the Cal Poly Library.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this annual report. We are particularly interested in information concerning the utility of the Committee continuing to provide the report as a compact disk. The Twenty-ninth Annual Report is now available on the Committee's website at www.dcisc.org in both php and pdf versions and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
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Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL - ROBERT R. WELLINGTON - 857 CASS STREET - SUITE D - MONTEREY - CA - 93940
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G.2 - 37



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

WEBSITE - WWW.DCISC.ORG

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

July 23, 2020

Mr. John Lindsay
Communications Representative
Energy Education Center
6588 Ontario Road
San Luis Obispo, CA 93405-8000

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Lindsay:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Senior Vice President Generation and Chief Nuclear Officer Mr. James Welsh, Director of Generation Business Planning Mr. Thomas Baldwin, DCP Chief Counsel Jennifer Post, Esq., PG&E Law Department, the Director of Government Relations, Ms. Suzanne Hosn, Senior Manager, and Mr. Hector Garcia, Chief Nuclear Officer Support Manager at Diablo Canyon. The two bound volumes which comprise the Annual Report were sent previously to Mr. Welsh.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. We are particularly interested in information concerning the utility of the Committee continuing to provide the report as a compact disk. The Twenty-ninth Annual Report is now available on the Committee's website at www.dcisc.org in both php and pdf versions and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

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G.2 - 39



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

WEBSITE - WWW.DCISC.ORG

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

July 23, 2020

County Library
County of San Luis Obispo
Shell Beach Branch
230 Leeward Avenue
Pismo Beach, California 93449

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Librarian:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein. Please make it available to the public. Compact disks are also being sent to the Arroyo Grande County Branch Library, to the San Luis Obispo City Library and to the R.E. Kennedy Library at Cal Poly. The two bound volumes which comprise the Annual Report were sent previously to the Reference Department Desk at the Cal Poly Library.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this annual report. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
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Cc w/o encl.: DCISC Members

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G.2 - 38



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

WEBSITE - WWW.DCISC.ORG

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

July 29, 2020

Ms. Suzanne Hosn
Senior Manager
Pacific Gas & Electric Company
406 Higuera
San Luis Obispo, CA 93401

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Ms. Hosn:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Senior Vice President Generation and Chief Nuclear Officer Mr. James Welsh, Director of Generation Business Planning Mr. Thomas Baldwin, Mr. John Lindsay, Communications Representative, Mr. Hector Garcia, Chief Nuclear Officer Support Manager, and to DCP Chief Counsel Jennifer Post, Esq. of PG&E's Law Department. The two bound volumes which comprise the Annual Report were sent previously to Mr. Welsh.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. We are particularly interested in information concerning the utility of the Committee continuing to provide the report as a compact disk. The Twenty-ninth Annual Report is now available on the Committee's website at www.dcisc.org in both php and pdf versions and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
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Cc w/o encl.: DCISC Members

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G.2 - 40

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DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

July 23, 2020

Alice B. Reynolds, Esq.
Governor's Senior Advisor for Energy
Office of California Governor Gavin Newsom
State Capitol
Sacramento, California 95814

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Ms. Reynolds:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. The two bound volumes which comprise the Annual Report were sent previously to the Governor's office.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. We are particularly interested in information concerning the utility of the Committee continuing to provide the report as a compact disk. The Twenty-ninth Annual Report is now available on the Committee's website at www.dcisc.org in both php and pdf versions and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
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G.2 - 41

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DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

July 23, 2020

Ms. Annie Frew
Communications Director
California State Senator Bill Monning
California Senate District 17
San Luis Obispo District Office
1026 Palm Street, Suite 201
San Luis Obispo, California 93401

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Ms. Frew:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and file.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
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G.2 - 43

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DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

July 23, 2020

Mr. Gregory L. Haas
District Representative
U.S. Representative Hon. Salud Carbajal
24th Congressional District - California
1411 Marsh Street, Suite 205
San Luis Obispo, California 93401

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Haas:

At its October 24, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and file.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
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G.2 - 42

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DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

July 23, 2020

Mr. Thomas R. Baldwin
Director, Generation Business Planning
Pacific Gas & Electric Company
Diablo Canyon Power Plant
P.O. Box 56
Avila Beach, California 93424

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Baldwin:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Senior Vice President Generation and Chief Nuclear Officer Mr. James Welsch, DCP Chief Counsel Jennifer Post, Esq., PG&E Law Department, the Director of Government Relations, Mr. John Lindsay, Communications Representative, Ms. Suzanne Hosn, Senior Manager, and Mr. Hector Garcia, Chief Nuclear Officer Support Manager at Diablo Canyon. The two bound volumes which comprise the Annual Report were sent previously to Mr. Welsch.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

G.2 - 44

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

July 23, 2020

Ms. Shelly Abajian
District Director
U.S. Senator Dianne Feinstein
District Office
2500 Tulare Street, Suite 4290
Fresno, California 93721

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Ms. Abajian:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and file.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL - ROBERT R. WELLINGTON - 857 CASS STREET - SUITE D - MONTEREY - CA - 93940
TELEPHONE (800) 439-4688/(831) 647-1044 - FACSIMILE (831) 373-7106 - RWR@DCISC.ORG

G.2 - 45

Info@DCISC.org

From: Welsch, Jim <JMW1@pge.com>
Sent: Friday, July 31, 2020 9:21 AM
To: info@DCISC.org
Subject: PG&E Announces Executive Leadership Changes
Attachments: B-K Leadership Changes 07.20.2020.pdf

DCISC Members,

For your awareness PG&E Corporation announced several leadership changes yesterday. Most notably, PG&E announced that Andy Vesey, CEO and President of Pacific Gas and Electric Company (I report to Andy), will be leaving effective August 1. In his place, Michael Lewis, currently Senior Vice President of Electric Operations, has been named interim President.

While today's announcement reflects changes at the highest levels of the company, it does not affect the current leadership or organizational structure overseeing Diablo Canyon Power Plant. To that end, we remain focused on our mission of safe and reliable operations.

The PG&E B-K filing is attached. If you'd like to discuss in greater detail or have questions, please don't hesitate to contact me.

Regards,

Jim

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

July 23, 2020

NRC Resident Inspectors
c/o Diablo Canyon Power Plant
Mail Stop 104/5/538
P.O. Box 56
Avila Beach, California 93424-0056

Re: Diablo Canyon Independent Safety Committee; 29th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Inspectors:

At its October 23, 2019 public meeting in Avila Beach the Diablo Canyon Independent Safety Committee acted to approve and adopt its Twenty-ninth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2018 through June 30, 2019. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and file.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members
OFFICE OF LEGAL COUNSEL - ROBERT R. WELLINGTON - 857 CASS STREET - SUITE D - MONTEREY - CA - 93940
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G.2 - 46

UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report: July 24, 2020
(Date of earliest event reported)

Commission File Number	Exact Name of Registrant as specified in its charter	State or Other Jurisdiction of Incorporation or Organization	IRS Employer Identification Number
001-12649	PACIFIC GAS AND ELECTRIC COMPANY	California	94-3234914
001-02348	PACIFIC GAS AND ELECTRIC COMPANY	California	94-0742640



77 BEALE STREET
P.O. BOX 770000
SAN FRANCISCO, California 94177
(Address of principal executive offices) (Zip Code)
(415) 973-1000
(Registrant's telephone number, including area code)



77 BEALE STREET
P.O. BOX 770000
SAN FRANCISCO, California 94177
(Address of principal executive offices) (Zip Code)
(415) 973-1000
(Registrant's telephone number, including area code)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- ☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
☐ Soliciting material pursuant to Rule 144a-12 under the Exchange Act (17 CFR 240.144-12)
☐ Pre-commencement communications pursuant to Rule 144-2(b) under the Exchange Act (17 CFR 240.144-2(b))
☐ Pre-commencement communications pursuant to Rule 136-1(c) under the Exchange Act (17 CFR 240.136-1(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, no par value	PCG	The New York Stock Exchange
Equity Units	PCOU	The New York Stock Exchange
First preferred stock, cumulative, par value \$25 per share, 3% series A redeemable	PCG-PE	NYSE American LLC
First preferred stock, cumulative, par value \$25 per share, 3% redeemable	PCG-PD	NYSE American LLC
First preferred stock, cumulative, par value \$25 per share, 4.50% redeemable	PCG-PG	NYSE American LLC
First preferred stock, cumulative, par value \$25 per share, 4.50% redeemable	PCG-PH	NYSE American LLC
First preferred stock, cumulative, par value \$25 per share, 4.50% series A redeemable	PCG-PI	NYSE American LLC
First preferred stock, cumulative, par value \$25 per share, 4% nonredeemable	PCG-PA	NYSE American LLC
First preferred stock, cumulative, par value \$25 per share, 5.00% nonredeemable	PCG-PB	NYSE American LLC
First preferred stock, cumulative, par value \$25 per share, 5% nonredeemable	PCG-PC	NYSE American LLC

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (240.12b-2 of this chapter):

Emerging growth company ☐ PG&E Corporation ☐

G.2 - 47

G.2 - 48

Emerging growth company ☐ Pacific Gas and Electric Company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

PG&E Corporation ☐
Pacific Gas and Electric Company ☐

Item 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

On July 29, 2020, PG&E Corporation and its subsidiary, Pacific Gas and Electric Company (the "Utility"), disclosed the following management changes: (i) effective August 15, 2020, Janet C. Loduca will step down from her position as Senior Vice President and General Counsel of PG&E Corporation and the Utility, (ii) effective August 15, 2020, John R. Simon will be appointed Executive Vice President, General Counsel and Chief Ethics & Compliance Officer of PG&E Corporation and the Utility, (iii) Andrew M. Vesey will no longer serve as Chief Executive Officer and President of the Utility, effective as of August 1, 2020, and will no longer serve as a director of the Utility and (iv) effective August 1, 2020, Michael Lewis, Senior Vice President of Electric Operations of the Utility, will serve as Interim President of the Utility.

Ms. Loduca, who informed the company of her intended departure on July 24, 2020, is eligible to receive severance benefits under the PG&E Corporation Officer Severance Policy (the "Officer Severance Policy"), as described PG&E Corporation's and the Utility's Form 10-K/A filed on March 31, 2020.

Mr. Vesey is also eligible to receive severance benefits under the Officer Severance Policy, as described PG&E Corporation's and the Utility's Form 10-K/A filed on March 31, 2020, subject to Mr. Vesey delivering a customary release of claims.

From May 2019 to present, Mr. Simon, 55, has served as Executive Vice President of Law, Strategy & Policy. From January 2019 to May 2019, Mr. Simon served as Interim Chief Executive Officer of the Corporation. From March 2017 to January 2019, Mr. Simon served as Executive Vice President and General Counsel for the Corporation. Mr. Simon joined the Corporation in 2007 and has held several senior roles within PG&E, including Executive Vice President, Corporate Services and Human Resources and Senior Vice President, Human Resources.

From January 2019 to present, Mr. Lewis, 57, has served as Senior Vice President, Electric Operations, of the Utility. In this role, Mr. Lewis oversees all of the Utility's electric transmission and distribution grid operations for the company's service area. From August 2018 to January 2019, Mr. Lewis served as Vice President, Electric Distribution Operations of the Utility. From 2008 until he joined the Utility, he served as Duke Energy Corporation and its subsidiary Duke Energy Florida in numerous leadership positions, including Senior Vice President and Chief Distribution Officer, Senior Vice President and Chief Transmission Officer, Co-Leader of Project Transformation, and Senior Vice President, Energy Delivery. At his previous company, Mr. Lewis helped the distribution and transmission organizations achieve industry-leading safety benchmarks.

In connection with his appointment to Interim President of the Utility, in addition to his current compensation package, Mr. Lewis will receive an additional monthly fee of \$79,970 and, for 2020, up to \$150,000 of reimbursement for temporary housing costs.

Cautionary Statement Concerning Forward-Looking Statements

This current report on Form 8-K includes forward-looking statements that are not historical facts, including statements about the beliefs, expectations, estimates, future plans and strategies of PG&E Corporation and the Utility, including expected management changes. These statements are based on current expectations and assumptions, which management believes are reasonable, and on information currently available to management, but are necessarily subject to various risks and uncertainties. In addition to the risk that these assumptions prove to be inaccurate, other factors that could cause actual results to differ materially from those contemplated by the forward-looking statements include factors disclosed in PG&E Corporation's and the Utility's annual report on Form 10-K for the year ended December 31, 2019, their joint quarterly reports on Form 10-Q for the quarter ended March 31, 2020 and their subsequent reports filed with the SEC. PG&E Corporation and the Utility undertake no obligation to publicly update or revise any forward-looking statements, whether due to new information, future events or otherwise, except to the extent required by law.

G.2 – 49

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrants have duly caused this report to be signed on their behalf by the undersigned thereunto duly authorized.

PG&E CORPORATION

Date: July 30, 2020

By: /s/ JASON P. WELLS
Name: Jason P. Wells
Title: Executive Vice President and Chief Financial Officer

PACIFIC GAS AND ELECTRIC COMPANY

Date: July 30, 2020

By: /s/ BRIAN M. WONG
Name: Brian M. Wong
Title: Vice President, Deputy General Counsel and Corporate Secretary

G.2 – 50

Info@DCISC.org

From: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Sent: Tuesday, August 11, 2020 10:09 AM
To: info@dcisc.org
Cc: Mattes, Martin
Subject: Re: Any Update re DCISC-related Issue in the 2018 NDCTP?

Bob,

I wish I had more info to share with you, but I have nothing to add to the info you already have. Given the extension to December 13th, my educated guess would be that we'll see a proposed decision sometime in September, but - as I said - that's just a guess. I also don't know to what extent the ALJ intends to discuss the DCISC charter.

I'll let you know if I hear anything.

David Zizmor, Esq.
Public Utilities Regulatory Analyst
California Public Utilities Commission – Energy Division
505 Van Ness Avenue
San Francisco, CA 94102
(415) 703-1575 — DAVID.ZIZMOR@CPUC.CA.GOV

From: Info@DCISC.org <info@dcisc.org>
Sent: Monday, August 10, 2020 1:48 PM
To: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Cc: Mattes, Martin <mmattes@nossaman.com>; Info@DCISC.org <info@dcisc.org>
Subject: Any Update re DCISC-related Issue in the 2018 NDCTP?

David - I hope everything continues to be well with you and your family.

Dr. Budnitz has requested that I try to set up a Zoom call with the Attorney General's office (Deputy AG Megan Hey in the L.A. office and any of her colleagues) and I want to check with you to see if you might any information on one of the topics for discussion, that being the progress in the 2018 NDCTP relative to the Settlement Agreement which proposes a post-shutdown role for the DCISC.

The last information I have was that on July 17 ALJ Haga filed a proposed decision on an Order which would extend the statutory deadline for the NDCTP to December 13, 2020, to provide time for his review of the Settlement Agreement, issuance of a proposed decision and for Commission approval. Looks like the Commission has approved the extension at its August 6 meeting and I am wondering whether you were aware of any indication by the ALJ as to whether he intends to address the DCISC issue in his proposed decision, set up an ancillary or separate proceeding to consider the matter or perhaps not address it at all in the NDCTP.

Thanks for any update you may be willing and able to provide.

G.2 – 51

G.2 – 52

Decision 20-08-019 August 6, 2020

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company for Authorization to Establish the Diablo Canyon Decommissioning Planning Cost Memorandum Account (U39E).

Application 18-07-013

And Related Matter.

Application 18-12-008

ORDER EXTENDING STATUTORY DEADLINE**Summary**

This decision extends the statutory deadline in these proceedings until December 13, 2020.

1. Background

Pub. Util. Code § 1701.5(a) provides that ratesetting cases must be resolved within 18 months after initiation unless the Commission makes a written determination that the deadline cannot be met, including findings as to the reason, and issues an order extending that deadline. In these proceedings, the 18-month deadline for resolution is August 15, 2020.

On July 16, 2018, Pacific Gas and Electric Company (PG&E) filed Application (A.) 18-07-013 to establish the Diablo Canyon Decommissioning Planning Cost Memorandum Account. On August 15, 2018, The Utility Reform Network filed a protest and on August 27, 2018, PG&E filed its reply.

J45007366

G.2 – 53

A.18-07-013, A.18-12-008 ALJ/RWH/mln/avs

2. Waiver of Comment Period

Under Rule 14.6(c)(4) of the Rules of Practice and Procedure, the Commission may waive the otherwise applicable 30-day period for public review and comment on a decision that extends the 18-month deadline set forth in Pub. Util. Code § 1701.5(a). Under the circumstances of this case, it is appropriate to waive the 30-day period for public review and comment.

3. Assignment of Proceeding

Marybel Batjer is the assigned Commissioner and Robert W. Haga is the assigned Administrative Law Judge in these proceedings.

Findings of Fact

1. PG&E filed A.18-07-013 on July 16, 2018 and A.18-12-008 on December 13, 2018.
2. A PHC was held on September 7, 2018.
3. On October 11, 2018, the scoping memo and ruling was issued and on March 7, 2020 an amended scoping memo was issued consolidating the proceedings, including additional concerns raised by Mothers for Peace and Alex S. Karlin, and modifying the schedule.
4. Public Participation Hearings were held on August 7-8, 2019.
5. Evidentiary Hearings were held from September 23, 2019 through September 25, 2019.
6. The statutory deadline for resolving these ratesetting proceedings is August 15, 2020.
7. An extension of the statutory deadline until December 13, 2020 is necessary to allow sufficient time to publish the proposed decision on the Joint Settlement

- 3 -

G.2 – 55

A.18-07-013, A.18-12-008 ALJ/RWH/mln/avs

A Prehearing Conference (PHC) was held on September 7, 2018, to discuss the issues of law and fact, to determine the need for hearing, and to set the schedule to resolve this matter. On October 11, 2018, the assigned Commissioner issued a scoping memo and ruling for this proceeding.

On December 13, 2018, PG&E filed A.18-12-008 in the 2018 Nuclear Decommissioning Cost Triennial Proceeding. On March 7, 2019, PG&E filed a motion to consolidate A.18-07-013 with A.18-12-008. An amended scoping memo was issued on March 7, 2020 consolidating the proceedings, including additional concerns raised by Mothers for Peace and Alex S. Karlin, and modifying the schedule.

Public Participation Hearings were held on August 7-8, 2019. Evidentiary Hearings were held from September 23, 2019 through September 25, 2019.

On January 10, 2020, a Joint Motion for Adoption of a Settlement Agreement (Joint Settlement Agreement) was filed by The Utility Reform Network, Public Advocates Office at the California Public Utilities Commission, Alliance for Nuclear Responsibility, County of San Luis Obispo, Women's Energy Matters, yak tityu tityu yak tilhini Northern Chumash Cultural Preservation Kinship and PG&E.

The assigned Administrative Law Judge (ALJ) is reviewing the terms and conditions of the Joint Settlement Agreement. Therefore, an extension of the statutory deadline until December 13, 2020 is necessary to publish a proposed decision, to review comments on the proposed decision, and to allow the Commission sufficient time to deliberate and to issue its final decision.

- 2 -

G.2 – 54

A.18-07-013, A.18-12-008 ALJ/RWH/mln/avs

Agreement, review comments received on the proposed decision and allow the Commission enough time to deliberate and to issue its final decision.

Conclusion of Law

Pursuant to the authority granted to the Commission under Pub. Util. Code § 1701.5(a), the statutory deadline should be extended to December 13, 2020.

IT IS ORDERED that the statutory deadline for completion of these proceedings is extended until December 13, 2020.

This order is effective today.

Dated August 6, 2020, at San Francisco, California.

MARYBEL BATJER
President
LIANE M. RANDOLPH
MARTHA GUZMAN ACEVES
CLIFFORD RECHTSCHAFFEN
GENEVIEVE SHIROMA
Commissioners

- 4 -

G.2 – 56

Robert Rathie

From: Garcia, Hector M <HMG4@pge.com>
Sent: Wednesday, August 12, 2020 4:18 PM
To: 'Peter Lam'; Bob Budnitz; Rick McWhorter
Cc: Robert Rathie; Info@DCISC.org
Subject: Filing a request with NRC for a Temporary License Amendment

Dear DCISC,

This afternoon PG&E is filing a request with the Nuclear Regulatory Commission (NRC) for a temporary License Amendment related to possible maintenance activities for Diablo Canyon Power Plant Unit 1.

We will be performing enhanced inspections of some of the Unit 1 Auxiliary Feedwater (AFW) pump discharge lines. During that process, we may identify a need for a repair. If a repair is needed, the temporary amendment will enable us to make the repairs while the unit remains online, in lieu of removing the unit from service.

We are readily able to meet all safety requirements in our license and have substantial redundancy in the unit if repairs are needed.

I am available to discuss this matter in more detail with you, and as always, will continue to keep you updated related to activities at the plant.

Regards,
Hector M. Garcia
CNO Support Manager
Pacific Gas & Electric Company
Diablo Canyon Power Plant

Office: 805.545.3942 | Cell: 805-345-5800 | email: hmg4@pge.com

G.2 – 57

DCSafety@DCISC.org

From: info@dcisc.org
Sent: Thursday, August 27, 2020 3:40 PM
To: 'Rochelle Becker'; 'DCSafety Dcisc'
Cc: info@dcisc.org
Subject: RE: PG&E's request for a AFW waiver

Rochelle –

Thank you for providing the DCISC with a copy of the letter to the CEC Executive Director and Sr. Nuclear Policy Advisor regarding PG&E's request for a waiver from the NRC for the Auxiliary Feedwater System piping corrosion. I will of course provide your email and its attachment to our Members and Technical Consultants for their information and review.

The next public meeting of the Committee is scheduled for Thursday and Friday, October 22-23, 2020, and at this point we are fully expecting to once again conduct the meeting as a Zoom webinar.

I hope you and your family are staying healthy and enjoying what remains of a very strange summer. Keep well and best regards,

Bob
(831) 424-3672 (home)
info@dcisc.org

From: Rochelle Becker <rochellea4nr@gmail.com>
Sent: Wednesday, August 26, 2020 3:07 PM
To: DCISC <info@dcisc.org>; DCSafety Dcisc <dcisafety@dcisc.org>
Subject: PG&E's request for a AFW waiver

Dear DCISC,

Please see the attached letter sent today to the CEC.

In Peace
Rochelle

Rochelle Becker, Executive Director
Alliance for Nuclear Responsibility
PO 1328
San Luis Obispo, CA 93406
www.a4nr.org

G.2 – 58

Info@DCISC.org

From: Info@DCISC.org
Sent: Thursday, August 27, 2020 3:42 PM
To: 'Peter Lam'; 'Robert J. Budnitz'; 'PER PETERSON'; 'Ferman Wardell'; 'Rick McWhorter'
Cc: Info@DCISC.org
Subject: FW: Letter from A4NR to CEC re PG&E's request for a AFW waiver
Attachments: 08262020 A4NR-CEC-PGE-LAR pdf with attachment.pdf

Received the attached letter from Rochelle Becker yesterday afternoon. I have responded and acknowledged her email with the attached letter and let her know I would provide it to you for your information.

Best,

Bob R
From: Rochelle Becker <rochellea4nr@gmail.com>
Sent: Wednesday, August 26, 2020 3:07 PM
To: DCISC <info@dcisc.org>; DCSafety Dcisc <dcisafety@dcisc.org>
Subject: PG&E's request for a AFW waiver

Dear DCISC,

Please see the attached letter sent today to the CEC.

In Peace
Rochelle

Rochelle Becker, Executive Director
Alliance for Nuclear Responsibility
PO 1328
San Luis Obispo, CA 93406
www.a4nr.org

G.2 – 59



ALLIANCE FOR NUCLEAR RESPONSIBILITY

August 26, 2020

Drew Bohan, Executive Director
Dr. Justin Cochran, Ph.D.
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: PG&E exigent LAR for Diablo Canyon AFW system

Dear Drew and Justin:

Through the filings of Dave Lochbaum on behalf of Mothers For Peace, we have become aware of the CEC's involvement in the current issue of PG&E's License Amendment Request for relief of requirements pertaining to external corrosion of piping for the Auxiliary Feed Water (AFW) systems at Diablo Canyon Units 1 and 2.

Attached (among other documents) is the correspondence between the CEC and the NRC. The chronology appears to be:

- On August 12, the NRC informed the CEC of what was in progress regarding the LAR.
- On August 13, the NRC let the CEC know there would be a teleconference on the subject held on August 14.
- On August 14 the NRC teleconference was held, but a list of participants does not appear to include anyone from the CEC.
- On August 20 Justin let the NRC know that the CEC is still reviewing and will respond by the assumed deadline of August 21.
- On August 22 the CEC submitted comments, past the deadline, stating:

The State Liaison Officer supports activities that enhance and promote safety. The proposed Exigent LAR addresses a potential safety concern but this should not become the normal process. The State Liaison Officer expects both the plant operator and Nuclear Regulatory Commission staff to prioritize and maximize safety.

G.2 – 60

Although vaguely worded, the CEC seems to be suggesting approval of PG&E's sought remedy (waiver of the 72 hour shutdown rule) with an admonishment that such actions not "become the normal process."

Our question to the CEC is this: On what sound, scientific basis was this tacit approval given?

As Mr. Lochbaum's chronology details (attached) there were still outstanding and unanswered Requests for Additional Information (RAIs) from the NRC to PG&E as of August 20 that had yet to be vetted and analyzed by the NRC, although the NRC had posted earlier on August 16 a finding of "no significant hazard" in its published notification in the [San Luis Obispo Tribune](#). In other words, the NRC came to its "no significant hazard" conclusion before, as they say, all the "facts were in." Absent conclusive review of the RAIs, is it the August 16 NRC finding of "no significant hazard" upon which the CEC also rests its approval?

Further, Mr. Lochbaum's research of August 25 reveals numerous precedents at the NRC indicating that PG&E's sought after relief has *not* been granted other licensees making similar requests. (attached)

The CEC also "expects both the plant operator and Nuclear Regulatory Commission staff to prioritize and maximize safety." Expectations are one thing, historical precedent another.

Recall: The NRC has a long history of ignoring or missing key issues in California starting with the original seismic permitting at Diablo, and continuing even through the most recent seismic reevaluations (SSHAC) and the attempted NRC relicensing process. The NRC's lax oversight was also cited in the failed steam generator replacement that led to both the closing of SONGS and more recently their ISFSI cask loading fiasco. Up until this point, our CEC has remained as vigilant in its (non pre-empted) oversight of the federal regulator as it has with the utilities.

How long had the AFW piping corrosion issues at Diablo remained undiagnosed? As *external* corrosion, why was this problem not caught at a much earlier stage? Where was the NRC in overseeing and enforcing their own regulations regarding these concerns? What other yet-to-be discovered emergent issues that could have serious *reliability and ratepayer impacts* are festering in an unexamined corner of Diablo Canyon?

As our state's nuclear safety liaison, extending the benefit of the doubt to California's felonious utility—whose negligence and disregard for proper procedures and maintenance has caused death and destruction from San Bruno to Paradise—should require your most scrupulous attention to process and detail. Or, to put it colloquially, *this is, after all, PG&E we're dealing with...*

As residents and ratepayers we are facing the potential for a core-related accident at the longest running and oldest operating nuclear plant in California. While there are many current and emergent threats to the cost and reliability of electrical generation and service, during both a pandemic and catastrophic wildfire scenario the last thing we need is a nuclear accident. PG&E has other options, as the Lochbaum/Mothers for Peace filings at the NRC make clear.

Instead, the utility is attempting once again to make the decision that is best for its bottom line. There is more than ample evidence of where this folly leads.

We respectfully request that the CEC review and reconsider its tacit approval of the current exigent LAR now underway, and provide background and justification for its decisions.

Very truly yours,

/s/

Rochelle Becker,
Executive Director

cc: Senator William Monning
cc: David Hochschild

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Notice Type : LocalNotice

Posting Date : 8/18/2020

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G.2 – 63

G.2 - 64

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the matter of
Pacific Gas and Electric Company
Diablo Canyon Nuclear Power Plant
Units 1 and 2

Docket Nos. 50-275-LAR
50-323-LAR

DECLARATION OF DAVID A. LOCHBAUM
REGARDING PROPOSED NO SIGNIFICANT HAZARDS DETERMINATION
FOR PACIFIC GAS AND ELECTRIC COMPANY'S
EXIGENT LICENSE AMENDMENT REQUEST

Under penalty of perjury, I, David A. Lochbaum, declare:

1. My name is David A. Lochbaum. I reside in the state of Tennessee. I am a nuclear engineer by training, experience, and education.
2. I retired in October 2018 from the Union of Concerned Scientists (UCS) after working nearly four decades on nuclear power issues. My experience includes assignments at/for operating nuclear plants (Hatch, Browns Ferry, Grand Gulf, Hope Creek, Susquehanna, FitzPatrick, Wolf Creek, Salem, Peach Bottom, and Connecticut Yankee), working for the U.S. Nuclear Regulatory as a reactor technology instructor, and working for (UCS) on nuclear power safety issues. I have a Bachelor of Science degree in nuclear engineering from the University of Tennessee. My professional qualifications are detailed in my attached Curriculum Vitae (Exhibit A).
3. I have been retained by San Luis Obispo Mothers for Peace to evaluate an exigent license amendment request (LAR) by Pacific Gas & Electric Co. (PG&E) to the Nuclear Regulatory Commission (NRC) on August 12, 2020 (ML20225A303). If approved, the LAR would allow PG&E to remove portions of the auxiliary feedwater system (AFW) on Diablo Canyon Units 1 for longer periods of time than allowed under the current operating license should planned inspections of the AFW pipes indicate, as expected by PG&E, that walls have thinned to unacceptable thicknesses. If so, the thinned pipe sections would be replaced as they were on Unit 2 to restore the necessary safety levels.
4. I have examined PG&E's exigent LAR in detail.
5. I have also reviewed the following related documents:

G.2 – 65

- a. Diablo Canyon Updated Final Safety Analysis Report Rev. 23, May 3, 2017 (ML17157B366);
- b. \$50.59 Changes, tests and experiments of Title 10 of the Code of Federal Regulations;
- c. Bley, Dennis C., Wheeler, David M., Cate, Carroll L., Stillwell, Daniel W., and Garrick, B. John, "Reliability Analysis of Diablo Canyon Auxiliary Feedwater System," September 1980. (ML17095A390);
- d. NRC Inspection Manual, Inspection Procedure 49001, "Inspection of Erosion-Corrosion/Flow-Accelerated-Corrosion Monitoring Programs," December 11, 1998;
- e. Pacific Gas and Electric Company, "Diablo Canyon Power Plant Units 1 and 2 Technical Specification Bases," Revision 10, December 2016 (ML16356A266);
- f. Pacific Gas and Electric Company, Diablo Canyon Unit 1 Technical Specifications, January 2008;
- g. Email dated August 18, 2020, to me from Scott Morris, NRC Regional Administrator, Region IV;
- h. Pacific Gas and Electric Company, "Diablo Canyon Unit 1 Licensee Event Report 1-92-022-00, Indications on the Main Feedwater Piping Near the Steam Generator Nozzles due to Thermal Fatigue," October 30, 1992 (ML16341G734);
- i. NRC Information Notice 92-07, "Rapid Flow-Inducted Erosion/Corrosion of Feedwater Piping," January 9, 1992 (ML082380388);
- j. NRC Information Notice No. 91-18, "High-Energy Piping Failures Caused by Wall Thinning," March 12, 1991 (ML031190529);
- k. Pacific Gas and Electric Company, "Response to Generic Letter 89-08, Erosion/Corrosion," July, 19, 1989 (ML16342C228);
- l. NRC Generic Letter 89-08, "Erosion/Corrosion-Induced Pipe Wall Thinning," May 2, 1989 (ML031200731);
- m. Pacific Gas and Electric Company, "Response to NRC Bulletin No. 87-01, Thinning of Pipe Walls," September 8, 1987 (ML17083B938);
- n. NRC Bulletin No. 87-01, "Thinning of Pipe Walls in Nuclear Power Plants," July 9, 1987 (ML031210862);

G.2 – 67

G.2 – 66

- a. Pacific Gas and Electric Company, "Diablo Canyon Power Plant Units 1 and 2 Individual Plant Examination Report," April 1992 (<https://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber=9204240016>);
 - p. Nuclear Regulatory Commission, "Final Significance Determination of a Red Finding, Notice of Violation, and Assessment Follow-up Letter (NRC Inspection Report No. 05000259/2011008) Browns Ferry Nuclear Plant," May 9, 2011 (ML111290482);
 - q. Pacific Gas and Electric Company, "Response to NRC Request for Additional Information Regarding "License Amendment Request 20-01, Exigent Request for Revision to Technical Specification 3.7.5, "Auxiliary Feedwater System"," August 16, 2020; and
 - r. Pacific Gas and Electric Company, "Response to NRC Request for Additional Information Regarding "License Amendment Request 20-01, Exigent Request for Revision to Technical Specification 3.7.5, "Auxiliary Feedwater System"," August 18, 2020.
6. Having examined these documents, it is my professional opinion that PG&E's exigent LAR should not be approved by the NRC because it would likely expose the community around Diablo Canyon Unit 1 to an unduly elevated accident risk. Therefore, I strongly disagree with PG&E's and the Staff's determinations that the proposed license amendment poses "no significant hazards."
 7. My expert opinion is based on the following reasons:
 - a. The "how safe is safe enough" question for the Unit 1 AFW system is defined by the technical specifications, an integral part of the reactor operating license issued by the NRC.
 - b. The current technical specifications permit Unit 1 to continue operating for up to 72 hours when one of the three AFW pumps is inoperable (except in the case of a steam supply problem for the one turbine-driven AFW pump). If the full complement of AFW pumps cannot be restored within 72 hours, the reactor must be shut down within 6 hours. If two AFW pumps are unavailable, the technical specifications require the reactor to be shut down within 6 hours. If all three AFW

G.2 – 68

- pumps are unavailable, the technical specifications require the reactor to be shut down immediately.
- c. The time-frames in the technical specifications were not pulled from a hat; they depend on the safety function performed by systems and components and the likelihood that plant conditions would require the systems and components to function to prevent or mitigate the consequences.
 - d. The reason for the relatively short time-frames governing AFW components in the technical specifications is evident from risk analyses performed by PG&E for Diablo Canyon. Many of these risk analyses are hidden from public view by the NRC as purportedly security-related information, but PG&E's Individual Plant Examination (IPE) from April 1992 is reasonably believed to still accurately portray the relative risk of the AFW system and the safety rationale for the associated timeliness requirements for AFW components in the technical specifications.
 - e. Figure 1 on page 12 below is Table 3.4.2-2 from PG&E's IPE. It lists 29 initiating events having the highest calculated risk of reactor core damage. A handful (e.g., Medium Loss of Coolant Accident, Large Loss of Coolant Accident, Excessive Loss of Coolant Accident, Core Power Excursion, and Interfacing System Loss of Coolant Accident) are not mitigated by the AFW system. However, the AFW system has a safety function to perform in mitigating the rest of the 29 initiating events.
 - f. As shown in Figure 1, Loss of Offsite Power, the initiating event with the highest risk in PG&E's IPE, contributes nearly half (41%) of the risk of reactor core damage at Diablo Canyon. The AFW system has a vital safety function to perform to mitigate this initiating event. The loss of offsite power inherently results in the loss of the main feedwater system. The AFW system is designed to automatically start in event the main feedwater system is unavailable. The turbine-driven AFW pump and/or the two motor-driven AFW pumps (which can be powered from the onsite emergency diesel generators when offsite power is lost) can continue to remove decay heat produced by the reactor core.

G.2 – 69

- of either a main feedwater or an AFW pump could flood the AFW pump rooms and disable BOTH of the motor-driven AFW pumps. Yet PG&E's no significant hazards analysis fails to explain how the technical specification changes it seeks will not adversely affect this initiating event.
- k. Similarly, a third-party evaluation reported in September 1980 of the reliability of the AFW system at Diablo Canyon considered common-cause failures as factors in lessening the reliability of the system. As in PG&E's IPE, this evaluation was limited to failures of active components to common-causes (e.g., inadequate maintenance, design errors, installation miscues, etc.). Thus, the increased likelihood of AFW system piping ruptures until its pipes thinned to unacceptable thicknesses are not modeled in the risk analyses. In other words, risk analyses that exclude consideration of pipe ruptures due to common-causes (i.e., thinning) cannot be used to justify continued reactor operation. The risk tool does not apply to the question being asked and therefore cannot provide a righteous answer.
 - l. Appendix 9.5A to the Updated Final Safety Analysis Report (UFSAR) for Diablo Canyon describes how the AFW system provides removal of reactor core decay heat in event of postulated fires in various Fire Areas throughout the plant. The fire hazards analyses that are summarized in the UFSAR were performed to fulfill Appendix R to 10 CFR 50 adopted in the early 1980s following the Browns Ferry fire. Unlike the response to other design bases events, the response to a postulated fire need not assume the worst-case single failure. Thus, while the AFW system has redundancy in terms of three pumps and four flow pathways to steam generators for decay heat removal, UFSAR Appendix 9.5A describes cases where the fire takes away all but a single AFW flow pathway. If NRC approves PG&E's exigent LAR, that sole safety net could be removed for 7 days at a time as PG&E fixes up to four unsafe AFW flow pathways. PG&E's no significant hazards analysis for the exigent LAR does not mention the potential impact on the fire hazards and safe shutdown analyses, which rely considerably if not entirely on AFW.
 - m. PG&E seeks the NRC's approval to revise the answer to the "how safe is safe enough" question for the Unit 1 AFW system to allow portions of the system to

- g. Figure 2 on page 13 below is Table 3.4.2-4 from PG&E's IPE. It ranks safety systems at Diablo Canyon by their importance in preventing reactor core damage. The AFW system placed 6th on this list, ahead of Residual Heat Removal (RHR) Trains A and B, Emergency Diesel General 2-2, 125 volt bus G and many other systems and components. And note that these results assumed the out-of-service times for AFW components from the current technical specifications, not the significantly relaxed times sought by PG&E in its exigent LAR. With the longer times, the AFW system could only move higher on the risk list, not lower.
- h. Figure 3 on page 14 below is Table 3.4.2-6 from PG&E's IPE. It ranks safety systems at Diablo Canyon by two related risk measures: Risk Achievement Worth (RAW) and Risk Reduction Worth (RRW). The RAW values are determined by two computer runs, one assuming the system or component reliability based on operating experience and the second assuming the system or component has zero reliability (i.e., 100% chance it fails when needed). The RRW values are also determined by two computer runs, but this time the second run assumes that the system or component has perfect reliability (i.e., 0% chance of failing when needed). The AFW system's systems motor-driven and turbine-driven pumps occupy two of the top ten risk-rankings, 4th and 8th.
- i. PG&E's IPE considered common-cause failures that would prevent the AFW system from fulfilling its necessary safety function. But those common-cause failures were limited to failures of active components (e.g., check valves, dump valves, etc.).
- j. The only common-cause failure of passive components (e.g., pipes, tanks, heat exchangers, etc.) in PG&E's IPE affecting the AFW system was the rupture of a main feedwater or AFW pipe that flooded the AFW pump rooms and disabled both of the motor-driven AFW pumps. This potential flooding scenario was one of the three postulated internal flooding events having risk significance. PG&E's no significant hazards analysis for the exigent LAR stated: "The AFW System is not an initiator of any design basis accident or event" – a statement apparently contrary to their own IPE's analysis. See Initiating Event 21 on Figure 1 which is Table 3.4.2-2. PG&E's description of this initiating event explained that rupture

G.2 – 70

- unavailable for longer periods than currently permitted by the technical specifications, extending the current 72-hour time limit for one AFW pump to be unavailable to 7 days.
- n. PG&E stated in their exigent LAR that they will inspect the Unit 1 AFW system piping and expect to find pipe walls thinned to less than allowed by the ASME code. If so, they propose to replace the unacceptably thinned pipe sections to restore the required safety levels. PG&E stated that, based on their experience replacing unacceptably thinned pipe sections on Unit 2, the safety restoration could take up to 7 days.
 - o. PG&E stated in their exigent LAR that they discovered a 3.9 gallon per minute leak from an AFW pipe on Unit 2 last month and discovered six other AFW pipe sections thinned to less than thicknesses allowed under the ASME code.
 - p. Following the rupture of a corroded or otherwise thinned pipe in December 1986 at the Surry nuclear power plant that killed four of the eight workers in the vicinity, the NRC required all nuclear plant owners to develop and implement monitoring programs to detect pipe wall thinning and replace sections before they thinned to unacceptable thicknesses. Not every inch of every pipe is monitored. Based on factors such as fluid flow rate, fluid temperature, fluid pressure, and pipe configuration (e.g., straight run versus pipe bend), vulnerable sections are monitored.
 - q. The seven AFW pipe sections replaced on Unit 2 (i.e., the leaking section and the six other thinned locations) may or may not have been monitored under PG&E's pipe monitoring program mandated by the NRC. If so, PG&E's failure to adequately implement a monitoring program mandated many years ago by the NRC is insufficient justification for them to now be given longer time to remedy their self-inflicted cause.
 - r. NRC Region IV Administrator Scott Morris emailed me that the leakage on the Unit 2 AFW pipe was caused by external corrosion. By letter dated August 16, 2020, in response to NRC's Request for Additional Information, PG&E identified the cause of the pipe degradation as being external corrosion from the highly corrosive coastal marine environment. PG&E stated that Unit 2 was subjected to

higher corrosion due to localized weather patterns and noted that “Unit 2 has historically experienced more forced outages and consequently operated its 10 percent atmospheric steam dumps more frequently. The steam dump exhaust, being located above the AFW piping, results in a wet environment due to falling condensation. The other two trains (supplying SGs 3 and 4 for each unit) are located indoors.”

- s. PG&E’s implication that the Unit 1 AFW piping will likely have less degradation due to milder marine coastal environmental conditions seems contrary to its exigent LAR. If PG&E’s implication was accurate, whenever they get around to conducting inspections on Unit 1 would confirm that notion. In that case, neither the pipe replacements nor the longer out-of-service times requested via the exigent LAR would be necessary. If, on the other hand, the Unit 1 AFW piping has degraded as much or more than that on Unit 2, the reactor’s operation with multiple AFW trains impaired is not justified. The Unit 1 piping should be replaced with the unit offline as was properly done on Unit 2.
- t. By letter dated August 18, 2020, in response to NRC’s Request for Additional Information, PG&E explained its position that Unit 2 was subjected to a harsher marine coastal environment than Unit 1. PG&E stated that its “review of the Corrective Action Program identified on the order of twice as many condition reports documenting corrosion and coating on the Unit 2 pipe rack versus Unit 1.” In other words, PG&E had ample warnings that exposed piping on both units was degrading due to exposure to the corrosion marine coastal environment but took zero steps to prevent that identified degradation mechanism from compromising necessary safety margins until workers discovered the 3.9 gallon per minute leakage on Unit 2 in July 2020. As noted below where NRC sanctioned another plant owner for documenting but not resolving signs of problems, the NRC should neither tolerate nor facilitate such abysmal licensee performance.
- u. PG&E identified seven sections of Unit 2 AFW piping with thicknesses less than allowed by the ASME code. The identifications led PG&E to replace the thinned sections before restarting Unit 2.

8

G.2 – 73

and closed. But whilst the stem moved here and there, the disc did not. TVA contended that the valve’s failure was unforeseen and the NRC could not blame them for not having found and fixed it sooner. The NRC disagreed. TVA contended that had an emergency happened, workers would have quickly noticed that the valve was not positioned properly and found means to force the valve to its proper position. The NRC disagreed. TVA contended that even if the valve remained in the wrong position, there were redundant trains available to perform the necessary safety function. The NRC disagreed, pointing out that TVA took credit for this valve and associated RHR train in mitigating fires in certain Fire Areas. While there were indeed redundant trains for non-fire events, this valve and its train were the only safety net protecting against fires in certain Fire Areas. This reality led NRC to push the overall risk of this deficiency into the Red zone – a space occupied by a handful of reactors over the 20 years of the NRC’s Reactor Oversight Process’s color-coding.

- z. Appendix 9.5A to the UFSAR for Diablo Canyon describes how the AFW system performs roles during postulated fires in many Fire Areas, without backup. PG&E’s exigent LAR was silent with regard to how the fire hazard would be properly managed during the proposed extended AFW system impairments.
- aa. The current technical specifications for AFW system component unavailability were developed based on the safety function to be performed during design bases events and the likelihood that such events occur. PG&E repaired multiple sections of AFW piping on Unit 2 and anticipates needing to do so on Unit 1, hence the submittal of the exigent LAR seeking longer time to implement the overdue replacements.
- bb. If the Unit 1 AFW system currently has pipe sections thinned to unacceptable thicknesses in multiple pathways, they could be in condition that warrants immediate shutdown of the reactor for safety reasons — Technical Specification LCO 3.7.5 Condition C. NRC must not allow PG&E to pretend that only one AFW train at a time is impaired when it has such ample grounds to suspect a larger problem.

10

G.2 – 75

- v. PG&E strongly suspects that sections of the Unit 1 AFW piping will also be thinner than allowed by the ASME safety code, requiring replacement to restore the necessary safety levels. PG&E seeks the NRC’s permission to fix this safety problem on Unit 1 while Unit 1 continues to operate — something they recently opted NOT to do when the problem was found on Unit 2.
- w. Whether caused internally (i.e., thinning due to erosion/corrosion) or externally (i.e., exposure to corrosive agents), PG&E’s current aging monitoring program for AFW system piping is demonstrably inadequate. If thinned internally to less than thicknesses allowed by the ASME code, the NRC-mandated monitoring program failed to detect and correct this slowly developing condition until thicknesses dropped below acceptable levels. If thinned due to external corrosion, a failure mode not anticipated by and therefore not adequately managed by the AFW system aging management program is involved.
- x. In its exigent LAR and in other publicly available records, PG&E has not explained how the degradation resulting in AFW system being thinned to unsafe thicknesses will be prevented in the future by either a revision to its pipe wall thickness monitoring program and/or the development of a new program to monitor for external corrosion degradation. Absent such discussion, the efficacy of merely replacing the pipes cannot be judged. The erosion/corrosion monitoring programs mandated by the NRC protect against internal degradation, but PG&E contends that the current degradation mechanism is external corrosion from the marine coastal environment. Just as PG&E has a formal monitoring program for internal pipe degradation, a comprehensive corrective action for external pipe degradation necessitates a comparable monitoring program. PG&E has failed to describe such a program as part of its corrective actions for this safety impairment.
- y. The situation on Diablo Canyon Unit 1 mirrors the situation NRC uncovered at the Tennessee Valley Authority’s Browns Ferry Nuclear Plant (see May 9, 2011, NRC Red Finding letter). The disc of a valve in the Residual Heat Removal (RHR) system separated from its stem. The reactor operated for several years with this degraded condition. TVA periodically tested the valve by stroking it opened

9

G.2 – 74

- cc. Had PG&E shut down Unit 1 on August 12, 2020, instead of asking NRC’s approval for an online repair effort, workers could have inspected and repaired AFW trains in parallel rather than in series as proposed. If PG&E is correct in estimating that repairs take up to seven days, they’d have fixed all AFW system piping by now and could safely restart the Unit.

I declare under penalty of perjury that the foregoing facts are true and correct to the best of my knowledge, and the foregoing opinions are based on my best professional judgement.

Executed August 21, 2020



David A. Lochbaum

11

G.2 – 76

Figure 1

Initiating Event	Point Estimate Core Damage Frequency (Per Year)	Percent Contribution
1. Loss of Offsite Power	3.6e-05	41
2. Reactor Trip	6.9e-06	7.9
3. Turbine Trip	5.3e-06	6.0
4. Medium-LOCA	4.7e-06	5.3
5. Partial Main Feedwater Loss	4.0e-06	4.5
6. Total Loss of Auxiliary Saltwater	3.4e-06	3.9
7. Loss of 125V DC Bus F	3.2e-06	3.6
8. Flood - Loss of Component Cooling Water	2.6e-06	3.0
9. Loss of 480V Switchgear Ventilation	2.5e-06	2.8
10. Loss of 125V DC Bus G	2.4e-06	2.8
11. Large-LOCA	2.4e-06	2.7
12. Total Loss of Component Cooling Water	2.0e-06	2.3
13. Excessive Feedwater	1.8e-06	2.1
14. Loss of 125V DC Bus H	1.8e-06	2.0
15. Steam Generator Tube Rupture	1.8e-06	2.0
16. Loss of Primary Flow	1.0e-06	1.2
17. Loss of Condenser Vacuum	1.0e-06	1.2
18. Steam Line Break Inside Containment	8.0e-07	< 1
19. Inadvertent Safety Injection	7.4e-07	< 1
20. Small LOCA, Nonisolable	6.3e-07	< 1
21. Flood - Loss of Both Motor-Driven AFW Pumps	6.1e-07	< 1
22. Total Main Feedwater Loss	5.4e-07	< 1
23. Closure of One Main Steam Isolation Valve (MSIV)	5.3e-07	< 1
24. Loss of Control Room Ventilation	4.0e-07	< 1
25. Small LOCA, Isolable	2.7e-07	< 1
26. Excessive-LOCA	2.6e-07	< 1
27. Core Power Suspension	1.3e-07	< 1
28. Closure of All MSIVs	1.0e-06	< 1
29. Interfusing System-LOCA at RHR Pump Discharge	6.3e-06	< 1

12

G.2 - 77

Figure 2

Ranking	Top Event ID	Percentage of Core Damage Frequency	Event Description
1	GG	28	Emergency Diesel Generator 1-2 (Bus G)
2	PR	24	RCS Pressure Relief and PORV Reclosure
3	CC	21	Component Cooling Water System
4	SE	17	RCP Seal Integrity
5	GF	16	Emergency Diesel Generator 1-3 (Bus F)
6	AW	16	Auxiliary Feedwater System
7	SW	13	Emergency Diesel Generator 1-3 Aligned to Unit 2
8	RE	13	Sequence Specific Recovery Actions
9	GH	12	Emergency Diesel Generator 1-1 (Bus H)
10	DG	9.3	125V DC Bus G
11	DH	8.5	125V DC Bus H
12	AS	7.2	Auxiliary Saltwater System
13	TG	6.9	Emergency Diesel Generator 2-2 (Unit 2 Bus G)
14	BQ	6.5	Unit 2, Electric Power Train G
15	TF	5.0	Emergency Diesel Generator 1-3 Unavailable Due to Scheduled Maintenance
16	VI	4.7	Vessel Integrity
17	RA	4.5	Cross-tie Unit 1 to Unit 2 ASW
18	BH	3.4	Unit 2, Electric Power Train H
19	SB	3.1	SSPS, Train B
20	SA	2.9	SSPS, Train A
21	RF	2.7	Operator Switches to Containment Sump Recirculation
22	OB	2.5	Operator Initiates Bleed and Feed Cooling
23	LA	2.3	RHR Train A
24	AF	2.3	Vital 4.16 kV AC Bus F
25	LB	2.3	RHR Train B

Note: The top event importances listed are not mutually exclusive.

13

G.2 - 78

Exhibit A

David A. Lochbaum

Figure 3

Rank	Path Function		Importance Measure			
	Name	Description of Item Failed (with Boundary Condition)	Reference Path Function Value	Percentage of GDP with This Path Function	Risk Assessment Points	Risk Assessment Weight
1	PD1	Onsite generator lost oil transfer system (with loss of offsite power)	1.5e-4	1.5	141	0.002
2	GG1	DC Bus G full support unavailable	7.1e-4	9.2	129	0.009
3	GG1	DC Bus H full support unavailable	7.1e-4	9.2	129	0.009
4	AW1	Auxiliary feedwater system (support for one motor-driven AFW pump) unavailable	8.8e-4	11.2	49	0.004
5	CC1	Component cooling water system (with 48V Bus G unavailable)	1.5e-3	18.8	44	0.022
6	CC2	Component cooling water system (with 48V Bus H unavailable)	1.5e-3	18.8	38	0.019
7	AF1	48V AC Bus F full support unavailable	9.3e-4	11.7	38	0.019
8	AW2	Auxiliary feedwater system (support for turbine-driven AFW pump) unavailable	2.0e-4	0.8	33	0.004
9	AS1	Auxiliary saltwater system (with pump train 1.2 unavailable, but pump trains 1.1, 2.1, 2.2 available)	2.4e-4	0.7	31	0.003
10	GG1	Loss of power to 48V or 125V Buses within grid to switches	1.5e-4	0.8	30	0.003

Note: Frequencies are presented in exponential notation, i.e., 1e-1 = 1.0 10⁻¹.

14

G.2 - 79

EDUCATION

June 1979 Bachelor of Science in Nuclear Engineering, The University of Tennessee at Knoxville

EXPERIENCE SUMMARY

03/10 to 11/18 Director - Nuclear Safety Project
Union of Concerned Scientists

Responsible for directing UCS's nuclear safety program, for monitoring developments in the nuclear industry, for serving as the organization's spokesperson on nuclear safety issues, for initiating action to correct safety concerns, for authoring reports and briefs on safety issues, and for presenting findings to the Nuclear Regulatory Commission, the US Congress, and state and local officials. Co-authored with Edwin Lyman and Susan Stranahan the book *Fukushima: The Story of a Nuclear Disaster* published by The New Press.

03/09 to 03/10 Reactor Technology Instructor
U.S. Nuclear Regulatory Commission
Technical Training Center

Responsible for providing initial qualification and re-qualification training on boiling water reactor technology for NRC employees. Activities included revising chapters of the training manual, conducting classroom and control room simulator training sessions, maintaining the test question database, administering examinations, and assisting the development of an interactive 3-D model of the reactor pressure vessel and its internals.

10/96 to 02/09 Director - Nuclear Safety Project
Union of Concerned Scientists

Responsible for directing UCS's nuclear safety program, for monitoring developments in the nuclear industry, for serving as the organization's spokesperson on nuclear safety issues, for initiating action to correct safety concerns, for authoring reports and briefs on safety issues, and for presenting findings to the Nuclear Regulatory Commission, the US Congress, and state and local officials.

11/87 to 09/96 Senior Consultant
Enercon Services, Inc.

Responsible for developing the conceptual design package for the alternate decay heat removal system, for closing out partially implemented modifications, reducing the backlog of engineering items, and providing training on design and licensing bases issues at the Perry Nuclear Power Plant.

Responsible for developing a topical report on the station blackout licensing bases for the Connecticut Yankee plant.

Responsible for vertical slice assessment of the spent fuel pit cooling system and for confirmation of licensing commitment implementation at the Salem Generating Station.

Responsible for developing the primary containment isolation devices design basis document, reviewing the emergency diesel generators design basis document, resolving design document open items, and updating design basis documents for the FitzPatrick Nuclear Power Plant.

G.2 - 80

Responsible for the design review of balance of plant systems and generating engineering calculations to support the Power Uprate Program for the Susquehanna Steam Electric Station.

Responsible for developing the reactor engineer training program, revising reactor engineering technical and surveillance procedures and providing power maneuvering recommendations at the Hope Creek Generating Station.

Responsible for supporting the lead BWR/6 Technical Specification Improvement Program and preparing licensing submittals for the Grand Gulf Nuclear Station.

03/87 to 08/87 *System Engineer*
General Technical Services

Responsible for reviewing the design of the condensate, feedwater and raw service systems for safe shutdown and restart capabilities at the Browns Ferry Nuclear Plant.

08/83 to 02/87 *Senior Engineer*
Enron Services, Inc.

Responsible for performing startup and surveillance testing, developing core monitoring software, developing the reactor engineer training program, and supervising the reactor engineers and Shift Technical Advisors at the Grand Gulf Nuclear Station.

10/81 to 08/83 *Reactor Engineer - Shift Technical Advisor*
Tennessee Valley Authority
Browns Ferry Nuclear Plant

Responsible for performing core management functions, administering the nuclear engineer training program, maintaining ASME Section XI program for the core spray and control rod drive systems, and covering STA shifts at the Browns Ferry Nuclear Plant.

06/81 to 10/81 *BWR Instructor*
General Electric Company
BWR 6 Training Center

Responsible for developing administrative procedures for the Independent Safety Engineering Group (ISEG) at the Grand Gulf Nuclear Station.

01/80 to 06/81 *Reactor Engineer - Shift Technical Advisor*
Tennessee Valley Authority
Browns Ferry Nuclear Plant

Responsible for directing refueling floor activities, performing core management functions, maintaining ASME Section XI program for the RHR system, providing power maneuvering recommendations and covering STA shifts at the Browns Ferry Nuclear Plant.

G.2 – 81

The NRC and Nuclear Power Plant Safety in 2010: A Brighter Spotlight Needed. March 2011. Union of Concerned Scientists. Cambridge, MA.

Regulatory Roulette: The NRC's Inconsistent Oversight of Radioactive Releases from Nuclear Power Plants. September 2010. Union of Concerned Scientists. Cambridge, MA.

Fire When Not Ready. Co-authored with Paul Gunter and Jim Warren. Beyond Nuclear, Takoma Park, MD, NC WARN, Durham, NC. Union of Concerned Scientists. Cambridge, MA.

Nuclear Power in a Warming World: Assessing the Risks, Addressing the Challenges. Co-authored with Lisbeth Gronlund and Edwin Lyman. December 2007. Union of Concerned Scientists. Cambridge, MA.

Walking a Nuclear Tightrope: Unlearned Lessons of Year-plus Reactor Outages. September 2006. Union of Concerned Scientists. Cambridge, MA.

U.S. Nuclear Plants in the 21st Century: The Risk of a Lifetime. May 2004. Union of Concerned Scientists. Cambridge, MA.

Davis-Besse: One Year Later. March 2003. Union of Concerned Scientists. Cambridge, MA.

Anatomy of a Flawed Decision: NRC Has a Brain, But No Spine. Co-authored with Paul Gunter. August 2002. Nuclear Information and Resource Service, Takoma Park. Union of Concerned Scientists. Cambridge, MA.

Nuclear Plant Risk Studies: Failing the Grade. August 2000. Union of Concerned Scientists. Cambridge, MA.

The Good, The Bad, and the Ugly: A Report on Safety in America's Nuclear Power Industry. June 1998. Union of Concerned Scientists. Cambridge, MA.

Potential Nuclear Safety Hazard: Reactor Operation with Failed Fuel Cladding. April 1998. Union of Concerned Scientists. Cambridge, MA.

Blogs

Yankee Rowe and Reactor Vessel Safety. July 19, 2018. Union of Concerned Scientists. All Things Nuclear blog <https://allthingsnuclear.org/>.

Nuclear Bathtub Safety. September 13, 2016. Union of Concerned Scientists. All Things Nuclear blog <https://allthingsnuclear.org/>.

Kudat to Cuomo: New York Helps Prevent Degraded Bolts from Leading to Nuclear Disaster. April 7, 2016. Union of Concerned Scientists. All Things Nuclear blog <https://allthingsnuclear.org/>.

Indian Point's Baffling Bolts. March 31, 2016. Union of Concerned Scientists. All Things Nuclear blog <https://allthingsnuclear.org/>.

Ernie Arnold: The Safety Upgrade that Downgraded Safety. December 2, 2015. Union of Concerned Scientists. All Things Nuclear blog <https://allthingsnuclear.org/>.

The Bathtub Curve, Nuclear Safety, and Run-to-Failure. November 17, 2015. Union of Concerned Scientists. All Things Nuclear blog <https://allthingsnuclear.org/>.

Nuclear Plant Lifetimes. September 8, 2015. Union of Concerned Scientists. All Things Nuclear blog <https://allthingsnuclear.org/>.

G.2 – 83

06/79 to 12/79 *Junior Engineer*
Georgia Power Company
Edwin I. Hatch Nuclear Plant

Responsible for completing pre-operational testing of the radwaste solidification systems and developing design change packages for modifications to the liquid radwaste systems at the Edwin I. Hatch Nuclear Plant. Also qualified as a station nuclear engineer and covered shifts during startups, control rod pattern exchanges, and other power maneuvers.

OTHER QUALIFICATIONS

January 2010 Certified as a boiling water reactor technology instructor at the U.S. Nuclear Regulatory Commission

April 1982 Certified as a Shift Technical Advisor at the TVA Browns Ferry Nuclear Plant

May 1980 Certified as an Interim Shift Technical Advisor at the TVA Browns Ferry Nuclear Plant

Member, American Nuclear Society (since 1978).

PUBLICATIONS (ABBREVED LIST)

Books

Fukushima: The Story of a Nuclear Disaster. Co-authored with Edwin Lyman and Susan Q. Stranahan. 2014. The New Press. New York, NY.

Nuclear Waste Disposal Crisis. 1996. PennWell Book. Tulsa, OK.

Reports

The Nuclear Power Dilemma: Declining Profits, Plant Closures, and the Threat of Rising Carbon Emissions. Co-authored with Steve Clemmer, Jeremy Richardson, and Sandra Sattler. 2018. Union of Concerned Scientists. Cambridge, MA.

The Nuclear Regulatory Commission and Safety Culture: Do As I Say, Not As I Do. February 2017. Union of Concerned Scientists. Cambridge, MA.

Near Misses at U.S. Nuclear Power Plants in 2013. March 2016. Union of Concerned Scientists. Cambridge, MA.

The NRC and Nuclear Power Plant Safety in 2014: Tarnished Gold Standard. March 2015. Union of Concerned Scientists. Cambridge, MA.

The NRC and Nuclear Power Plant Safety in 2013: More Jekyll, Less Hyde. March 2014. Union of Concerned Scientists. Cambridge, MA.

The NRC and Nuclear Power Safety in 2012: Tolerating the Intolerable. March 2013. Union of Concerned Scientists. Cambridge, MA.

The NRC and Nuclear Power Safety in 2011: Living on Borrowed Time. March 2012. Union of Concerned Scientists. Cambridge, MA.

G.2 – 82

New, Renewed, and Subsequent Nuclear Reactor Risks. July 21, 2015. Union of Concerned Scientists. All Things Nuclear blog <https://allthingsnuclear.org/>.

Nuclear Intuities. July 14, 2015. Union of Concerned Scientists. All Things Nuclear blog <https://allthingsnuclear.org/>.

Nuclear Plant Aging. March 31, 2015. Union of Concerned Scientists. All Things Nuclear blog <https://allthingsnuclear.org/>.

Exelon's Full Fixer. August 12, 2014. Union of Concerned Scientists. All Things Nuclear blog <https://allthingsnuclear.org/>.

Fission Stories #148: FitzPatrick—When Being the Best Isn't Good Enough. October 15, 2013. Union of Concerned Scientists. All Things Nuclear blog <https://allthingsnuclear.org/>.

Cracked Steam Generator Tubes at San Onofre. March 27, 2012. Union of Concerned Scientists. All Things Nuclear blog <https://allthingsnuclear.org/>.

G.2 – 84

From: Cochran, Justin@Energy
To: Lee, Samson
Cc: Hochschild, David@Energy; Rider, Ken@Energy; Nguyen, Le-Quyen@Energy
Subject: [External Sender] RE: State comments on Diablo Canyon exigent license amendment request
Date: Saturday, August 22, 2020 12:53:05 AM

Good day,

The California State Liaison Officer David Hochschild does not oppose the Diablo Canyon Power Plant License Amendment Request (LAR) 20-01 Exigent Request for Revision to Technical Specification 3.7.5, "Auxiliary Feedwater System". The State Liaison Officer supports activities that enhance and promote safety. The proposed Exigent LAR addresses a potential safety concern but this should not become the normal process. The State Liaison Officer expects both the plant operator and Nuclear Regulatory Commission staff to prioritize and maximize safety.

Thank you for your time and consideration. If you have any questions please let us know.

Best Regards,

Justin Cochran, Ph.D.
Emergency Coordinator & Nuclear Advisor to
Chair David Hochschild
California Energy Commission
1516 Ninth Street, MS-39
Sacramento, CA 95814

Cell: 916-698-2549
Fax: 916-651-3767
justin.cochran@energy.ca.gov

From: Cochran, Justin@Energy
Sent: Thursday, August 20, 2020 10:39 PM
To: Lee, Samson <Samson.Lee@nrc.gov>
Cc: Rider, Ken@Energy <Ken.Rider@energy.ca.gov>; Nguyen, Le-Quyen@Energy <Le-Quyen.Nguyen@energy.ca.gov>
Subject: RE: State comments on Diablo Canyon exigent license amendment request

Good day Sam,

We are still reviewing, we will send our response by 8-21-2020. Thank you.

Best Regards,

Justin Cochran, Ph.D.
Emergency Coordinator & Nuclear Advisor to
Chair David Hochschild

California Energy Commission
1516 Ninth Street, MS-39
Sacramento, CA 95814

Cell: 916-698-2549
Fax: 916-651-3767
justin.cochran@energy.ca.gov

From: Lee, Samson <Samson.Lee@nrc.gov>
Sent: Thursday, August 13, 2020 3:23 PM
To: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Subject: RE: State comments on Diablo Canyon exigent license amendment request

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

FYI: There is a public teleconference call to discuss the Diablo Canyon exigent license amendment request on Friday, 8/14/2020, from 11 am to 12:30 pm. The phone number is 800-369-2116; passcode: 14860.

Thanks,
Sam

From: Lee, Samson
Sent: Wednesday, August 12, 2020 9:08 PM
To: justin.cochran@energy.ca.gov
Subject: State comments on Diablo Canyon exigent license amendment request

By letter dated August 12, 2020 (Agencywide Access and Management System (ADAMS) Accession No. ML20225A303), Pacific Gas and Electric Company (PG&E) submitted an exigent license amendment request for Diablo Canyon Nuclear Power Plant, Units 1 and 2, to provide a new Technical Specification (TS) 3.7.5, "Auxiliary Feedwater (AFW) System," Condition G to address a one-time planned Unit 1, Cycle 22, AFW system alignment for which current TS 3.7.5 would require shutdown. PG&E requested approval of the proposed amendment on an exigent basis, pursuant to Title 10 of the Code of Federal Regulations Section 50.91(a)(6), by August 25, 2020. Because of localized corrosion identified on Diablo Canyon Unit 2 AFW piping during a recent Unit 2 maintenance outage, PG&E intends to perform inspections of Diablo Canyon Unit 1 AFW piping in the near term to ensure that Unit 1 is not similarly affected.

Please let us know by August 21, 2020, if you have any State comments regarding the proposed issuance of the amendment.

Thanks,
Sam Lee, Project Manager
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

G.2 – 85

G.2 – 86

From: David Lochbaum <davidlochaum@gmail.com>
Subject: Phil Dickens (as AFW pipe tie)
Date: August 24, 2020 at 4:42 PM
To: Lucy J Swanson <lucy@cloud.com>; Linda Seeley <linda.seeley@gmail.com>; Jill ZamEk <jzamew@gmail.com>; justin.cochran@energy.ca.gov
Bcc: carddy@enr.com

Good Evening:

Attached are the State of California's comments on the exigent license amendment request, submitted Saturday morning. We beat the deadline, they did not.

Also attached is the NRC's summary of the August 14, 2020, call with PG&E about the exigent license amendment request. It was dated today, August 24, 2020, and placed in public ADAMS today. Who says one can't teach old dogs new tricks. See how fast they can act when they've been spanked.

Also attached is the legal notice posted August 18, 2020, by The Tribune about the public notice period for the exigent license amendment request.

It seems the NRC violated both the spirit and letter of federal regulation 10 CFR 50.91, Notice for public comment; State consultation. Paragraph (a)(5) governs times when the NRC determines that an emergency situation exists, and goes on to some length explaining examples of such situations. The Diablo Canyon Unit 1 AFW piping could reasonably be argued to be such an emergency situation.

So, NRC followed this part of that regulation. But it appears to have violated other parts. For example, paragraph (a)(6) describes two options for the NRC to communicate to the public its opportunity to comment on the exigent license amendment request. One option is a notice published in the Federal Register. The second option uses local media to be aware of the LAR and to comment on the No Significant Hazards conclusion. NRC avoided itself of this second option with its legal notice posted by The Tribune on August 18.

But, and this is a big BUT, paragraph (a)(6) specifies that either of these two public notice options is to be taken AFTER the NRC staff reaches a conclusion that No Significant Hazards are involved. Verily, it is the No Significant Hazards verbiage that the notice seeks the public's comments on. Absent it, there's little for the public to comment on.

Paragraph 50.91 (a)(6)(ii) states that the NRC "will provide for a reasonable opportunity for the public to comment, using its best efforts to make available to the public whatever means of communications it can for the public to respond quickly...". So, the NRC's best efforts did not include putting anything in public ADAMS or posting anything on its website about the 5pm August 21, 2020, comment deadline until 4:27, August 21, 2020. If that's their level best, they should be fired and replaced with folks that try harder.

The NRC sent PG&E three sets of Requests for Additional Information about the exigent license amendment request. PG&E responded on August 18, August 18, and August 20. How could NRC have truly reached a meaningful conclusion BEFORE receiving these responses. Recall that the NRC sent the public notice to the media on August 14 and it was posted August 18.

Furthermore, NRC's internal procedures, specifically LG-115, Requests for Additional Information, prohibit the NRC staff from "taking expeditions" for information not relevant to the licensing decision before the staff. Explicitly, Section 4.2, Purpose and Scope of RAIs, states in plain English:

"RAIs serve the purpose of enabling the staff to obtain all relevant information needed to make a regulatory decision on a licensee, applicant, or vendor's licensing request that is fully informed, technically correct, and legally defensible. RAIs should be directly related to the applicable regulatory requirements associated with a licensee, applicant, or vendor request."

So, in their three sets of RAIs to PG&E, the NRC staff sought "all relevant information needed to make a regulatory decision on a ... licensing request."

So, absent the three responses to the RAIs, the NRC DID NOT HAVE ALL RELEVANT INFORMATION TO MAKE A REGULATORY DECISION. Yet it purported to have done so in the legal notice.

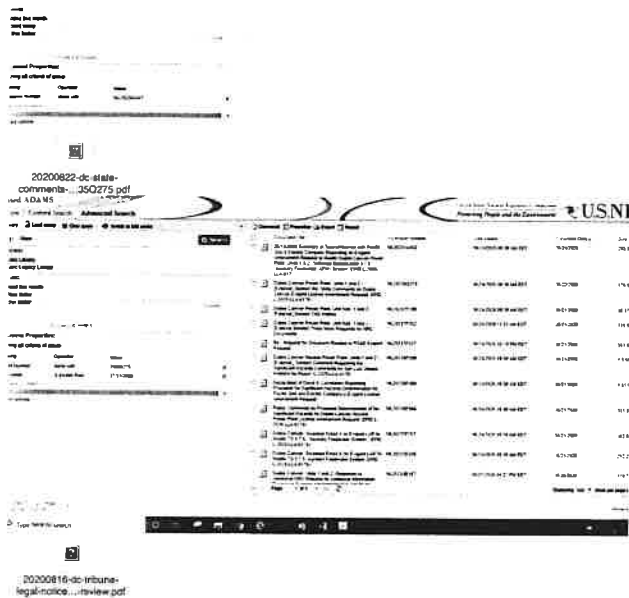
I will be sending a formal letter to NRC's Inspector General, with copies to the Commissioners and EDO, about the apparent violation of federal regulations and NRC's procedures.

Thanks,
Dave Lochbaum

David Lochbaum
Executive Director
U.S. Nuclear Regulatory Commission
Washington, D.C. 20545
Phone: 301-415-2600
Fax: 301-415-2601
Email: davidlochaum@gmail.com
Web: www.nrc.gov

G.2 – 87

G.2 – 88



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 24, 2020

LICENSEE: Pacific Gas and Electric Company

FACILITY: Diablo Canyon Nuclear Power Plant, Units 1 and 2

SUBJECT: SUMMARY OF AUGUST 14, 2020, TELECONFERENCE WITH PACIFIC GAS AND ELECTRIC COMPANY REGARDING AN EXIGENT LICENSE AMENDMENT REQUEST TO MODIFY TECHNICAL SPECIFICATION 3.7.5, "AUXILIARY FEEDWATER (AFW) SYSTEM," FOR DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 (EPID L-2020-LLA-0176)

On August 14, 2020, a Category 1 public teleconference was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of the Pacific Gas and Electric Company (the licensee). The purpose of the teleconference was to discuss an exigent license amendment request (LAR) for Diablo Canyon Nuclear Power Plant (Diablo Canyon), Units 1 and 2. Specifically, the proposed amendments would avoid an unnecessary plant shutdown during the expected time needed to perform potential repairs to the Diablo Canyon Unit 1, auxiliary feedwater (AFW) system piping that the licensee anticipates may be identified during Unit 1, Cycle 22, planned upcoming inspections to the AFW system. The licensee submitted the LAR by letter dated August 12, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20225A303). In the LAR, the licensee requested NRC approval by August 25, 2020. The meeting notice and agenda, dated August 13, 2020, are available in ADAMS at Accession No. ML20226A447. A list of attendees is provided as Enclosure 1.

Because of localized corrosion identified on Diablo Canyon, Unit 2, AFW piping during a recent Unit 2 maintenance outage, the licensee intends to perform inspections of Diablo Canyon, Unit 1, AFW piping in the near term to ensure that Unit 1 is not similarly affected. If similar below-minimum wall pipe thicknesses are found in the Unit 1 AFW system piping and elbows that were found in Unit 2, based on the estimated time-to-repair gained from the Unit 2 repair, it is likely that the current Diablo Canyon Technical Specification (TS) 3.7.5, "Auxiliary Feedwater (AFW) System," Required Actions B.1 or D.1 would result in the required shutdown of Unit 1. The licensee's proposed one-time TS 3.7.5 change would avoid an unnecessary plant shutdown during the expected time needed to perform the potential repairs and associated post-maintenance inspections and testing to the Unit 1 AFW system piping.

During the meeting, the licensee discussed the corrosion identified on Diablo Canyon, Unit 2, AFW piping and the subsequent repairs. The licensee discussed its assessment of extent of condition for the Unit 1 AFW piping and its plan for inspection and repair, as necessary.

G.2 – 89

G.2 – 90

- 2 -

- 3 -

The NRC staff planned to issue requests for additional information (RAIs) on August 14, 2020, following the public teleconference. The NRC staff provided the licensee a list of discussion topics, which is provided as Enclosure 2, shortly before the public teleconference to facilitate discussion. The NRC staff noted that it intended to modify the discussion topics, as appropriate, and issue them as RAIs.

During the meeting, the licensee provided the following information regarding the topics in Enclosure 2:

1. The AFW system consists of carbon steel piping. The licensee found one leak and a few areas where the Unit 2 AFW piping was below the Code minimum wall thickness, and performed repairs. The corrosion was found to be external surface corrosion; however, the licensee had not yet completed the root cause evaluation. The licensee plans to inspect five similar AFW piping locations in Unit 1. The licensee also plans to inspect all AFW piping in the upcoming Unit 1 outage in about 45 days.
2. The AFW piping is American Society of Mechanical Engineers (ASME) B31.1 Code piping (1967 Code Edition, with 1971 Addenda). Necessary repairs would be performed to Code requirements and would be inspected with ultrasonic testing and radiography.
3. The licensee discussed the configuration of the valves and pumps in the AFW system.
4. The AFW system would be ready to actuate. The related systems, such as steam generator level control instrumentation, are not impacted.
5. The licensee acknowledged it was a typographical error.
6. An updated computer code was used. The licensee was not changing the design basis events.
7. The licensee was providing risk insights with the risk management actions (RMAs). The 7-day extension numerical value was not tied to the RMAs. The licensee planned to maintain the RMAs during the duration of the requested completion time.
8. RMAs would protect equipment, such as doors, and existing processes.
9. The licensee discussed the risk significance of Pumps 1-1 and 1-3.
10. The licensee discussed the risk significance of "feed-and-bleed."
11. The licensee performed a walkdown of Diablo Canyon Unit 1, 2 days after the leak was identified in Unit 2. The licensee had completed the operability determination for Unit 1.

Three members of the public were in attendance. The following comment was received:

- Request to be added to the public distribution list and the importance of the NRC staff review of the AFW system.

No regulatory decisions were made at this meeting.

Please direct any inquiries to me at 301-415-3168 or Samson.Lee@nrc.gov.

/RA/

Samson S. Lee
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-275 and 50-323

Enclosures:
1. List of Attendees
2. Discussion Topics

cc: Listserv

G.2 – 91

G.2 – 92

LIST OF ATTENDEES

AUGUST 14, 2020, TELECONFERENCE REGARDING

AN EXIGENT LICENSE AMENDMENT REQUEST TO MODIFY

TECHNICAL SPECIFICATION 3.7.5, "AUXILIARY FEEDWATER (AFW) SYSTEM"

PACIFIC GAS AND ELECTRIC COMPANY

DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2.

U.S. Nuclear Regulatory Commission

S. Lee
N. Chien
N. Karipineni
A. Russell
C. Moulton
T. Hilsmeier
B. Alik
M. Breach
A. Tsirigolis
J. Seymour
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Pacific Gas and Electric Company

M. Richardson
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B. Mainini
M. Sheppard
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K. Schrader
R. Baradaran
J. Barbosa
K. Bych
R. Berger
R. O'Sullivan
B. Waltons

Public
M. Lewis
J. Swanson
Y. Peng

DISCUSSION TOPICS FOR AUGUST 14, 2020, PUBLIC CONFERENCE CALL
DIABLO CANYON EXIGENT AMENDMENT REQUEST (EPID: L-2020-LLA-0176)

1. Corrosion : Please discuss:
 - a. Material type of the auxiliary feedwater (AFW) piping (e.g., carbon steel)
 - b. Degradation mechanism identified at Unit 2 (e.g., general corrosion)
 - c. Corrosion at Unit 2 was on the internal or external surfaces?
 - d. Corrosion at Unit 2 was at welds or piping?
 - e. Are there any differences between the AFW piping at Units 1 and 2 in terms of material type, corrosion protection (i.e., coatings), or environment (e.g., time of wetness, potential for contaminants such as chlorides to accelerate corrosion)?
2. Please identify the AFW piping design Code and the process that will be followed for the repair consistent with the Code requirements. Is the one-to-one repair/replacement method being utilized?
3. License amendment request (LAR), page 7 of 22, states that:

On July 23, 2020, with DCCP (Diablo Canyon Nuclear Power Plant) Unit 2 still in Mode 3, a 3.9 gallons per minute calculated through-wall leak was observed coming out of the elbow just downstream of Valve LCV-111 in the discharge line for Unit 2 AFW Pumps 2-1 and 2-2 to SG 2-2.

What role is Pump 2-1?
4. LAR, page 8 of 22, states that:

While in Condition G the SG (steam generator) 1-2 related TS [technical specification] required equipment will continue to remain operable.

Please explain what are the related TS required equipment.
5. LAR, page 9 of 22, states that:

Conditions B and GD are modified to add new Condition G as a Condition for which an inoperable Condition is applicable.
6. LAR page 10 states that:

Loss of Normal Feedwater Transient

The condition 2 event of loss of normal feedwater is addressed in the FSARU [Final Safety Analysis Report Update] Section 15.2.8. This transient is modeled with an assumed single failure of the turbine-driven pump, resulting in the remaining two motor-driven pumps operable and feeding all four SGs with a total of 600 gallons per minute (gpm) flow. The proposed possible isolation of AFW flow to SG 1-2 means that the AFW system will have three available AFW pumps, which can provide well

Enclosure 1

Enclosure 2

G.2 – 93

G.2 – 94

- 2 -

above 600 gpm, but only to the three unaffected SGs. There is an additional FSARU analysis of the loss of normal feedwater transient in Section 6.5.3.7, termed a "better-estimate" analysis, that is done for AFW reliability demonstration. FSARU Section 6.5.3.7 notes that the FSARU Section 15.2.8 analysis has considerable margin when 4 SGs are credited, and that the better-estimate analysis shows successful event mitigation with just two SGs receiving a total of 390 gpm. Therefore, the proposed SG 1-2 isolation case, with three available SGs, is bounded by the FSARU Section 6.5.3.7 better-estimate case which only credits AFW flow to 2 SGs.

FSARU 6.5.3.7 states that:

A better-estimate analysis is performed to address the reliability of the AFW system. This analysis is similar to that described above for the Chapter 15 analysis, but assuming that only a single motor-driven AFW system pump supplies a minimum of 390 gpm to two of the four SGs. The cases considered in this additional analysis assume better-estimate conditions for several key parameters, including initial power level, decay heat, RCS temperature, pressurizer pressure, and low-low SG water level reactor trip setpoint. The results of this better-estimate analysis demonstrate that there is margin to pressurizer over-filling. While this analysis demonstrates that the AFW system remains highly reliable, the DCCP licensing basis requires that at least two AFW pumps delivering at 600 gpm to four SGs is required for this event.

The staff requests the licensee to explain the bases that a better-estimate analysis (two DGs receiving 390 gpm) can be used to cover a licensing based event (four SGs receiving 600 gpm).

7. The licensee proposed a completion time (CT) of 7 days for TS 3.7.5 Condition G "One or two AFW trains inoperable in MODE 1, 2, or 3 due to inoperable AFW piping affecting the AFW flow path(s) to one steam generator" for Unit 1 during repair of AFW piping. The proposed Condition is modified by a note which identifies that the condition is only applicable to Unit 1 once during Unit 1 Cycle 22 during repair of AFW piping.

In the Enclosure of the LAR on pages 12-13, the licensee provides a list of risk management actions (RMAs) the licensee will implement during the TS 3.7.5 Condition G 7-day CT. It appears that part of the justification for the proposed temporary CTs relies on the RMAs listed in the Enclosure.

Provide further justification for the proposed note language, which does not currently mention the RMAs. Alternatively, consider rewording the proposed note language to indicate that the 7 day CT is contingent on implementation of the RMAs listed in the LAR.

In addition, clarify whether the identified risk management actions will be required to be in place for the duration of the extended completion time.

G.2 – 95

- 3 -

8. In the description of RMAs, the LAR describes "protecting" certain equipment during the extended completion time. Clarify whether this includes preventing the protected equipment from being taken out of service for testing and maintenance activities.
9. Based on the risk insights, the LAR identified RMAs to be implemented during TS 3.7.5 Condition G. The first RMA protects AFW Pump 1-3 and its supporting equipment (e.g., vital 4 kV and 480 V Bus F, vital DC Bus 1, Battery Charger 1-1 and Emergency Diesel Generator 1-3). However, the second RMA protects only AFW Pumps 1-1 and 1-2, and does not identify protecting the associated supporting equipment. Explain why the supporting equipment of AFW Pumps 1-1 and 1-2 will not be protected during proposed TS 3.7.5 Condition G.
10. The LAR proposes RMAs based on insights from the PRA to be implemented during proposed TS 3.7.5 Condition G. The staff notes additional actions that could potentially reduce the impact on risk from Condition G, which are in alignment with the proposed RMAs in the LAR. Explain whether the following actions would be effective at reducing the risk associated with Condition G, and if so, incorporated them as RMAs for this LAR.
 - Protect supporting equipment of AFW values (e.g., power, air/nitrogen),
 - Ensure the power-operated relief valve (PORV) block valves remain open to ensure feed-and-bleed availability,
 - Protect the RHR (residual heat removal) pumps and centrifugal charging/intermediate head pumps to ensure feed-and-bleed availability,
 - Protect RHR sump recirculation valves (and support systems) to ensure feed-and-bleed availability,
 - Protect the steam-driven main feedwater pumps and the turbine to ensure feedwater availability.
11. The leak and degraded conditions on the Unit 2 AFW system were discovered on July 23rd. With the exception of a visual only walkdown by non-inservice inspection (ISI) trained personnel, the licensee has not yet conducted a formal extent of condition walkdown on similar Unit 1 AFW piping. The licensee had originally scheduled this Unit 1 AFW extent of condition walkdowns for this week (week of August 10th). Please justify, from a safety perspective, performing the walkdowns two additional weeks later in the week of August 24th, approximately one month after the Unit 2 leak, was identified?

G.2 – 96

SUBJECT: SUMMARY OF AUGUST 14, 2020, TELECONFERENCE WITH PACIFIC GAS AND ELECTRIC COMPANY REGARDING AN EXIGENT LICENSE AMENDMENT REQUEST TO MODIFY TECHNICAL SPECIFICATION 3.7.5, "AUXILIARY FEEDWATER (AFW) SYSTEM," FOR DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 (EPID L-2020-LA-0176) DATED AUGUST 24, 2020

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*via e-mail

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NAME	SLee	PBlechman w/comment	JDixon-Henry	SLee
DATE	8/17/2020	8/23/2020	8/24/2020	8/24/2020

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EVALUATION OF THE POTENTIAL PIPING DEGRADATION SAFETY CONCERN ON THE AUXILIARY FEEDWATER SYSTEM AT DIABLO CANYON UNIT 1

AN ANALYSIS PERFORMED IN SUPPORT OF THE
COMMENTS SUBMITTED TO THE NRC ON BEHALF
OF THE MOTHERS FOR PEACE OF SAN LUIS OBISPO

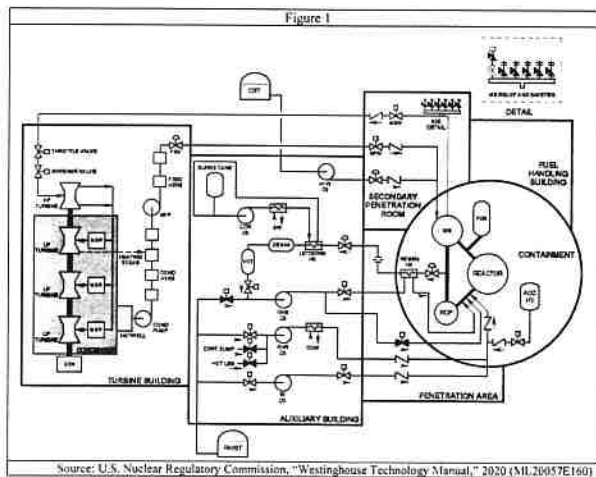
DAVID LOCHBAUM
AUGUST 26, 2020

G.2 - 97

G.2 - 98

Diablo Canyon Auxiliary Feedwater (AFW) System Design

During normal reactor operation, three loops transfer the heat generated by the reactor core to the Pacific Ocean, producing electricity along the way. The primary loop, shown in red on the right of Figure 1, consists of the reactor vessel, the steam generator (SGs), the reactor coolant pumps (RCPs), the pressurizer (PZR) and connecting piping. Water heated flowing through the reactor core flows to the steam generators. As this water flows inside thousands of metal tubes inside the steam generators, heat conducts through the metal walls to boil water in the secondary loop. The cooled water leaves the steam generators to be pumped back to the reactor vessel.

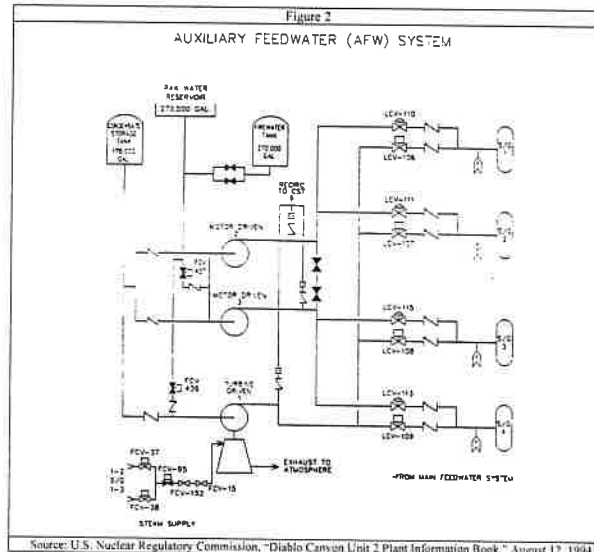


The secondary loop, also shown across the top of Figure 1, consists of the four steam generators, the main turbine/generator, the condenser, the condensate pumps, the condensate and feedwater heaters, and the feedwater pumps. Steam produced in the steam generators flows to the turbine to spin the generator and make electricity. Steam exhausts from the turbine into the condenser. Thousands of metal tubes pass ocean water through the condenser to cool the steam down and convert it back into water. The condensate and feedwater pumps draw water from the condenser and recycle it to the steam generators.

The tertiary loop features pumps (not shown in Figure 1) drawing water from the Pacific Ocean and sending it through metal tubes within the condenser. The water, warmed up to 30°F flowing through the condenser, flows back into the ocean.

The feedwater system is not designed to withstand an earthquake or to operate if the plant's connection to the offsite power grid is lost. The Auxiliary Feedwater (AFW) system is its emergency backup. Three AFW pumps can transfer water from either of two large storage tanks to the steam generators so heat from the reactor continues to get removed.

The AFW system, shown in the upper right center of Figure 1, also performs this vital role in case of an accident. Should a primary loop pipe break and drain reactor coolant water into the containment building, the emergency systems shown within the Auxiliary Building in the lower center of Figure 1 will automatically start and provide makeup water to the reactor vessel. The AFW system supplements this makeup cooling water function by continuing to remove heat from the primary loop via the steam generators.



G.2 - 99

G.2 - 100

Figure 2 is a schematic of the AFW system at Diablo Canyon. Each of its two reactors has its own AFW system like shown here. The AFW system features two motor-driven pumps and one turbine-driven pump. The motor-driven pumps are powered from the normal electrical distribution system and can be powered from the onsite emergency diesel generator should the normal power supply be unavailable. The turbine-driven AFW pump uses steam produced by the decay heat produced by the shut down reactor core. The control system for this turbine-driven AFW pump is powered from onsite battery banks allowing this pump to function even if normal and emergency diesel generator power supplies are unavailable.

The AFW pumps draw water from the Condensate Storage Tank (CST) or the Raw Water Reservoir. Another source of water can be obtained by manually opening valves to allow the AFW pumps to draw water from the Firewater Tank.

The AFW system piping downstream of the pumps is cross-connected. There is a recirculation path back to the CST allowing the AFW pumps to be tested while the reactor operates without supplying water to the steam generators. Normally closed valves in the downstream piping route the flow from AFW Pump 2 to Steam Generators 1 and 2 and the flow from AFW Pump 3 to Steam Generators 3 and 4. These valves can be manually opened to allow these pumps to supply makeup water to all four steam generators. The flow from turbine-driven AFW pump 1 is normally routed to all four steam generators.

The downstream piping contains Level Control Valves (LCVs) that regulate the AFW flow rate to the steam generators to maintain the water level inside the steam generators at the "Goldilocks" level – neither too high nor too low, but just right. The LCVs are throttled partially open. If water level drops too low in a steam generator, its LCVs opens wider to increase the AFW flow rate and restore the desired water level. If the water level rises too high in a steam generator, its LCVs closes more to decrease the AFW flow rate and bring the water level back within the desired band.

The AFW system serves a safety function during many transient and accident scenarios. About the only emergency conditions in which the AFW system has little or no role to play involve medium or large sized loss of coolant accidents. If a medium or large pipe in the primary loop were to break, water would flow from its broken ends at such a high rate that while the emergency systems on the left can provide adequate makeup flow to the vessel to keep the reactor core covered and cooled, they may be unable to keep the entire primary loop filled with water. If primary loop water does not flow through the steam generators, the AFW system cannot remove its heat.

In medium and large sized loss of coolant accidents, the emergency systems will provide makeup water to the reactor vessel. The containment spray system, with nozzles mounted to the roof of the containment building car-wash style, will spray water into the containment to cool the primary loop water now pooling on the containment floor after flowing from the broken pipe ends.

Diablo Canyon Auxiliary Feedwater (AFW) System Licensing Requirements

The NRC issued operating licenses for Diablo Canyon Units 1 and 2. An appendix to the operating license called the Technical Specifications establish what conditions are required when for the reactor to be operated. Technical Specification Limiting Condition for Operation (LCO) 3.7.5 (see Figure 3) governs the AFW system at Diablo Canyon.

Figure 3

3.7.5 Auxiliary Feedwater (AFW) System		
LCO 3.7.5 Three AFW trains shall be OPERABLE.		
NOTE: Only one AFW train, which includes a motor driven pump, is required to be OPERABLE in MODE 4.		
APPLICABILITY: MODES 1, 2, and 3, MODE 4 when steam generator is relied upon for heat removal.		
ACTIONS		
NOTE: LCO 3.0.4b is not applicable.		
CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One steam supply to turbine driven AFW pump inoperable.	A.1 Restore steam supply to OPERABLE status.	7 days AND 10 days from discovery of failure to meet the LCO
B. One AFW train inoperable in MODE 1, 2 or 3 for reasons other than Condition A.	B.1 Restore AFW train to OPERABLE status.	72 hours AND 10 days from discovery of failure to meet the LCO
C. Required Action and associated Completion Time for Condition A or B not met. OR Two AFW trains inoperable in MODE 1, 2 or 3.	C.1 Be in MODE 3.	8 hours
	C.2 Be in MODE 4.	18 hours

August 26, 2020

Page 4

G.2 – 101

August 26, 2020

Page 5

G.2 – 102

D. Three AFW trains inoperable in MODE 1, 2, or 3.	D.1	NOTE: LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one AFW train is restored to OPERABLE status.	Immediately
	E.1	Initiate action to restore one AFW train to OPERABLE status.	
E. Required AFW train inoperable in MODE 4.	E.1	Initiate action to restore AFW train to OPERABLE status.	Immediately

Source: U.S. Nuclear Regulatory Commission, "Diablo Canyon Nuclear Power Plant, Unit 1 Facility Operating License," January 8, 2008.

These licensing requirements apply when the reactor is in MODES 1, 2, and 3 and conditionally when it is in MODE 4. (No steam is produced in MODES 5 and 6, so no AFW system is needed.) In MODES 1, 2 and 3, three AFW trains (i.e., water supply sources, AFW pumps, controls, piping, and valves) are required to be operable. The MODES are also defined by the Technical Specifications (see Figure 4).

Figure 4

MODES				
MODE	TITLE	REACTIVITY CONDITION (k _{eff})	% RATED THERMAL POWER ^(a)	AVERAGE REACTOR COOLANT TEMPERATURE (°F)
1	Power Operation	≥ 0.99	> 5	NA
2	Startup	≥ 0.99	≤ 5	NA
3	Hot Standby	< 0.99	NA	≥ 350
4	Hot Shutdown ^(a)	< 0.99	NA	350 > T _{avg} > 200
5	Cold Shutdown ^(a)	< 0.99	NA	≤ 200
6	Refueling ^(a)	NA	NA	NA

(a) Excluding decay heat.
(b) All reactor vessel head closure bolts fully tensioned.
(c) One or more reactor vessel head closure bolts less than fully tensioned.

Source: U.S. Nuclear Regulatory Commission, "Diablo Canyon Nuclear Power Plant, Unit 1 Facility Operating License," January 8, 2008.

August 26, 2020

Page 6

G.2 – 103

The ACTION statements define what to do when an LCO is not met. For example, ACTION B requires an inoperable AFW train to be restored to service within 72 hours. If a single AFW train cannot be restored within 72 hours or if a second AFW train is inoperable concurrently, ACTION C requires the reactor to be placed in MODE 3 within six hours and in MODE 4 within 18 hours. If all three AFW trains are inoperable concurrently, ACTION D requires the reactor to be shut down immediately.

If a single AFW train is inoperable and is not restored to operable within 72 hours, the six-hour shutdown clock in ACTION C.1 starts. If the AFW train is restored to operable before the six-hour clock times out, LCO 3.7.5 is satisfied (assuming the other two AFW trains are operable) and ACTIONS B and C no longer apply – in other words, the reactor may continue operating because LCO 3.7.5 is satisfied.

Diablo Canyon AFW Licensing Requirements Compared to Historical Standards

In May 1976, the NRC issued standardized Technical Specifications for pressurized water reactors (PWRs) designed by Westinghouse.¹ The intent was to serve as a template for future reactor operating licenses issued by the agency. It contained only the equivalent of ACTION B from Diablo Canyon's LCO 3.7.5:

With one auxiliary feedwater pump inoperable, restore at least three auxiliary feedwater pumps (no capable of being powered from separate emergency buses and one capable of being powered by an OPERABLE steam supply system) to OPERABLE status within 72 hours.

The NRC periodically revised its Standard Technical Specifications for Westinghouse PWRs. Over the ensuing decades and revisions, the 72-hour time limit for one AFW train being inoperable remained in place and was supplemented by Diablo Canyon-like ACTIONS C and D for multiple AFW trains being inoperable. For example, Revision 4 of the NRC's Westinghouse Standard Technical Specification released in April 2012 mirrors the content of Diablo Canyon's LCO 3.7.5 – 72-hour limit on one AFW train inoperable, 6-hour limit on two AFW trains inoperable, and immediate shutdown when all three AFW trains are inoperable.²

In other words, the 72-hour limit on operating a reactor with an inoperable AFW train has been in place at Diablo Canyon and dozens of U.S. PWRs for decades. The AFW licensing requirements for Diablo Canyon are not stricter or more conservative than elsewhere — they are exactly the same as they have been everywhere for decades.

¹ U.S. Nuclear Regulatory Commission, "Standardized Technical Specifications for Westinghouse PWRs," NUREG-0452, May 15, 1976 (ML17266A005).

² U.S. Nuclear Regulatory Commission, "Standard Technical Specifications – Westinghouse Plants," Revision 4.0, Vol. 1, Specifications, April 2012 (ML1200A222).

August 26, 2020

Page 7

G.2 – 104

Auxiliary Feedwater (AFW) System Licensing Precedents

The 72-hour limit on reactors operating with one AFW has been in place at U.S. PWRs for decades. There have been occasions when owners sought NRC's permission to continue operating reactors longer than 72 hours with an AFW train inoperable.¹ An extensive search of NRC's publicly available records identified the following four occasions listed in reverse chronological order (i.e., newest first):

Indian Point Unit 3, 2009/2010

In December 2009, Entergy applied to the NRC for an exigent license amendment to allow Indian Point Unit 3 to continue operating for up to 106 hours instead of the current 72-hour limit while it implemented repairs to AFW pump 32.²

On January 5, 2010, the NRC denied Entergy's exigent license amendment request for the following reason:³

The Nuclear Regulatory Commission (NRC) staff has reviewed the submittals and has determined that there is insufficient justification to use the exigent provisions of 10 CFR 50.91. The NRC staff finds that there is not a sufficient need to act quickly such that the normal public notice period should be reduced. As stated in the amendment and supplements referenced above, you have determined that the turbine-driven auxiliary feedwater pump is currently operable per the IP3 Technical Specifications, and capable of performing its safety mission.

Because AFW pump 32 on Indian Point Unit 3 was operable, there was no pressing need for NRC to process an expedited license amendment. The lack of urgency afforded Entergy the opportunity to pursue a license amendment via the routine process with normal public notifications.

Entergy submitted a license amendment request to the NRC on January 11, 2010, seeking a one-time extension of the 72-hour limit to 106 hours so workers could remove AFW pump 32 from service and implement upgrades.⁴

Before the NRC could decide to approve or deny the routine license amendment request, Entergy withdrew the request. Turns out that workers were able to modify AFW pump 32 within 72 hours, negating the need for an extension of the out of service time.⁵

¹ The author thanks David Weisman of the Alliance For Nuclear Responsibility for suggesting that AFW precedents be examined to their applicability to the current Diablo Canyon matter.

² Entergy Nuclear Northeast, "Proposed Exigent License Amendment Regarding One Time Extension of the Auxiliary Boiler Feedwater Pump Allowed Outage Time – Indian Point Unit Number 3," December 15, 2009 (ML093400595).

³ U.S. Nuclear Regulatory Commission, "Indian Point Nuclear Generating Unit No. 3 – Determination on Exigent Circumstances for License Amendment Request," January 5, 2010 (ML100050260).

⁴ Entergy Nuclear Northeast, "Proposed License Amendment Regarding One Time Extension of the Auxiliary Boiler Feedwater Pump Allowed Outage Time – Indian Point Unit Number 3," January 11, 2010 (ML100670176).

⁵ Entergy Nuclear Northeast, "Withdrawal of Proposed License Amendment Regarding One Time Extension of the Auxiliary Boiler Feedwater Pump Allowed Outage Time – Indian Point Unit Number 3," November 17, 2010 (ML103410153).

August 26, 2020

Page 8

G.2 – 105

Diablo Canyon Auxiliary Feedwater (AFW) System Licensing Conundrum

Pacific Gas and Electric Company submitted an exigent license amendment request to the NRC on August 12, 2020, seeking to extend the 72-hour limit that Unit 1 could operate with one AFW train inoperable to a 7-day limit.¹² PG&E informed the NRC that:

On July 23, 2020, with DCCP Unit 2 still in Mode 3, a 3.9 gallons per minute calculated through-wall leak was observed coming out of the elbow just downstream of Valve LCV-111 in the discharge line for Unit 2 AFW Pumps 2-1 and 2-2 to SG 2-2. The unit was transitioned to Mode 4 in accordance with DCCP TS 3.7.5. Required Action D.2. Repairs were made to the AFW piping while shutdown prior to returning Unit 2 to power operation.

An Extent of Condition (EOC) Investigation performed for the Unit 2 AFW piping leak identified no additional leaks. However, six additional locations were identified in the Unit 2 AFW system where repairs were required because pipe wall thickness did not meet minimum ASME code requirements. The repairs were completed and inspected, and the affected AFW trains were returned to operable status on July 31, 2020.

With the AFW system piping corrosion problem found and fixed on Unit 2, PG&E sought the exigent license amendment request to facilitate its fixing the same problem it suspected existed on Unit 1.

If PG&E expected that it would find no piping degradation when it inspected the Unit 1 AFW piping, no repairs would be necessary and the current 72-hour limit would not be relevant.

If PG&E expected that it would find piping degradation when it inspected the Unit 1 AFW piping, repairs might take longer than the current 72-hour limit. To hedge against this situation, PG&E submitted an exigent license amendment request seeking additional time to implement the repairs that inspections might reveal to be necessary.

But the NRC has granted relief of the 72-hour limit in the past only when an AFW train was inoperable. The NRC denied Entergy's exigent license amendment request for repairs to AFW pump 32 because it had not declared the pump inoperable. With AFW pump 32 operable, Entergy could (and did) submit a regulator license amendment request to the NRC seeking a relaxation of the 72-hour limit for it to repair AFW pump 32.

Absent an AFW train being inoperable, the NRC cannot grant relief via an emergency license amendment, an exigent license amendment, or a Notice of Enforcement Discretion. Because PG&E has not declared any of the AFW trains on Diablo Canyon Unit 1 inoperable, none of these relief options are available.

But if PG&E declares an AFW train inoperable in order to avail itself of the emergency license amendment, exigent license amendment, or Notice of Enforcement Discretion licensing options, it would open itself to charges of deliberate misconduct. For it had reason to believe no later than August 12, 2020, and almost certainly two weeks before then that the Unit 1 AFW piping degradation rendered one or more of the AFW trains inoperable. Its exigent license amendment request is compelling prima facie evidence of this belief. Declaring now that a Unit 1 AFW train is inoperable is tantamount to confessing to have willfully operating Unit 1 longer than permitted by LCO 3.7.5.

¹² Paula Gerfen, Site Vice President, Pacific Gas and Electric Company, "Diablo Canyon Units 1 and 2, License Amendment Request 20-01, Exigent Request for Revision to Technical Specification 3.7.5, "Auxiliary Feedwater System," August 12, 2020 (ML2025A303).

August 26, 2020

Page 10

G.2 – 107

Catawba Unit 1, 2008

The NRC issued an emergency license amendment on July 15, 2008, that allowed Catawba Unit 1 to continue operating for up to 9 days while workers repaired a service water pump that failed during a test run. This service water pump supported AFW train 1B, so its failure resulted in AFW train 1B being declared inoperable, starting the 72-hour restoration or shutdown clock.⁸

South Texas Project Unit 1, 2006

The NRC issued a Notice of Enforcement Discretion (NOED) on December 20, 2006, allowing South Texas Project Unit 1 to operate for up to 12 hours longer than the 72-hour limit for one AFW train being inoperable. An in-plant power transient due to a ground fault in the plant's electrical distribution system caused a capacitor to fail in the power supply for the instrumentation and control circuits for turbine-driven AFW train D.⁹

Palisades, 2000

Consumers Energy applied for an exigent license amendment to allow its Palisades reactor to restart with turbine-driven AFW Pump P-B inoperable. The underground backup steam supply line to this AFW pump developed a leak due to external corrosion. The safety analyses for Palisades did not take credit for this backup steam supply to the turbine-driven AFW pump. The license amendment request sought to remove mention of this backup steam supply line and rely solely on the primary steam supply line exclusively credited in the safety studies.¹⁰

On March 14, 2000, the NRC issued an exigent license amendment that enabled Palisades to operate without the backup steam supply line to the turbine-driven AFW pump.¹¹

These precedents reveal that the NRC has granted relief from the 72-hour time limit on reactor operation with one AFW train inoperable when an AFW train was inoperable. On Catawba Unit 1 and South Texas Project Unit 1, an AFW train was declared inoperable and could not be restored within the 72-hour limit. Consequently, the reactor would have had to be shut down but for the relief granted by the NRC (an emergency license amendment for Catawba and a Notice of Enforcement Discretion for South Texas Project). An inoperable AFW train would have prevented Palisades from starting up until the backup steam supply to its turbine-driven AFW pump but for the relief granted by the NRC (an exigent license amendment).

The precedents further reveal that the NRC has denied relief from the 72-hour time limit on reactor operation with one AFW train inoperable when no AFW train was inoperable. On Indian Point Unit 3, the plant owner contended and the NRC concurred that AFW pump 32 was operable. Because all required AFW trains were operable, the NRC determined that the owner could pursue a license amendment request via the normal process if it sought to extend the 72-hour limit.

⁸ U.S. Nuclear Regulatory Commission, "Catawba Nuclear Station, Unit 1, Issuance of Emergency Amendment Regarding One-Time Extension of the Auxiliary Feedwater System and the Containment Spray System Allowed Outage Time," July 15, 2008 (ML081980347).

⁹ U.S. Nuclear Regulatory Commission, "Notice of Enforcement Discretion for South Texas Project Nuclear Operating Company Regarding South Texas Project Unit 1," December 20, 2006 (ML063540518).

¹⁰ Consumers Energy, "Palisades Plant – Technical Specifications Change Request – Auxiliary Feedwater," February 18, 2000 (ML001686886).

¹¹ U.S. Nuclear Regulatory Commission, "Palisades Plant – Issuance of Amendment Re: Backup Steam Supply or Turbine-Driven Auxiliary Feedwater Pump P-BB," March 14, 2000 (ML003692656).

August 26, 2020

Page 9

G.2 – 106

Diablo Canyon Auxiliary Feedwater (AFW) System Licensing Conundrum Exit Plan

The second-best plan¹³ for PG&E to exit its Unit 1 AFW system licensing conundrum would be to immediately inspect the Unit 1 AFW system piping. The reactor need not be shut down to perform these inspections.

Inspection all Unit 1 AFW system piping would define the scope of the problem, ranging from no problem if no or little piping degradation is identified to major problem if piping segments in all three AFW trains are discovered to have unacceptable levels of degradation. Once the scope of the problem gets defined, the appropriate solution becomes readily evident.

- If no problem is found, no solution is needed.
- If only one AFW train is found impaired, an exigent license amendment request or Notice of Enforcement Discretion might be a viable solution.
- If multiple AFW trains are found impaired, shutdown until the AFW system's problems are corrected would be appropriate.

¹³ The best plan would have entailed conducting the inspections of the Unit 1 AFW system piping as soon as possible after July 31, 2020, when workers completed replacement of degraded piping segments in the Unit 2 AFW system and restored all three AFW trains to operable status. Those skilled and experienced workers could have pivoted to repeat the inspections on Unit 1. Instead, PG&E indulged in some foot-dragging and clock-unwatching.

August 26, 2020

Page 11

G.2 – 108

Info@DCISC.org

From: Garcia, Hector M <HMG4@pge.com>
Sent: Tuesday, September 1, 2020 8:47 AM
To: rickmcw1@gmail.com
Cc: 'Robert Rathie'; Baldwin, Thomas; info@dcisc.org; 'Per Peterson'; 'Peter Lam'; 'Bob Budnitz'; 'Ferman Wardell'
Subject: RE: U1 Temporary License Amendment Grated today

Good Morning DCISC,

Yesterday we performed the Unit 1 inspections and the results are below.

- EFIN then conducted their inspection: Here is a brief summary of what EFIN found.
 - o All inspected pipe sections are in good condition with most areas having in-tact coating.
 - o Portions of piping with failed coatings exhibit mild surface corrosion with no significant nodules, pits, or blisters.
 - o Instrument root valves of FE-214 were measured by calipers to be nominal OD with no significant corrosion observed.
- ISI then joined EFIN to inspect the pit area, UT actual wall thickness for the most limiting case, and inspect the overall condition as a second (qualified) eye. The results are that the worst location is above Tmfg of 0.263 inches at .276" and the general area measurement of thickness by ISI was .308". There are no degraded conditions. The inspection is being documented in SAPN 51083525 T16.

At this time we are cancelling all contingency work, as it is not required. There is no further work on Unit 1 this week. The remaining U1 EOC work is scoped into the 1R22 refueling outage.

Excellent team execution, thanks to all.

We planned for success, and we were prepared for the worst possible outcome.

Regards,
Hector

From: rickmcw1@gmail.com <rickmcw1@gmail.com>
Sent: Monday, August 31, 2020 9:36 AM
To: Garcia, Hector M <HMG4@pge.com>
Cc: 'Robert Rathie' <bob@wellingtonlaw.com>; Baldwin, Thomas <TRB1@pge.com>; info@dcisc.org; 'Per Peterson' <perfpeterson@me.com>; 'Peter Lam' <peterlam1@aol.com>; 'Bob Budnitz' <budnitz@pacbell.net>; 'Ferman Wardell' <fwardell@bellsouth.net>
Subject: RE: U1 Temporary License Amendment Grated today

*****CAUTION: This email was sent from an EXTERNAL source. Think before clicking links or opening attachments.*****

Hector,
Thanks for the update. As previously requested, please let the DCISC know when DCPD performs the Unit 1 inspections and the results.

G.2 – 109

We are readily able to meet all safety requirements in our license and have substantial redundancy in the unit if repairs are needed.

I am available to discuss this matter in more detail with you, and as always, will continue to keep you updated related to activities at the plant.

Regards,
Hector M. Garcia
CNO Support Manager
Pacific Gas & Electric Company
Diablo Canyon Power Plant

Office: 805.545.3942 | Cell: 805-345-5800 | email: hmg4@pge.com

Regards,

Rick

From: Garcia, Hector M <HMG4@pge.com>
Sent: Monday, August 31, 2020 12:28 PM
To: info@dcisc.org; 'Per Peterson' <perfpeterson@me.com>; 'Peter Lam' <peterlam1@aol.com>; Bob Budnitz <budnitz@pacbell.net>; Rick McWhorter <rickmcw1@gmail.com>; 'Ferman Wardell' <fwardell@bellsouth.net>
Cc: 'Robert Rathie' <bob@wellingtonlaw.com>; Baldwin, Thomas <TRB1@pge.com>
Subject: U1 Temporary License Amendment Grated today

Good morning DCISC,

I'm following up on our conversation (from about 3 weeks ago) to let you know that the Nuclear Regulatory Commission has granted PG&E's temporary Exigent License Amendment Request for Diablo Canyon Unit 1. As we communicated, PG&E sought this temporary license amendment to support upcoming enhanced inspections of the unit's Auxiliary Feedwater (AFW) pump discharge lines. During the inspection process, we may identify a need for a repair. The temporary amendment enables us to make any necessary repairs while the unit remains online, in lieu of removing the unit from service.

Online maintenance is safely performed at all types of power plants, enabling continued reliable and safe generation of electricity for customers. We have substantial redundancy in the unit if repairs are needed and will continue to meet all safety requirements in our license. These are measured and prudent actions for our team to take and reflect our commitment to the continued safe and reliable operation of Unit 1 for our customers.

Should you have any questions, please do not hesitate to contact me.

Regards,
Hector M. Garcia
CNO Support Manager
Pacific Gas & Electric Company
Diablo Canyon Power Plant
Office: 805.545.3942 | Cell: 805-345-5800 | email: hmg4@pge.com

From: Garcia, Hector M <HMG4@pge.com>
Sent: Wednesday, August 12, 2020 4:18 PM
To: 'Peter Lam' <peterlam1@aol.com>; Bob Budnitz <budnitz@pacbell.net>; Rick McWhorter <rickmcw1@gmail.com>
Cc: Robert Rathie <bob@wellingtonlaw.com>; info@dcisc.org
Subject: Filing a request with NRC for a Temporary License Amendment

Dear DCISC,

This afternoon PG&E is filing a request with the Nuclear Regulatory Commission (NRC) for a temporary License Amendment related to possible maintenance activities for Diablo Canyon Power Plant Unit 1.

We will be performing enhanced inspections of some of the Unit 1 Auxiliary Feedwater (AFW) pump discharge lines. During that process, we may identify a need for a repair. If a repair is needed, the temporary amendment will enable us to make the repairs while the unit remains online, in lieu of removing the unit from service.

G.2 – 110

Info@DCISC.org

From: info@dcisc.org
Sent: Tuesday, September 15, 2020 7:45 AM
To: 'Linda Seeley'
Cc: info@dcisc.org
Subject: RE: Final Guidance on High-Level Nuclear Waste Management_8.5.20 .pdf

Linda -

Thank you for sharing the link to the Sierra Club's Final Guidance on High-Level Nuclear Waste Management with he DCISC. I will, of course, provide your email together with the link to our Members and Technical Consultants for their information and review. (The link opened with no problems for me.)

Sorry for my delay in responding to thank and acknowledge receipt, I was away from my home office here yesterday for several appointments.

Thank you for contacting the Committee and for your interest in its activities. FYI, the next public meeting of the DCISC will be held on Thursday and Friday, October 22-23, 2020 via Zoom. I hope you can attend.

Please keep well and thanks again,

Bob Rathie
DCISC Asst. Legal Counsel
(800)439-4688
info@dcisc.org

-----Original Message-----

From: Linda Seeley <lindaseeley@gmail.com>
Sent: Monday, September 14, 2020 11:48 AM
To: info@dcisc.org
Subject: Final Guidance on High-Level Nuclear Waste Management_8.5.20 .pdf

Dear Bob,

I am happy to share the National Sierra Club's new Final Guidance on High-Level Nuclear Waste Management, released just this morning. I hope that you will distribute it to the members of the committee. The Sierra Club is the largest environmental membership group in the world, with over 3 Million members.

Thanks,
Linda Seeley

You can view "Final Guidance on High-Level Nuclear Waste Management_8.5.20 .pdf" at:
<https://documentcloud.adobe.com/link/tracker?url=urn:aaid:scds:US:12940fe5-6ebd-4dc7-9cd8-3f967cf2487f>

G.2 – 111

G.2 – 112

From: info@dcisc.org
 Sent: Tuesday, September 15, 2020 7:50 AM
 To: 'Peter Lam'; 'Robert J. Budnitz'; 'PER PETERSON'; 'Ferman Wardell'; 'Rick McWhorter'
 Cc: info@dcisc.org
 Subject: FW: EMF Linda Seeley w/ Final Guidance on High-Level Nuclear Waste Management_8.5.20 .pdf
 Attachments: Sierra Club - Final Guidance on High-Level Nuclear Waste Management_8.5.20.pdf

Members & Consultants -

With this email I am forwarding to you an email received here yesterday from Linda Seeley re the Sierra Club's issuance of its Final Guidance on High-Level Nuclear Waste. I have responded, acknowledged receipt and thanked her for the message and confirmed that I would provide the report to you. I have also attached the report as a pdf in case anyone has trouble opening the document with the link she provided in her email.

Best regards,

Bob R
 (831) 424-3672 (home)
 info@dcisc.org

-----Original Message-----

From: Linda Seeley <lindaseeley@gmail.com>
 Sent: Monday, September 14, 2020 11:48 AM
 To: info@dcisc.org
 Subject: Final Guidance on High-Level Nuclear Waste Management_8.5.20 .pdf

Dear Bob,
 I am happy to share the National Sierra Club's new Final Guidance on High-Level Nuclear Waste Management, released just this morning. I hope that you will distribute it to the members of the committee. The Sierra Club is the largest environmental membership group in the world, with over 3 Million members.
 Thanks,
 Linda Seeley

You can view "Final Guidance on High-Level Nuclear Waste Management_8.5.20 .pdf" at:
<https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:12940fe5-6ebd-4dc7-9cd8-3f967cf2487f>

Sent with Adobe Document Cloud. Click on the link above to access the file online. No sign up or installation of Acrobat is required to access.

G.2 - 113

Appendix VII Low-Level Radiation Impacts on Children, Preliminary Report from the UK 122

Sierra Club

Guidance on Implementing Sierra Club Policy on the Management of High-Level Nuclear Waste

Table of Contents

List of Acronyms	3
Introduction	5
Section 1. Executive Summary	7
Section 2. Spent Nuclear Fuel at Nuclear Reactors	11
2.1 Cooling Pools	11
2.2 High Burn-up Fuel	16
2.3 Dry Storage and Hardened On-site Dry Storage	20
2.4 Natural and Human-caused Disaster Resistance of Cooling Pools, Casks/Canisters, and Site Itself	30
Section 3. Consolidated Interim Storage	37
Section 4. Transportation of Spent Nuclear Fuel	50
Section 5. Community Engagement and Informed Consent	93
Section 6. Environmental Justice and Equity	107
Appendix I Book review by Don Safer of <i>Confessions of a Rogue Nuclear Regulator</i> by former NRC Chairman Gregory Jaczko	112
Appendix II Radiological Doses	114
Appendix III Radiation Weighting Factors	115
Appendix IV Minimum Safety Requirements for Dry Storage of Highly Radioactive Waste	116
Appendix V Atlas Railcar Phase 2 Final Report	119
Appendix VI Questions on the Validity of the ENSA Cask Multimodal Transportation Study: Don Safer's Critique	120

G.2 - 114

From: info@dcisc.org
Sent: Sunday, September 27, 2020 3:46 PM
To: 'Peter Lam'; 'Robert J. Budnitz'; perfpeterson@me.com; Ferman Wardell; 'Rick McWhorter'
Cc: info@dcisc.org
Subject: FW: Communication recd. from Mr. Marre - Corroded pipes in the vital emergency cooling water system

Member & Consultants:

See the email below from Mr. Tom Marre who has attended a couple our most recent public meetings and offered comments.

As you see, I have responded and thanked him and let him know that the information in his email will be provided to you all.

Best,

Bob R
 (831) 424-3672 (home)
info@dcisc.org

From: Info@DCISC.org <info@dcisc.org>
Sent: Sunday, September 27, 2020 3:34 PM
To: 'tom marre' <tommarre@gmail.com>
Cc: Info@DCISC.org
Subject: RE: Corroded pipes in the vital emergency cooling water system

Mr. Marre –

This will acknowledge receipt of your email below with the article from the Santa Barbara Independent which I will provide to our Members and Technical Consultants.

Thanks you for contacting the Diablo Canyon Independent Safety Committee and for your interest in its activities.

Respectfully,

Robert Rathie
 DCISC Asst. Legal Counsel
 (800)439-4688 (in CA)
info@dcisc.org

G.2 – 117

From: tom marre <tommarre@gmail.com>
Sent: Friday, September 25, 2020 2:28 PM
To: dcisafety@dcisc.org
Subject: Corroded pipes in the vital emergency cooling water system

SB Independent: "All About Diablo Canyon Nuclear Plant"

(1) Corroded pipes in the vital emergency cooling water system at Unit 2 ruptured in July, spilling four gallons per minute. The plant shut down for a week of repairs — and more extensive corrosion was detected. Fearing that Unit 1 suffered similarly, PG&E asked the Nuclear Regulatory Commission (NRC) for a license to make repairs in place *without* shutting the reactor down. California's blackouts mean that the last thing PG&E wants to admit is that Diablo Canyon could fail at the time it might be most needed. Ignoring its own regulatory precedents, failing to wait for PG&E's responses to staff questions, and skirting public notification and comment requirements, PG&E's risky request was rubberstamped.



Thomas Marre
 Special Projects
 Off: 1.800.800.9779
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tom@800stone.com
www.800stone.com
tommarre@gmail.com

G.2 – 118



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 Independent**

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 TODAY

Don

All About Diablo Canyon Nuclear Plant

And If You Don't Know, Now You Know



Diablo Canyon Power Plant in San Luis Obispo | Credit: Wikimedia

By David Weisman

Thu Sep 24, 2020 | 2:25pm

Absent annoyances like the Alliance for Nuclear Responsibility (ANR) and allies, it appears that regulators, elected officials, and the press have their COVID-19 facemasks pulled up over their eyes. With no shortage of crises — pandemics, wildfires, social injustice — plaguing 2020 so far, some long-simmering nuclear shortcuts are slipping under the radar.

PG&E, which pled guilty to 84 cases of manslaughter this past spring, has been banking on regulatory inattention to increase profits while ignoring risks to residents and ratepayers from its aging Diablo Canyon nuclear power plant.

Since the start of the pandemic, here are four examples of declining oversight:

(1) Corroded pipes in the vital emergency cooling water system at Unit 2 ruptured in July, spilling four gallons per minute. The plant shut down for a week of repairs — and more extensive corrosion was detected. Fearing that Unit 1 suffered similarly, PG&E asked the Nuclear Regulatory Commission (NRC) for a license to make repairs in place *without* shutting the reactor down. California's blackouts mean that the last thing PG&E wants to

admit is that Diablo Canyon could fail at the time it might be most needed. Ignoring its own regulatory precedents, failing to wait for PG&E's responses to staff questions, and skirting public notification and comment requirements, PG&E's risky request was rubberstamped.

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The Takeaway: Despite decades of NRC requirements and inspection orders to PG&E for documented weaknesses, how was this external — visible — pipe corrosion allowed to fester? Have maintenance standards degraded now that the plant is slated for retirement in a few years — the frightening prospect of what engineers call "run to failure"? What other undetected decay lurks in the system — and what will it cost ratepayers to keep this dinosaur running safely?

For those believing that Diablo Canyon is vital in a time of energy shortages, consider this from the *New York Times* in August:

Steve Berberich, president and chief executive officer of California Independent System Operator, on Tuesday defended his organization's decision to order rolling blackouts rather than dipping into reserve power supplies set aside for emergencies. He said the grid had to keep some reserves on hand in case a plant like Diablo Canyon unexpectedly shut down.

Perhaps Mr. Berberich rightly feared — or knew of — the situations plaguing Diablo this summer.

(2) Many customers have fled PG&E for Community Choice Aggregation programs (CCA), but they are still charged "exit fees" to cover Diablo's extraordinary above-market costs — which PG&E projects will exceed \$1.25 billion in 2020. That's money that could be better spent on the demand-response programs, electricity storage, and targeted capacity purchases needed to truly avoid blackouts. Desperate, PG&E tried to pawn off Diablo's unneeded and overpriced energy on the CCAs (including Santa Barbara's own Central Coast Community Energy) under the rubric of "Carbon Free." But alert advocates caught the ruse and reminded the boards of CCAs across the region to remain true to their past commitments to "nuclear free" power sourcing.

(3) PG&E gained an additional eight months use (and associated profit) from Diablo through an unpublicized waiver from the State Water Resources Control Board (SWRCB). In 2010 the SWRCB ruled that all use of once-through cooling (OTC) from ocean water would cease on December 31, 2024. Diablo's Unit 2 has an NRC license through August 2025.

In a move quite similar to the NRC waiver, the Newsom SWRCB relied on a smokescreen staff report replete with internal contradictions and unsubstantiated claims by PG&E. The waiver was shoehorned into the OTC extensions for several Southern California gas plants. But the Southern California 1-3 year extensions allegedly address a 2021-2023 short-term need. No such claim was made for Diablo's 2025 gift.

As a result, the SWRCB in a unanimous vote heaped an economic bonus on PG&E and perpetuated damage to our oceans through sea life entrapment. Once, the California Coastal Commission declared, "It would be fair to categorize Diablo Canyon as California's largest marine predator." Maybe the SWRCB forgot.

(4) On a final and unsettling note, *Forbes* magazine investigated NRC files and revealed that unidentified drones have hovered above nearly a dozen nuclear power plants without interception, sometimes for 30 minutes or longer, "...and *Diablo Canyon* near San Luis

G.2 – 119

G.2 – 120

Obispo in California had no less than seven separate incidents from December 2015 to September 2018, all of them unresolved.

The National Academies of Science and Engineering determined that spent fuel pools at nuclear reactors represent their greatest security weakness. Enclosed in buildings lacking thick containment structures, these pools hold the highest volume of radionuclides that could be released. While the perpetrators and motives of the drone flights remains unknown, a drone attack on Diablo's spent fuel building — even absent an off-site radiological catastrophe — wreaks havoc, requires untold costs to remedy, and stops energy production.

Since 2009 A4NR has been advocating that PG&E expedite the transfer of spent fuel from vulnerable pools into simpler, passive dry cask storage. The California Energy Commission agrees; the CPUC has previously ordered PG&E to begin the process. Instead PG&E drags its feet, after previously deferring all offloads until 2032.

And from the aforementioned state regulatory commissions? Only silence.

As these examples indicate, 2020's serial disruptions have hampered anyone's ability to closely monitor utility actions. Undoubtedly these are stress filled days for all, including government agencies and reporters. But existing health, economic and societal concerns could be rendered moot by the greater existential threat posed by Diablo Canyon. The final years of an aging nuclear plant operated by a repeatedly bankrupt and felonious utility are not the time to be letting down one's guard. While all are told to keep their masks covering their noses, this should not prevent our regulators and the media from sniffing out the unpleasant developments at this accident-waiting-to-happen.

David Weisman is the outreach coordinator at the Alliance for Nuclear Responsibility. Further information and supporting documents for the issues raised here can be found at: www.adnr.org

Every day, the staff of the Santa Barbara Independent works hard to sort out truth from rumor and keep you informed of what's happening across the entire Santa Barbara community. Now there's a way to directly enable these efforts. Support the Independent by making a direct contribution or with a subscription to Indys.

Sun Sep 27, 2020 | 23:35pm
<https://www.independent.com/2020/09/24/all-about-diablo-canyon-nuclear-plant/>

G.2 – 121

Info@DCISC.org

From: info@dcisc.org
Sent: Monday, September 28, 2020 10:24 AM
To: 'Peter Lam'; 'Robert J. Budnitz'; perfpeterson@me.com; Ferman Wardell; 'Rick McWhorter'
Cc: info@dcisc.org
Subject: FW: A4NR's latest Op ED

Received from Rochelle this morning – same article cited by Tom Marre and provided by Dr. Budnitz.

Acknowledgement sent to Rochelle with an invite to attend our next PM.

Bob R

From: Rochelle Becker <rochellea4nr@gmail.com>
Sent: Monday, September 28, 2020 9:20 AM
To: DCISC <info@dcisc.org>
Subject: A4NR's latest Op ED

Dear Bob,

Can you please share with the committee and experts? Some of our concerns may be topics raised at the next DCISC meeting.

<https://www.independent.com/2020/09/24/all-about-diablo-canyon-nuclear-plant/>

Hope you are all staying safe.
In peace
Rochelle

—
In Peace

Rochelle Becker, Executive Director
Alliance for Nuclear Responsibility
PO 1328
San Luis Obispo, CA 93406
www.adnr.org

G.2 – 123

Info@DCISC.org

From: tom marre <tommarre@gmail.com>
Sent: Sunday, September 27, 2020 7:42 PM
To: info@dcisc.org
Subject: Re: Corroded pipes in the vital emergency cooling water system
Attachments: ~WRD0000.jpg

Robert,

Thank you for your attention to me.

The last 7 months since covid and the initiation of the use of online meetings as opposed to public forums.... the extensive executive powers allowed to our governor.... the Colossal fires rampaging our state ...has created the opportunity for unusual abuse in a regulatory requirements as they are overridden because of the necessity for expediency.... The realities of this situation with a nuke that is approaching the shutdown process is well, disturbing and worthy of attention.... The financial realities of a power company which manages this, and has just emerged from bankruptcy negotiations adds another interesting layer.... I encourage you and your staff to be vigilant.

Again, thank you for your attention to me.

Tom Marre / 805.305.0360

On Sun, Sep 27, 2020, 3:33 PM Info@DCISC.org <info@dcisc.org> wrote:

Mr. Marre –

This will acknowledge receipt of your email below with the article from the Santa Barbara Independent which I will provide to our Members and Technical Consultants.

Thanks you for contacting the Diablo Canyon Independent Safety Committee and for your interest in its activities.

Respectfully,

Robert Rathie

DCISC Asst. Legal Counsel

(800)439-4688 (In CA)

G.2 – 122

info@dcisc.org

From: tom marre <tommarre@gmail.com>
Sent: Friday, September 25, 2020 2:28 PM
To: dsafety@dcisc.org
Subject: Corroded pipes in the vital emergency cooling water system

SB Independent: "All About Diablo Canyon Nuclear Plant"

(1) Corroded pipes in the vital emergency cooling water system at Unit 2 ruptured in July, spilling four gallons per minute. The plant shut down for a week of repairs — and more extensive corrosion was detected. Fearing that Unit 1 suffered similarly, PG&E asked the Nuclear Regulatory Commission (NRC) for a license to make repairs in place without shutting the reactor down. California's blackouts mean that the last thing PG&E wants to admit is that Diablo Canyon could fail at the time it might be most needed. Ignoring its own regulatory precedents, failing to wait for PG&E's responses to staff questions, and skirting public notification and comment requirements, PG&E's risky request was rubberstamped.



Thomas Marre

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www.800stone.com
tommarre@gmail.com

G.2 – 124

Info@DCISC.org

From: info@dcisc.org
Sent: Monday, September 28, 2020 11:12 AM
To: info@dcisc.org
Subject: FW: A4NR's latest Op ED

From: Info@DCISC.org <info@dcisc.org>
Sent: Monday, September 28, 2020 10:22 AM
To: 'Rochelle Becker' <rochellea4nr@gmail.com>
Subject: RE: A4NR's latest Op ED

Rochelle – yes, of course I will provide the link to David's article in the SB Independent to our Members & Consultants.

Just a reminder, our next public meeting, to be again conducted via Zoom, is coming up next month on October 22-23. This is a Thursday and a Friday (somewhat different than our usual scheduling). The PG&E informational presentations will be on the first day this time together with a discussion by the DCISC on the SFP risk evaluation and a possible recommendation, with other DCISC matters (administrative, approval of 30th Annual Report, Open Items, fact-findings, etc.) and a presentation by Dr. Lauren Brown from the DC DEP scheduled for Friday.

The agenda, the agenda packet and all the powerpoints will be available on our website before the meeting. Hope to see you (albeit remotely) there!

Best regards and wishes that you and your family keep well,

Bob
(831) 424-3672 (home)
info@dcisc.org

From: Rochelle Becker <rochellea4nr@gmail.com>
Sent: Monday, September 28, 2020 9:20 AM
To: DCISC <info@dcisc.org>
Subject: A4NR's latest Op ED

Dear Bob,

Can you please share with the committee and experts? Some of our concerns may be topics raised at the next DCISC meeting.

<https://www.independent.com/2020/09/24/all-about-diablo-canyon-nuclear-plant/>

G.2 – 125

Info@DCISC.org

From: info@dcisc.org
Sent: Thursday, October 1, 2020 4:11 PM
To: 'Nguyen, Le-Quyen@Energy'; 'Cochran, Justin@Energy'; 'Peter Lam'; info@dcisc.org
Subject: RE: Dates & Times for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC
Attachments: Briefing Book - October 9 2020 Meeting between CEC Chair David Hochschild and Dr. Peter Lam - CEC Appointee to the DCISC.pdf

Le-Quyen & Justin -

I received and have now accepted the Zoom calendar appointment for Friday, October 9 between 2:00 and 3:00 p.m.

I am also attaching an e-copy of the briefing book as requested.

Once again, sincere thanks for you both for your assistance in arranging this meeting.

Cordially

Bob Rathie
DCISC
(831) 424-3672 (home)
info@dcisc.org

-----Original Message-----

From: Nguyen, Le-Quyen@Energy <Le-Quyen.Nguyen@energy.ca.gov>
Sent: Thursday, October 1, 2020 9:14 AM
To: info@dcisc.org; Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Cc: 'Peter Lam' <peterlam1@aol.com>
Subject: RE: Dates & Times for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

Hi Bob,

Great, I'm glad that this time will still work for you and Dr. Lam. I will send out the calendar appt shortly. Is it possible to send an e-copy of the briefing book? Because we're all teleworking, sending an e-copy of the briefing book would make sure that we all receive it in time ahead of the meeting.

Thanks,
Le-Quyen

Le-Quyen Nguyen
Chief of Staff
Office of Chair Hochschild

G.2 – 127

Hope you are all staying safe.
In peace
Rochelle

—
In Peace

Rochelle Becker, Executive Director
Alliance for Nuclear Responsibility
PO 1328
San Luis Obispo, CA 93406
www.a4nr.org

G.2 – 126

California Energy Commission
(916) 508-4655

-----Original Message-----

From: Info@DCISC.org <info@dcisc.org>
Sent: Wednesday, September 30, 2020 4:24 PM
To: Nguyen, Le-Quyen@Energy <Le-Quyen.Nguyen@energy.ca.gov>; Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Cc: 'Peter Lam' <peterlam1@aol.com>; Info@DCISC.org
Subject: RE: Dates & Times for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Le-Quyen -

Thank you for your email and I'm happy to be able to confirm that Friday, October 9th at 2:00 p.m. will work for both Dr. Lam and me.

I have prepared copies of a "briefing book" with some information on what I hope are topics of interest and also concerning the DCISC's current activities. Would it be best to send the briefing books by Fed Ex to your attention after which they could be distributed to whomever is able to attend the meeting on October 9?

Finally, Dr. Lam and I look forward to receiving the Zoom calendar appointment and I close by once again thanking you very much for your courtesy and assistance with this request.

Bob Rathie
DCISC Asst. Legal Counsel
(831) 424-3672 (home)
info@dcisc.org

-----Original Message-----

From: Nguyen, Le-Quyen@Energy <Le-Quyen.Nguyen@energy.ca.gov>
Sent: Wednesday, September 30, 2020 2:43 PM
To: info@dcisc.org; Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Cc: 'Peter Lam' <peterlam1@aol.com>
Subject: RE: Dates & Times for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

Hi Bob,

I'm so sorry for the delayed response. Would 2 PM on Friday, October 9th still work for you and Dr. Lam? If so, I will send out a calendar appt with Zoom information.

G.2 – 128

Thanks,
Le-Quyen

Le-Quyen Nguyen
Chief of Staff
Office of Chair Hochschild
California Energy Commission
(916) 508-4655

-----Original Message-----

From: info@DCISC.org <info@dcisc.org>
Sent: Saturday, September 12, 2020 11:21 AM
To: Nguyen, Le-Quyen@Energy <Le-Quyen.Nguyen@energy.ca.gov>; Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Cc: 'Peter Lam' <peterlam1@aol.com>; Romo-Ramos, Angelica@Energy <Angelica.Romo@energy.ca.gov>
Subject: RE: Dates & Times for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Le-Quyen & Justin:

Dr. Lam and I are both available for a remote meeting (estimated to be about one hour in duration) with Chair Hochschild on the following dates and times:

Monday, October 5th between 3:00 p.m. and 5:00 p.m. PDT;

Wednesday, October 7th between 1:00 p.m. and 2:00 p.m., and between 3:00 p.m. and 4:00 p.m. PDT; and

Friday, October 9th between 1:00 p.m. and 5:00 p.m. PDT

Please let us know which date and time would be best. We are amenable to using Zoom (or WebEx) for the meeting or conducting the meeting as a conference call and welcome any topics you believe would be of interest.

My thanks to you both for your valuable assistance in arranging this meeting - very much appreciated!

Best regards,

Bob Rathie
(831) 424-3672 (home)
ainfo@dcisc.org

G.2 - 129

From: Nguyen, Le-Quyen@Energy <Le-Quyen.Nguyen@energy.ca.gov>
Sent: Thursday, September 10, 2020 9:39 PM
To: info@dcisc.org
Cc: 'Peter Lam' <peterlam1@aol.com>; Romo-Ramos, Angelica@Energy <Angelica.Romo@energy.ca.gov>
Subject: RE: Request for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

Hi Bob,

Below are some dates and times that currently work for Chair Hochschild.

. October 5: 8-12, 3-5
. October 7: 8-12, 1-2, 3-4
. October 8: 8-10
. October 9: 1-5

All of these times are PST. Please let us know all of the dates/times that will work for you and Dr. Lam as Chair Hochschild's availability changes quickly. If none of these dates/times work for you and Dr. Lam, we can provide additional dates/times.

Thanks,
Le-Quyen

Le-Quyen Nguyen
Chief of Staff
Office of Chair Hochschild
California Energy Commission
(916) 508-4655

From: mailto:info@DCISC.org <mailto:info@dcisc.org>
Sent: Thursday, September 10, 2020 5:52 PM
To: Cochran, Justin@Energy <mailto:Justin.Cochran@energy.ca.gov>
Cc: 'Peter Lam' <mailto:peterlam1@aol.com>; Nguyen, Le-Quyen@Energy <mailto:Le-Quyen.Nguyen@energy.ca.gov>; Romo-Ramos, Angelica@Energy <mailto:Angelica.Romo@energy.ca.gov>; Rider, Ken@Energy <mailto:Ken.Rider@energy.ca.gov>; mailto:info@DCISC.org
Subject: RE: Request for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

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Justin -

G.2 - 130

Thank you for this information. I certainly understand concerning everything going on in the state at this time and the demands on your time.

Good to hear from you and I hope you are staying well. We will wait to hear from Le-Quyen and Angelica about scheduling and from you on some topics.

Best regards,

Bob Rathie
DCISC Asst. Legal Counsel
(831) 424-3672 (home)
mailto:info@dcisc.org

From: Cochran, Justin@Energy <mailto:Justin.Cochran@energy.ca.gov>
Sent: Thursday, September 10, 2020 2:23 PM
To: mailto:info@dcisc.org
Cc: 'Peter Lam' <mailto:peterlam1@aol.com>; Nguyen, Le-Quyen@Energy <mailto:Le-Quyen.Nguyen@energy.ca.gov>; Romo-Ramos, Angelica@Energy <mailto:Angelica.Romo@energy.ca.gov>; Rider, Ken@Energy <mailto:Ken.Rider@energy.ca.gov>
Subject: RE: Request for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

Good day Bob.

Its good to hear from you. I hope all is well with everyone.

We have been extremely busy due to the fires and recent heat wave.

I have looped in Le-Quyen and Angelica to help with scheduling. I will send you some meeting discussion topics soon. Hopefully, by COB Friday.

Have a good day.

Best Regards,

Justin Cochran, Ph.D.
Emergency Coordinator & Nuclear Advisor to Chair David Hochschild California Energy Commission
1516 Ninth Street, MS-39
Sacramento, CA 95814

Cell: 916-698-2549
Fax: 916-651-3767
mailto:justin.cochran@energy.ca.gov

From: mailto:info@DCISC.org <mailto:info@dcisc.org>
Sent: Wednesday, September 9, 2020 7:00 AM

G.2 - 131

To: Cochran, Justin@Energy <mailto:Justin.Cochran@energy.ca.gov>
Cc: 'Peter Lam' <mailto:peterlam1@aol.com>; mailto:info@DCISC.org
Subject: RE: Request for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Justin - in following-up to the email below, I want to let you know that both Dr. Lam and I have some availability during the first ten days in October in case that might work better for a meeting with the Chair.

I hope all continues to be well with you in what I know are challenging times and circumstances,

Best regards,

Bob Rathie
(831) 424-3672 (home)
mailto:info@dcisc.org

From: mailto:info@DCISC.org <mailto:info@dcisc.org>
Sent: Sunday, August 30, 2020 6:48 PM
To: 'Justin.Cochran@energy.ca.gov' <mailto:Justin.Cochran@energy.ca.gov>
Cc: 'Peter Lam' <mailto:peterlam1@aol.com>; mailto:info@DCISC.org
Subject: Request for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

Dear Justin:

I am contacting you today with a request for assistance in scheduling a meeting with you and CEC Chair David Hochschild, together with any colleagues you believe might have an interest, and Dr. Peter Lam. As the CEC's appointee to the Diablo Canyon Independent Safety Committee Dr. Lam is now serving as the Committee's Chairman for 2020-2021 annual report period and would very much welcome the opportunity to meet again with Chair Hochschild.

Regarding possible dates for a meeting by Zoom or other remote application, Dr. Lam has indicated his schedule would be amenable during most of the month of September and I could also accommodate and assist in facilitating a meeting in September.

Topics for discussion at the meeting might include spent fuel storage issues including the current status of plans and scheduling related to decommissioning, the procurement of new dry storage casks to transfer fuel to the ISFSI, and the findings of the recent UCLA comparative risk study; the status of the Employee Retention Program and ongoing recruitment of plant staff; Diablo Canyon's protocol for coping with COVID-19 amongst its workforce; measures in place to protect the power plant and its baseload capacity from wildfire; coordination between Diablo Canyon and the CAISO regarding grid issues and the protection of the power plant from rolling blackouts; the present "state of the plant" and current regulatory issue including the license amendment request related to Auxiliary Feedwater System corrosion issues; and to discuss a possible post-shutdown role for the DCISC after generation operations cease at DCP. There could also be an opportunity to

G.2 - 132

discuss other topics currently under review by the DCISC in fact-finding or during its public meetings and, of course, any topics concerning DCP or nuclear power issues in general which you or Chair Hochschild might wish to suggest and discuss with Dr. Lam. Our office would prepare a briefing book concerning the selected topics in advance of the meeting.

I am available to coordinate with you to try to schedule a mutually convenient date and time for the meeting and I have copied Dr. Lam on this email. As so many of us are doing at this time I am working principally from home and the telephone number below is the best number to reach me directly. Our receptionist continues to work from the DCISC's administrative office and can be reached at 1-800-439-4688.

The Committee missed the opportunity to visit with you at the DCISC's public meeting in early July and I know that since then the terrible wildfire situation in California has probably occupied a great deal of your time and effort since then.

As always, thank you for your attention to this request and I hope to hear from you soon.

Best regards,

Bob Rathie
(831) 424-3672 (home)
Asst. Legal Counsel
DCISC
mailto:info@dcisc.org

WELLINGTON LAW OFFICES . 857 CASS STREET . SUITE D . MONTEREY . CA . 93940 .
831-373-8733 . FAX 831-373-7106

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G.2 - 133

Info@DCISC.org

From: dcsafety@dcisc.org
Sent: Monday, October 5, 2020 11:32 AM
To: 'Ken Thompson'
Cc: info@dcisc.org
Subject: RE: Public Meeting Oct 19 & 20 ???

Ken -

A correction is necessary. The date on the website is wrong (and will be corrected). The next public meeting of the DCISC is scheduled for Thursday and Friday, October 22-23, 2020 and will, like the July meeting, be conducted remotely using Zoom. I apologize for any inconvenience. The agenda for the meeting with the information on how to access the Zoom webinar should be posted this week.

Bob Rathie
DCISC
(800) 438-4688
info@dcisc.org

From: Ken Thompson <kgt2256@gmail.com>
Sent: Monday, October 5, 2020 10:00 AM
To: dcsafety@dcisc.org
Subject: Public Meeting Oct 19 & 20 ???

Dear Bob,
Will the DCISC be conduct it's Public Meetings this month as stated on the Website ?

Thanks, Ken Thompson
AVAC - Diablo Canyon Committee

G.2 - 134

Info@DCISC.org

From: Frew, Annie <Annie.Frew@sen.ca.gov>
Sent: Thursday, October 8, 2020 9:56 AM
To: Frew, Annie
Subject: From the Office of Senator Monning

Good Morning!

I hope this email finds you well. As Senator Monning's term comes to an end, I am pleased to announce that I have accepted a position with Visit SLO CAL as the Director of Community Engagement and Advocacy. My last day with Senator Monning's office will be tomorrow October 9th.

It has been an honor to work with many of you over the years, and I am so excited to continue to work with you to serve our community in my new capacity with Visit SLO CAL. Please do not hesitate to reach out to me starting next week at annie@socal.com.

Should you need anything from Senator Monning's office through the remainder of the term, please see the options below:

For press or media inquiries, please reach out to Heather Caden at heather.caden@sen.ca.gov

For San Luis Obispo County related issues, please call the Monterey District Office at 831.657.6315.

Thank you for your continued service to our community, especially amid the challenges and complexities of 2020. I look forward to working with you on behalf of Visit SLO CAL!

All the best wishes,
Annie Aguiniga Frew

G.2 - 135

Info@DCISC.org

From: Megan Hey <Megan.Hey@doj.ca.gov>
Sent: Thursday, October 8, 2020 10:04 PM
To: attys@wellingtonlaw.com
Cc: 'Robert J. Budnitz'; info@dcisc.org
Subject: Re: Request for a Zoom Meeting with the Attorney General's Appointee to the DCISC

Let's say Friday the 13th. Just because. How about 2pm?

Re: topics, the hot topics of the day would be good, akin to those on which you touched last time (2019), plus anything new. If there's any briefing material to share by email, please share. Doesn't have to be fancy, and no hard copies required. Sound good?

Thanks,
Meg

From: Attys@WellingtonLaw.com <attys@wellingtonlaw.com>
Sent: Thursday, October 8, 2020 9:42 PM
To: Megan Hey
Cc: 'Robert J. Budnitz'; Info@DCISC.org
Subject: RE: Request for a Zoom Meeting with the Attorney General's Appointee to the DCISC

Meg - thank you for giving us the dates below for a meeting via Zoom, after checking with Dr. Budnitz, we can confirm the following mutually available dates:

Monday, October 26 between 9 A.M. and 10 A.M. or between Noon and 5:00 P.M.
Tuesday, October 27 between 2:00 P.M. and 4:00 P.M.
Friday, November 13 between 1:00 P.M. and 4:00 P.M.
Monday, November 23 between 8:00 A.M. and 10:00 A.M. or between 11:30 A.M. AND 5:00 P.M.

We look forward to speaking with you and the others you identify in your email on one of the above dates and times.

Best,

Bob
(831) 424-3672 (home)

Robert W. Rathie
DCISC Asst. Legal Counsel
(800)439-4688
info@dcisc.org

From: Megan Hey <Megan.Hey@doj.ca.gov>
Sent: Thursday, October 8, 2020 4:45 PM

G.2 - 136

To: info@dcisc.org
Cc: 'Robert J. Budnitz' <rbudnitz@pacbell.net>; attys@wellingtonlaw.com
Subject: Re: Request for a Zoom Meeting with the Attorney General's Appointee to the DCISC

Hi:

Here are the dates we can have the Zoom meeting. Participants for the AGO will meet the Chief Assistant AG of the Public Rights Division Matt Rodriguez, Special Assistant Attorney General (on environmental issues) Arsenio Mataka, the Senior Assistant Attorney General for the Environment Section, Ed Ochoa, and me.

Monday, Oct. 19: 9:00 – 10:00; 11:30 – 5:00
Monday, Oct. 26: 9:00 – 10:00; 11:30 – 5:00
Tuesday, Oct. 27: 1 – 5:00
Friday, Oct. 30: 9:00 – 10:00
Friday, Nov. 13 (afternoon): 1:00 – 4:00
Monday, Nov. 23: 9:00 – 10:00; 11:30 – 5:00

Thanks for your patience!
Meg

From: Megan Hey
Sent: Friday, September 25, 2020 3:17 PM
To: info@dcisc.org
Cc: 'Robert J. Budnitz'; Attys@WellingtonLaw.com
Subject: RE: Request for a Zoom Meeting with the Attorney General's Appointee to the DCISC

Got it - thanks.

From: info@dcisc.org <info@dcisc.org>
Sent: Friday, September 25, 2020 3:17 PM
To: Megan Hey
Cc: 'Robert J. Budnitz'; Attys@WellingtonLaw.com
Subject: RE: Request for a Zoom Meeting with the Attorney General's Appointee to the DCISC

Meg -

Thanks for your message. Probably best that I provide to you the possible dates we are presently available for a meeting circa October/November 2020.

For Dr. Budnitz and myself those dates are as follows.

FOR OCTOBER 2020

Thursday, October 1,
Friday, October 2,
Monday, October 5,

G.2 – 137

Meg

From: info@dcisc.org <info@dcisc.org>
Sent: Tuesday, August 25, 2020 5:26 PM
To: Megan Hey
Cc: 'Robert J. Budnitz'; info@dcisc.org
Subject: RE: Request for a Zoom Meeting with the Attorney General's Appointee to the DCISC

Meg - thank you for your email. I checked today with Dr. Budnitz and he has commitments in September/October on the following day:

Sept. 2-3 not free all day
Sept. 9-10 not free all day
Sept. 21-22-23-24 not free all day
Sept. 28-29 not free all day
Oct. 13 not free all day
Oct. 20-21 not free all day

My schedule for September/October is relatively open except it is not good for Tuesdays, as I have a standing meeting every Tuesday and City Council meetings on the first and third Tuesday of each month. Of course, we will both do all possible to meet whatever date(s) you may suggest for a one-hour remote meeting. The DCISC's next Public Meeting is on Thursday and Friday, Oct. 22-23, 2020, which we expect to conduct by Zoom.

As for topics for discussion we would suggest the following plus, of course, any you may suggest:

1. DCCP's protocol for coping with COVID-19 amongst its workforce;
2. Measures in place to protect DCCP from wildfire;
3. Current "state of the plant" including DCCP coordination with CAISO concerning grid issues including how the plant is protected from the recent rolling blackouts;
4. Adequacy of planning to ensure staffing needs remain met through shutdown in 2024-2025 and an update on the DCCP Employee Retention Program;
5. DCISC review of spent fuel transfer issues and risk and scheduling, including the Committee's recent review of the UCLA comparative risk study;
6. Need for and update on DCCP's plans to procure new casks for dry cask storage of spent fuel;
7. DCISC's review of February and July Unit-2 forced outages;
8. Plans to address a possible post-shutdown role for the DCISC to continue to review nuclear fuel-related issues after cessation of electricity generation.

This is very likely more than we can cover in a one-hour meeting but it is provided for your information and selection of those which may be of particular interest.

Hope all is well with you and thanks for your assistance with this request.

Bob
(831) 424-3672 (home)
info@dcisc.org

4

G.2 – 139

Friday, October 9,
Wednesday, October 14,
Thursday, October 15,
Friday, October 16,
Monday, October 19,
Monday, October 26,
Tuesday, October 27 (afternoon),
Wednesday, October 28,
Thursday, October 29, and
Friday, October 30

FOR NOVEMBER 2020

Monday, November 2,
Wednesday, November 4,
Thursday, November 5,
Thursday, November 6,
Wednesday, November 11,
Friday, November 13,
Monday, November 23
Tuesday, November 24 (afternoon)
Wednesday, November 25, and
Friday, November 27.

Please give me a call to discuss or should you have any questions. We certainly once again commit to doing all possible to make whatever date you suggest possible.

Thanks for all your work in coordinating the meeting, it is very much appreciated by Dr. Budnitz and me.

Keep well,

Bob Rathie
DCISC Asst. Legal Counsel
(831) 424-3672 (home)
info@dcisc.org

From: Megan Hey <Megan.Hey@doj.ca.gov>
Sent: Thursday, September 24, 2020 11:01 AM
To: info@dcisc.org
Cc: 'Robert J. Budnitz' <rbudnitz@pacbell.net>
Subject: RE: Request for a Zoom Meeting with the Attorney General's Appointee to the DCISC

Hi guys,

Sorry for the delay in setting up the call. Looks like I must do some gentle reminding on my end. Since we're now looking at Oct./Nov. for our chat, could you please send availability in Nov, and let me know if anything about Oct changed from the availability listed below.

Best,

G.2 – 138

From: Megan Hey <Megan.Hey@doj.ca.gov>
Sent: Monday, August 24, 2020 11:17 PM
To: info@dcisc.org
Cc: 'Robert J. Budnitz' <rbudnitz@pacbell.net>
Subject: RE: Request for a Zoom Meeting with the Attorney General's Appointee to the DCISC

Hi guys,

Please let me know your availability for September and October for the proposed Zoom conference (approx. 1 hour). And am I correct the update is to those topics we discussed in 2019? Any hot topics of note?

Best,

Meg

From: mailto:info@dcisc.org <mailto:info@dcisc.org>
Sent: Monday, August 17, 2020 6:35 PM
To: Megan Hey <mailto:Megan.Hey@doj.ca.gov>
Cc: 'Robert J. Budnitz' <mailto:rbudnitz@pacbell.net>; mailto:info@dcisc.org
Subject: RE: Request for a Zoom Meeting with the Attorney General's Appointee to the DCISC

Meg - thank you for your response.

I know Dr Budnitz joins me in looking forward to providing you an update on DCCP/DCISC-related matters and we will await your advice on what date or dates might prove convenient, September included!

I find that I'm coping well here in Salinas with the recent trifecta of a pandemic, a heat wave and rolling blackouts ... as you say, unusual times!

Hope all is well with you and you continue to keep well,

Bob Rathie
(831) 424-3672 (home)
mailto:info@dcisc.org

From: Megan Hey <mailto:Megan.Hey@doj.ca.gov>
Sent: Saturday, August 15, 2020 10:37 PM
To: mailto:info@dcisc.org
Cc: 'Robert J. Budnitz' <mailto:rbudnitz@pacbell.net>
Subject: RE: Request for a Zoom Meeting with the Attorney General's Appointee to the DCISC

Hi guys,

Thanks for the e-mail. I hope you both are doing well during this unusual time. I've passed along the request to the appropriate parties and will be in touch about it. Speaking for myself, the rest of August is challenging time-wise; I anticipate I'll be asking for your availability in September.

Best,
Meg

From: mailto:info@dcisc.org <mailto:info@dcisc.org>

5

G.2 – 140

Sent: Tuesday, August 11, 2020 2:06 PM
To: Megan Hey <<mailto:Megan.Hey@dcisc.ca.gov>>
Cc: 'Robert J. Budnitz' <<mailto:rbudnitz@pacbell.net>>; <mailto:info@dcisc.org>
Subject: Request for a Zoom Meeting with the Attorney General's Appointee to the DCISC

Dear Meg:

I'm contacting you this afternoon with a request to schedule a meeting via Zoom with you, together with any colleagues you believe might have an interest, with Dr. Robert J. Budnitz, the Attorney General's appointee to the DCISC. Dr. Budnitz and I would very much welcome an opportunity to meet again with you.

The subject matter could include the current "state of the plant," the DCISC's assessment of the status related to whether the plant can retain enough competent staff to operate safely until shutdown in 2025, the status of the DCISC's plans for a continuing post-shutdown role, and the current situation concerning scheduling for the transfer of spent fuel from the pools to the ISFSI as well as any issues or questions regarding Diablo Canyon Power Plant or nuclear power issues in general you or your colleagues may wish to discuss with Dr. Budnitz.

If this request can be accommodated and if you could identify some possible dates, I've copied Dr. Budnitz on this email and he can coordinate his calendar to determine a mutually convenient date and time. Dr. Budnitz indicated he could accommodate a Zoom meeting most any weekday after 9:30 a.m. for the remainder of August and my schedule for that period is at present similarly open, with the exception of Tuesday, August 18 when I have meetings all day and Tuesday, August 25 when I have a meeting all morning until noon.

As always, thank you for your courtesy and attention to this request and I hope to hear from you soon.

Best regards and keep well,

Bob Rathie
Asst. Legal Counsel
DCISC
1-800-439-4688
<mailto:info@dcisc.org>

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G.2 – 141

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G.2 – 142

Info@DCISC.org

From: Nguyen, Le-Quyen@Energy <Le-Quyen.Nguyen@energy.ca.gov>
Sent: Thursday, October 8, 2020 10:16 PM
To: info@dcisc.org; Cochran, Justin@Energy
Cc: 'Peter Lam'
Subject: RE: Dates & Times for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

Hi Bob,

Thank you for your flexibility. Let's go with October 19 at 3 PM. I will send out a revised calendar appt shortly.

Thanks,
Le-Quyen

Le-Quyen Nguyen
Chief of Staff
Office of Chair Hochschild
California Energy Commission
(916) 508-4655



From: Info@DCISC.org <info@dcisc.org>
Sent: Thursday, October 8, 2020 5:09 PM
To: Nguyen, Le-Quyen@Energy <Le-Quyen.Nguyen@energy.ca.gov>; Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Cc: 'Peter Lam' <peterlam1@aol.com>; Info@DCISC.org
Subject: RE: Dates & Times for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

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Le-Quyen –

Dr. Lam and I regret that our meeting previously scheduled for tomorrow needs to be rescheduled but we fully understand that Chair Hochschild has many varied demands on his time.

Both Dr. Lam and I could accommodate rescheduling the meeting to Monday, October 19, between 3:00 and 5:00 p.m. PDT (first choice) or to Wednesday, October 21, between 8:00 a.m. and 9:00 a.m. PDT (second choice).

We both have conflicts on Tuesday, October 20, and Thursday and Friday, October 22-23 are the dates for the next DCISC public meeting which occupies two very full days

G.2 – 143

Thank you again for your efforts to arrange this meeting,

Cordially,
Bob

Robert Rathie
DCISC Asst Legal Counsel
(831) 424-3672 (home)
info@dcisc.org

From: Nguyen, Le-Quyen@Energy <Le-Quyen.Nguyen@energy.ca.gov>
Sent: Thursday, October 8, 2020 12:34 PM
To: info@dcisc.org; Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Cc: 'Peter Lam' <peterlam1@aol.com>
Subject: RE: Dates & Times for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

Hi Bob,

I'm so sorry for the short notice, but Chair Hochschild had a conflict arise and we need to reschedule tomorrow's meeting with you and Dr.Lam. Please identify all of the dates/times that would work from the following list:

- 10/19: 3-5
- 10/20: 8-10, 1-5
- 10/21: 8-9
- 10/22: 8-12, 2-3, 4-5
- 10/23: 8-9, 3-5

Again, I'm sorry for the short notice. Hopefully, one of these dates/times will work. If not, I will look for additional ones.

Thanks,
Le-Quyen

Le-Quyen Nguyen
Chief of Staff
Office of Chair Hochschild
California Energy Commission
(916) 508-4655



-----Original Message-----

From: Nguyen, Le-Quyen@Energy
Sent: Thursday, October 1, 2020 9:14 AM
To: 'Info@DCISC.org' <info@dcisc.org>; Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Cc: 'Peter Lam' <peterlam1@aol.com>
Subject: RE: Dates & Times for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

G.2 – 144

Hi Bob,

Great, I'm glad that this time will still work for you and Dr. Lam. I will send out the calendar appt shortly. Is it possible to send an e-copy of the briefing book? Because we're all teleworking, sending an e-copy of the briefing book would make sure that we all receive it in time ahead of the meeting.

Thanks,
Le-Quyen

Le-Quyen Nguyen
Chief of Staff
Office of Chair Hochschild
California Energy Commission
(916) 508-4655

-----Original Message-----

From: Info@DCISC.org <info@dcisc.org>
Sent: Wednesday, September 30, 2020 4:24 PM
To: Nguyen, Le-Quyen@Energy <Le-Quyen.Nguyen@energy.ca.gov>; Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Cc: 'Peter Lam' <peterlam1@aol.com>; Info@DCISC.org
Subject: RE: Dates & Times for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Le-Quyen -

Thank you for your email and I'm happy to be able to confirm that Friday, October 9th at 2:00 p.m. will work for both Dr. Lam and me.

I have prepared copies of a "briefing book" with some information on what I hope are topics of interest and also concerning the DCISC's current activities. Would it be best to send the briefing books by Fed Ex to your attention after which they could be distributed to whomever is able to attend the meeting on October 9?

Finally, Dr. Lam and I look forward to receiving the Zoom calendar appointment and I close by once again thanking you very much for your courtesy and assistance with this request.

Bob Rathie
DCISC Asst. Legal Counsel
(831) 424-3672 (home)
info@dcisc.org

-----Original Message-----

From: Nguyen, Le-Quyen@Energy <Le-Quyen.Nguyen@energy.ca.gov>
Sent: Wednesday, September 30, 2020 2:43 PM
To: info@dcisc.org; Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Cc: 'Peter Lam' <peterlam1@aol.com>
Subject: RE: Dates & Times for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

3

G.2 - 145

Hi Bob,

I'm so sorry for the delayed response. Would 2 PM on Friday, October 9th still work for you and Dr. Lam? If so, I will send out a calendar appt with Zoom information.

Thanks,
Le-Quyen

Le-Quyen Nguyen
Chief of Staff
Office of Chair Hochschild
California Energy Commission
(916) 508-4655

-----Original Message-----

From: Info@DCISC.org <info@dcisc.org>
Sent: Saturday, September 12, 2020 11:21 AM
To: Nguyen, Le-Quyen@Energy <Le-Quyen.Nguyen@energy.ca.gov>; Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Cc: 'Peter Lam' <peterlam1@aol.com>; Romo-Ramos, Angelica@Energy <Angelica.Romo@energy.ca.gov>
Subject: RE: Dates & Times for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Le-Quyen & Justin:

Dr. Lam and I are both available for a remote meeting (estimated to be about one hour in duration) with Chair Hochschild on the following dates and times:

Monday, October 5th between 3:00 p.m. and 5:00 p.m. PDT;

Wednesday, October 7th between 1:00 p.m. and 2:00 p.m. and between 3:00 p.m. and 4:00 p.m. PDT; and

Friday, October 9th between 1:00 p.m. and 5:00 p.m. PDT

Please let us know which date and time would be best. We are amenable to using Zoom (or WebEx) for the meeting or conducting the meeting as a conference call and welcome any topics you believe would be of interest.

My thanks to you both for your valuable assistance in arranging this meeting
- very much appreciated

Best regards,

Bob Rathie
(831) 424-3672 (home)
ainfo@dcisc.org

4

G.2 - 146

Good to hear from you and I hope you are staying well. We will wait to hear from Le-Quyen and Angelica about scheduling and from you on some topics.

Best regards,

Bob Rathie
DCISC Asst. Legal Counsel
(831) 424-3672 (home)
mailto:info@dcisc.org

From: Cochran, Justin@Energy <mailto:Justin.Cochran@energy.ca.gov>
Sent: Thursday, September 10, 2020 2:23 PM
To: mailto:info@dcisc.org

Cc: 'Peter Lam' <mailto:peterlam1@aol.com>; Nguyen, Le-Quyen@Energy <mailto:Le-Quyen.Nguyen@energy.ca.gov>; Romo-Ramos, Angelica@Energy <mailto:Angelica.Romo@energy.ca.gov>; Rider, Ken@Energy <mailto:Ken.Rider@energy.ca.gov>
Subject: RE: Request for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

Good day Bob.

It's good to hear from you. I hope all is well with everyone.

We have been extremely busy due to the fires and recent heat wave.

I have looped in Le-Quyen and Angelica to help with scheduling. I will send you some meeting discussion topics soon. Hopefully, by COB Friday.

Have a good day.

Best Regards,

Justin Cochran, Ph.D.
Emergency Coordinator & Nuclear Advisor to Chair David Hochschild California Energy Commission
1516 Ninth Street, MS-39
Sacramento, CA 95814

Cell: 916-698-2549
Fax: 916-651-3767
mailto:justin.cochran@energy.ca.gov

From: mailto:Info@DCISC.org <mailto:info@dcisc.org>
Sent: Wednesday, September 9, 2020 7:00 AM
To: Cochran, Justin@Energy <mailto:Justin.Cochran@energy.ca.gov>
Cc: 'Peter Lam' <mailto:peterlam1@aol.com>; mailto:Info@DCISC.org
Subject: RE: Request for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

6

G.2 - 148

From: Nguyen, Le-Quyen@Energy <Le-Quyen.Nguyen@energy.ca.gov>
Sent: Thursday, September 10, 2020 9:39 PM
To: info@dcisc.org
Cc: 'Peter Lam' <peterlam1@aol.com>; Romo-Ramos, Angelica@Energy <Angelica.Romo@energy.ca.gov>
Subject: RE: Request for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

Hi Bob,

Below are some dates and times that currently work for Chair Hochschild.

. October 5: 8-12, 3-5
. October 7: 8-12, 1-2, 3-4
. October 8: 8-10
. October 9: 1-5

All of these times are PST. Please let us know all of the dates/times that will work for you and Dr. Lam as Chair Hochschild's availability changes quickly. If none of these dates/times work for you and Dr. Lam, we can provide additional dates/times.

Thanks,
Le-Quyen

Le-Quyen Nguyen
Chief of Staff
Office of Chair Hochschild
California Energy Commission
(916) 508-4655

From: mailto:Info@DCISC.org <mailto:info@dcisc.org>
Sent: Thursday, September 10, 2020 5:52 PM
To: Cochran, Justin@Energy <mailto:Justin.Cochran@energy.ca.gov>
Cc: 'Peter Lam' <mailto:peterlam1@aol.com>; Nguyen, Le-Quyen@Energy <mailto:Le-Quyen.Nguyen@energy.ca.gov>; Romo-Ramos, Angelica@Energy <mailto:Angelica.Romo@energy.ca.gov>; Rider, Ken@Energy <mailto:Ken.Rider@energy.ca.gov>; mailto:Info@DCISC.org
Subject: RE: Request for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Justin -

Thank you for this information. I certainly understand concerning everything going on in the state at this time and the demands on your time.

5

G.2 - 147

Justin - in following-up to the email below, I want to let you know that both Dr. Lam and I have some availability during the first ten days in October in case that might work better for a meeting with the Chair.

I hope all continues to be well with you in what I know are challenging times and circumstances,

Best regards,

Bob Rathie
(831) 424-3672 (home)
mailto:info@dcisc.org

From: mailto:info@DCISC.org <mailto:info@dcisc.org>
Sent: Sunday, August 30, 2020 6:48 PM
To: 'Justin.Cochran@energy.ca.gov' <mailto:Justin.Cochran@energy.ca.gov>
Cc: 'Peter Lam' <mailto:peterlam1@aol.com>; mailto:info@DCISC.org
Subject: Request for a Meeting between the CEC Chair and Dr., Peter Lam - CEC Appointee to the DCISC

Dear Justin:

I am contacting you today with a request for assistance in scheduling a meeting with you and CEC Chair David Hochschild, together with any colleagues you believe might have an interest, and Dr. Peter Lam. As the CEC's appointee to the Diablo Canyon Independent Safety Committee Dr. Lam is now serving as the Committee's Chairman for 2020-2021 annual report period and would very much welcome the opportunity to meet again with Chair Hochschild.

Regarding possible dates for a meeting by Zoom or other remote application, Dr. Lam has indicated his schedule would be amenable during most of the month of September and I could also accommodate and assist in facilitating a meeting in September.

Topics for discussion at the meeting might include spent fuel storage issues including the current status of plans and scheduling related to decommissioning, the procurement of new dry storage casks to transfer fuel to the ISFSI, and the findings of the recent UCLA comparative risk study; the status of the Employee Retention Program and ongoing recruitment of plant staff; Diablo Canyon's protocol for coping with COVID-19 amongst its workforce; measures in place to protect the power plant and its baseload capacity from wildfire; coordination between Diablo Canyon and the CAISO regarding grid issues and the protection of the power plant from rolling blackouts; the present "state of the plant" and current regulatory issue including the license amendment request related to Auxiliary Feedwater System corrosion issues; and to discuss a possible post-shutdown role for the DCISC after generation operations cease at DCP. There could also be an opportunity to discuss other topics currently under review by the DCISC in fact-finding or during its public meetings and, of course, any topics concerning DCP or nuclear power issues in general which you or Chair Hochschild might wish to suggest and discuss with Dr. Lam. Our office would prepare a briefing book concerning the selected topics in advance of the meeting.

I am available to coordinate with you to try to schedule a mutually convenient date and time for the meeting and I have copied Dr. Lam on this email. As so many of us are doing at this time I am working principally from home and the telephone number below is the best number to reach me directly. Our receptionist continues to work from the DCISC's administrative office and can be reached at 1-800-439-4688.

The Committee missed the opportunity to visit with you at the DCISC's public meeting in early July and I know that since then the terrible wildfire situation in California has probably occupied a great deal of your time and effort since then.

As always, thank you for your attention to this request and I hope to hear from you soon.

G.2 – 149

Best regards,

Bob Rathie
(831) 424-3672 (home)
Asst. Legal Counsel
DCISC
mailto:info@dcisc.org

WELLINGTON LAW OFFICES . 857 CASS STREET . SUITE D . MONTEREY . CA . 93940 .
831-373-8733 . FAX 831-373-7106

CONFIDENTIALITY NOTICE: This communication and any accompanying document(s) may be confidential and privileged. They are intended for the sole use of the addressee. If you receive this transmission in error, you are advised that any disclosure, copying, distribution, or the taking of any action in reliance upon the communication is strictly prohibited. Moreover, any such inadvertent disclosure shall not compromise or waive the attorney-client or work product privileges as to this communication. If you received this communication in error, please immediately notify us by return e-mail or telephone and then delete this communication. Thank you.

G.2 – 150

Info@DCISC.org

From: Garcia, Hector M <HMG4@pge.com>
Sent: Thursday, October 15, 2020 3:20 PM
To: info@dcisc.org; 'Per Peterson'; Bob Budnitz; 'Peter Lam'
Cc: 'Ferman Wardell (fwardell@bellsouth.net)'; Rick McWhorter; Baldwin, Thomas
Subject: Unit 2 Update

DCISC,

Please see communication below on Unit 2 Update.

Regards,
Hector

From: A Message from Paula Gerfen <AMessagefromPaulaGerfen@pge.com>
Sent: Thursday, October 15, 2020 3:08 PM
To: DCPN *NPG Nuclear Power Generation Business Unit <DCPPNPG@pge.com>
Subject: Unit 2 Update



DCPP Team,

Early this morning, operators completed a shutdown of Unit 2 to Mode 3 to allow for emergent maintenance on the main generator hydrogen system. This work can only be performed with the unit offline. To be clear, this maintenance issue has no impact to the health and safety of the public or to plant personnel.

Our Outage Control Center (OCC) has been activated since October 3 for the Unit 1 planned refueling and maintenance outage (1R22). Early this morning, operators identified a noticeable increase in hydrogen usage in the Unit 2 main generator. Following those indications and their procedures, operators promptly took actions to safely shut down Unit 2. Per OM7.1D1, *Problem Identification and Resolution*, subsequent breakout meetings and troubleshooting has commenced in order to inform our path forward.

By regulation, we made a non-emergency notification to the Nuclear Regulatory Commission (NRC) and have been in communication with our NRC Resident Inspectors regarding this forced outage on Unit 2. We are working closely with a team of specialists from Siemens on this issue. Once the maintenance is safely completed and we clearly understand the cause of the event, we will return Unit 2 to full power.

We will keep you updated as we safely and methodically work through this forced outage on Unit 2 as well as our planned refueling and maintenance outage on Unit 1.

G.2 – 151

Our team has proven that we know how to respond to challenges with excellence. As always, keep safety at the forefront and stop when unsure. Maintain your focus on the correct unit and component. Both of our units are offline now, so take the extra time you need to be sure you're on the right unit, performing work on the right component.

Paula

G.2 – 152

From: info@dcisc.org
 Sent: Monday, October 19, 2020 9:54 AM
 To: 'Zimor, David'
 Cc: Mattie, Martin; info@dcisc.org
 Subject: Agenda for DCISC Public Meeting on October 22-23, 2020
 Attachments: Agenda - October 22-23 2020 with Times (REV 4) doc

David –

I hope all is well with you. I have attached a copy of the "working agenda" for the next public meeting of the DCISC this Thursday and Friday, October 22-23, 2020. This is the version which has the estimated times for the various presentations and the Meeting ID, Password, etc. to access the meeting via Zoom. Of course, due to the continuing coronavirus and social distancing precautions, the Committee is again conducting the meeting remotely using Zoom. The Committee continues to conduct all scheduled fact-findings with DCPD but has done so entirely by remote means since March 2020. The afternoon session on Thursday will include a discussion by the Members as to the Committee possibly making a recommendation, based on their evaluation of the relative risk, concerning the approaches associated with future spent fuel storage campaigns and spent fuel off-loading from the spent fuel pools.

I also want to follow up with you on whether there is anything to report relative to progress on a proposed Decision in the 2018 NDCTP, particularly with reference to whether the ALI intends to address in his decision a procedural path forward to address a continued post-generation role for the Committee. And I wanted to check to see if you have heard anything relative to the pending nomination of a DCISC Member by the Governor for the 2020-2023 term.

As always, thanks for your assistance and counsel and I wish you and your family my best for keeping well in these times.

Keep well,

Bob Rathie
 (831) 424-3672 (home)
 info@dcisc.org



PRESS RELEASE:

PUBLIC MEETING OF THE DIABLO CANYON INDEPENDENT SAFETY COMMITTEE ("DCISC")

WITH: The Members of the Independent Safety Committee:

Dr. Robert J. Budnitz
 Dr. Peter Lam
 Dr. Per F. Peterson

In response to Governor Newsom's Executive Order N-29-20 related to the COVID-19 (coronavirus) pandemic, public participation in the DCISC public meetings shall be electronic only and without a physical location for public participation in compliance with California state guidelines on social distancing. This meeting is being produced by AGF Video Inc. and webcast "live" on SLO-SPAN at <http://www.slo-span.org> and through <http://www.dcisc.org> and will be broadcast subsequently on San Luis Obispo local government access television, Channel 21.

WHAT: An opportunity for the public to observe and receive information concerning the activities of the Independent Safety Committee including recent fact-finding visits and informational presentations concerning safety-related and operational matters concerning Diablo Canyon Nuclear Power Plant ("DCPP"), including:

- Presentation on the "State of the Plant" including Station Performance, Key Events, Activities, Operational Highlights, Organizational Changes, the Tier 2 Employee Retention Program, Unit 1 Refueling Outage Activities, the COVID-19 pandemic and recent Wildfire responses, and Human Performance in the Operations Department.
- Update on the Status of NRC Performance Indicators, Licensee Event Reports, NRC Inspection Reports, Notices of Violation, issues raised by NRC Resident Inspectors and Major Regulatory Issues including Open Compliance Issues and License Amendment Requests.
- Presentations on the Cause and Corrective Action for the February 2020 Unit 2 Forced Outage to Repair the Rod Control System.
- Decommissioning Planning Update including the Status of the Spent Fuel Cask Request for Proposals.
- Committee Discussion Concerning a Possible Recommendation Concerning a Relative Risk Evaluation of the Approaches Associated with Spent Fuel Pool Storage and the Off-Loading to Dry Storage of Spent Nuclear Fuel.
- Update on the Emergency Preparedness Programs and Changes Made Due to the COVID-19 Pandemic.
- Update on Friday concerning the Activities of the Diablo Canyon Decommissioning Engagement Panel.
- Committee Business Session on Friday including Approval of the DCISC's 30th Annual Report on Safety of Operations and Review of the Open Items List and Fact Finding Reports, and wrap-up discussions.

CONDUCTED VIA "ZOOM:"

Zoom Webinar Meeting ID : 84324036610

Zoom Webinar Meeting Password: 059467

<https://us02web.zoom.us/j/84324036610?pwd=U1B6UjNwZUJMG1ZlZkN1ZkVtZUJmZ0p1>

Zoom Webinar Meeting Telephone Only Participation:

1(408)638-0968; 1(609)900-6833; 1(253)215-8782; 1(346)248-7799;

1(646)876-9923; 1(301)715-8592; and 1(312)626-6799

See Instructions given in the Legal Notice on the reverse regarding how to access and participate in the meeting.

WHEN:

Thursday & Friday - October 22-23, 2020.

TIMES:

9:00 a.m. to approximately Noon (Thursday, October 22nd)

1:30 p.m. to approx. 4:45 p.m. (Thursday, October 22nd)

8:30 a.m. to approx. Noon (Friday, October 23rd)

1:15 p.m. to approx. 3:30 p.m. (Friday, October 23rd)

FOR FURTHER INFORMATION:

Including on these and other topics reviewed by the Independent Safety Committee or the specific days and times for particular presentations

Contact 1-800-439-4688

or review the meeting agenda online at www.dcisc.org

G.2 – 153

G.2 – 154

Diablo Canyon

INDEPENDENT SAFETY COMMITTEE (DCISC)

Public Meeting:

When:

Thursday Morning, October 22
 9:00 A.M.

Introductions, public comments and communications to the Committee; informational presentations by PG&E officials on Diablo Canyon Power Plant safety and operations, including the "State of the Plant" concerning key events, operational highlights, organizational changes, employee retention Tier 2 update, COVID-19 update, Unit 1 refueling outage activities, recent wildfires, human performance in Operations and other station activities since July 2020; an update on NRC Performance Indicators, recent Licensee Event Reports, Inspection Reports and NRC Notices of Violation and issues raised by NRC Resident Inspectors, open compliance issues and License Amendment Requests and other significant regulatory issues; and a report on the cause and corrective actions for the February 2020 Unit 2 forced outage to repair the rod control system.

Thursday Afternoon, October 22
 1:30 P.M.

Introductions, public comments and communications to the Committee; informational presentations by PG&E officials on plant safety and operations, including an update on decommissioning planning including the status of the spent fuel cask request for proposals; a discussion by the Committee on spent fuel pool risk evaluation and consideration of a recommendation by the DCISC; and an informational update by PG&E on emergency preparedness programs including changes made in response to the COVID-19 pandemic.

Friday Morning, October 23rd
 8:30 A.M.

Public comments and communications to the Committee; Committee business session including approval of the DCISC's 30th Annual Report; update on financial matters and activities, scheduling, site visits and plans for 2020-2021; review of the DCISC's Open Items List; an update on the activities of the Diablo Canyon Decommissioning Engagement Panel; a report on a fact-finding WebEx conference with Diablo Canyon Power Plant by a DCISC Member and Technical Consultant, and a report on administrative, regulatory and legal

Friday Morning, October 23rd
 1:15 P.M.

Introductions, public comments and communications to Committee; reports on fact-finding WebEx conferences with Diablo Canyon Power Plant by a DCISC Member and Technical Consultant; approval of the Minutes of the DCISC meeting held on July 1-2, 2020; wrap-up discussion by Committee members and confirmation of future site visits, study sessions and public meetings.

Where:

In response to Governor Newsom's Executive Order N-29-20 related to the COVID-19 (coronavirus) pandemic, public participation in the DCISC public meetings shall be electronic only and without a physical location for public participation in compliance with California state guidelines on social distancing. You may participate in the DCISC's public meeting in real-time by accessing the Zoom webinar meeting via the weblink or meeting ID or by calling a phone number provided. Instructions on how to access, view and participate in remote meetings are provided by visiting the DCISC's home page at <http://www.dcisc.org>.

Please plan to attend!

For further information call 1-800-439-4688 or visit the Committee's website at www.dcisc.org. A copy of the meeting Agenda packet may be reviewed at the Cal Poly Library's Reference Department and the Agenda packet is available on the DCISC's website. Each session of a public meeting of the DCISC is available live and online during the meeting by visiting www.slo-span.org and after a meeting in archived format, indexed to the meeting's agenda, or by following links on the Committee's website.

WATCH THE SESSIONS LIVE, OR SUBSEQUENTLY IN ARCHIVE, INDEXED TO THE MEETING'S AGENDA, BY FOLLOWING THE LINK ON THE COMMITTEE'S WEBSITE TO WWW.SLO-SPAN.ORG OR AFTER THE MEETING ON GOVERNMENT ACCESS

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE (DCISC) - PUBLIC MEETING -

When:

Thursday Morning, October 22

9:00 A.M.

Introductions, public comments and communications to the Committee; informational presentations by PG&E officials on plant safety and operations, including an update on decommissioning planning including the status of the spent fuel cask request for proposals; a discussion by the Committee on spent fuel pool risk evaluation and consideration of a recommendation by the DCISC; and an informational update by PG&E on emergency preparedness programs including changes made in response to the COVID-19 pandemic.

Thursday Afternoon, October 22

1:30 P.M.

Introductions, public comments and communications to the Committee; informational presentations by PG&E officials on plant safety and operations, including an update on decommissioning planning including the status of the spent fuel cask request for proposals; a discussion by the Committee on spent fuel pool risk evaluation and consideration of a recommendation by the DCISC; and an informational update by PG&E on emergency preparedness programs including changes made in response to the COVID-19 pandemic.

Friday Morning, October 23rd

8:30 A.M.

Public comments and communications to the Committee; DCISC business session, including approval of the DCISC's 30th Annual Report; update on financial matters and activities, scheduling, site visits and plans for 2020-2021; review of the DCISC's Open Items List; an update on the activities of the Diablo Canyon Decommissioning Engagement Panel; a report on a fact-finding WebEx conference with Diablo Canyon Power Plant by a DCISC Member and Technical Consultant, and a report on administrative, regulatory and legal matters.

Friday Morning, October 23rd

1:15 P.M.

Introductions, public comments and communications to Committee; reports on fact-finding WebEx conferences with Diablo Canyon Power Plant by a DCISC Member and Technical Consultant; approval of the Minutes of the DCISC meeting held on July 1-2, 2020; wrap-up discussion by Committee members and confirmation of future site visits, study sessions and public meetings.

Where:

In response to Governor Newsom's Executive Order N-29-20 related to the COVID-19 (coronavirus) pandemic, public participation in the DCISC public meetings shall be electronic only and without a physical location for public participation in compliance with California state guidelines on social distancing. You may participate in the DCISC's public meeting in real time by accessing the Zoom webinar meeting via the weblink or meeting ID or by calling a phone number provided. Instructions on how to access, view and participate in remote meetings are provided by visiting the DCISC's home page at <http://www.dcisc.org>.

Please plan to attend! For further information call 1-800-439-4688 or visit the Committee's website at www.dcisc.org.

A copy of the meeting Agenda packet may be reviewed at the Cal Poly Library's Reference Department and the Agenda packet is available on the DCISC's website. Each session of a public meeting of the DCISC is available live and online during the meeting by visiting www.slo-span.org and after a meeting in archived format, indexed to the meeting's agenda, or by following links on the Committee's website.

G.2 – 155

G.2 – 156

From: info@dcisc.org
Sent: Tuesday, October 20, 2020 2:31 PM
To: 'Cochran, Justin@Energy'
Cc: 'Peter Lam 1'; info@dcisc.org
Subject: RE: DCISC October 22-23 2020, Public Meeting
Attachments: July 2020 Public Meeting Informational Presentations.pdf; UCLA Public Mtg Presentation Spent Fuel.pptb; UCLA Spent Fuel Study (March 2020).pdf; DCISC - Excerpt January 2020 FF Report and February 2020 PM Minutes re Hydrogen Flash Event.docx

Justin – thank you very much for meeting with Dr. Lam and me yesterday and for your assistance in coordinating the meeting. Very much appreciated.

Attached is a pdf file with the PowerPoints from the July 1-2, 2020 DCISC public meeting along with the PowerPoints used by Drs. Garrick and Wakefield in making their presentation on the spent fuel transfer risk evaluation study. I've also attached a copy of the full study but suspect that you may already have a copy.

Finally, I've attached excerpts from Dr. Lam's November 2019 fact-finding and the discussion during the Committee's February 2020 public meeting concerning the hydrogen flash issue which occurred in 2019 during the twenty-first refueling outage for Unit 2 (2R21). The Committee has requested a status report on the U-2 forced shutdown due to the hydrogen leak at the public meeting on Thursday. We expect it may only be a short report.

Thanks again and I hope you can at least view and maybe participate in some part of the public meeting on this coming Thursday and Friday,

Cordially,

Bob
 (831) 424-3672 (home)
info@dcisc.org

From: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Sent: Tuesday, October 20, 2020 8:14 AM
To: info@dcisc.org
Cc: Peter Lam 1 <peterlam1@aol.com>
Subject: Re: DCISC October 22-23 2020, Public Meeting

Good day,

Since this is likely to come up in the meeting this week I have shared the latest information I have, italic text below. Bob, if you could share any fact finding/reports on the last hydrogen leakage that would be helpful. Thank you.

Update on the status of the Unit 2 forced outage.

G.2 – 157

- ii. DCPD have established a team of leaders on days and nights to focus on identifying the root cause and to develop and implement the needed corrective actions. As part of that team, DCPD are using independent structural and electrical experts in addition to Siemens to assist in determining cause and corrective actions. The path ahead is to safely disassemble the exciter and turbine ends of the generator to allow for additional inspections and repair.

4. Any NRC issues that we should be aware of and focused on?
5. Status of the decommissioning preparations?
6. Any items you think we should be aware of and focused on?

Best Regards,

Justin Cochran, Ph.D.
 Emergency Coordinator & Nuclear Advisor to
 Chair David Hochschild
 California Energy Commission
 1516 Ninth Street, MS-39
 Sacramento, CA 95814

Cell: 916-698-2549
 Fax: 916-651-3767
justin.cochran@energy.ca.gov

From: Info@DCISC.org <info@dcisc.org>
Sent: Monday, October 19, 2020 11:56 AM
To: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Cc: Info@DCISC.org; 'Peter Lam 1' <peterlam1@aol.com>
Subject: DCISC October 22-23 2020, Public Meeting

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Justin - I hope all is going well with you. I know Dr. Lam joins me in looking forward to the Zoom conference with the Chair scheduled for this afternoon at 3:00 p.m.

I also want to extend an invitation to you for the DCISC's upcoming meeting later this week on Thursday and Friday, October 22-23. Due once again to the coronavirus and social distancing precautions, the Committee is conducting the meeting remotely using Zoom. I have attached a copy of the "working agenda" for the meeting which has the estimated times for the various presentations and the Meeting ID, Password, etc. to access the meeting via Zoom. The Committee has continued to conduct all its previously scheduled fact-findings with DCPD but has done so entirely by remote means since March 2020. The afternoon session on Thursday will include a discussion by the Members as to the Committee possibly making a recommendation, based on their evaluation of the relative risk, concerning the approaches associated with future spent fuel storage campaigns and spent fuel off-loading from the spent fuel pools.

G.2 – 159

On October 14, 2020, Unit 2 was removed from service due to excessive hydrogen leakage into the stator water system. PG&E team, working with Siemens, cleared the main generator and safely entered the confined space to conduct a leak search.

The team performed an internal inspection and has identified a highly probable source of the hydrogen loss. This new location is different than the issue in July but is on the same component.

PG&E have established a team of leaders on days and nights to focus on identifying the root cause and to develop and implement the needed corrective actions. As part of that team, we are using independent structural and electrical experts in addition to Siemens to assist in determining cause and corrective actions. The path ahead is to safely disassemble the exciter and turbine ends of the generator to allow for additional inspections and repair.

Once the maintenance is safely completed, and we are sure we have addressed any extent of condition, we will return Unit 2 to service.

Best,
 Justin

Sent from my iPhone

On Oct 19, 2020, at 2:40 PM, Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov> wrote:

Good day Bob,

I will be watching the live feed but not sure to what extent I will be able to actively participate.

I think the following information for today's meeting will be helpful. We won't need details but if you could touch upon them or maybe follow-up at a later date that would be helpful. Thank you.

Dr. Lam DCISC Briefing & Discussion

1. Any DCISC procedural or administrative issues that we should be aware of?
2. Any DCPD safety issues that we should be focused on?
3. Recent DCPD items:
 - a. Recent Auxiliary Feedwater (AFW) System issues
 - b. Any information you have on the recent October 15, 2020 shutdown of Unit 2 to Mode 3 to allow for emergent maintenance on the main generator hydrogen system. On October 14, 2020, Unit 2 was removed from service due to excessive hydrogen leakage into the stator water system. DCPD team, working with Siemens, cleared the main generator and safely entered the confined space to conduct a leak search.
 - i. The DCPD team performed an internal inspection and has identified a highly probable source of the hydrogen loss. This new location is different than the issue in July but is on the same component.

G.2 – 158

As always, we would welcome your presence at the meeting and participation should you be able to attend. If you plan to attend I will arrange to add your email address to the list of panelists for this Zoom meeting.

Again, I look forward to speaking with you later this afternoon.

Best,

Bob Rathie
 (831) 424-3672 (home)
info@dcisc.com

G.2 – 160

Info@DCISC.org

From: lauren.brown@sbcglobal.net
Sent: Tuesday, October 20, 2020 2:56 PM
To: 'Bob Rathie'
Subject: Finalizing my presentation for Friday

Hi Bob,

I'm working on getting my presentation to the DCISC ready for Friday. I should be able to forward a copy to you tomorrow for inclusion.

I have a question for you: Has the DCISC had a presentation on the Risk Analysis by B. John Garrick Institute for Risk Sciences at UCLA? I recall that you did but I wanted to confirm.

Thanks,

Lauren

G.2 – 161

Info@DCISC.org

From: info@dcisc.org
Sent: Wednesday, October 21, 2020 10:00 AM
To: 'Cochran, Justin@Energy'
Cc: info@dcisc.org
Subject: RE: Quick DCISC Question

Justin – Members of the DCISC are compensated at the rate of \$260 per hour with a retainer of \$10,400 for the first 40 hours of work and additional hours over 40 billed at \$260/hr.

For 2019 the average compensation for a DCISC member for time incurred was \$77,437.50 and for 2018 that amount of \$68,687.50. Members are reimbursed separately for expenses incurred.

Hope this is responsive to your inquiry, let me know if you need additional information.

Best,

Bob
(831) 424-3672 (home)

From: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Sent: Tuesday, October 20, 2020 4:24 PM
To: Bob.Rathie@DCISC <info@dcisc.org>
Subject: Quick DCISC Question

Bob,

I was speaking with the Chair today and one of the questions that came up was what the annual compensation is for committee members? We do not need specific numbers, a generic value such as approximately \$XXX is fine.

The Chair wanted a general idea since it could come up with the GO appointment process and our potential application process next year.

Thank you.

Best Regards,

Justin Cochran, Ph.D.
Emergency Coordinator & Nuclear Advisor to
Chair David Hochschild
California Energy Commission
1516 Ninth Street, MS-39
Sacramento, CA 95814

Cell: 916-698-2549
Fax: 916-651-3767
justin.cochran@energy.ca.gov

G.2 – 162

Info@DCISC.org

From: info@dcisc.org
Sent: Wednesday, October 21, 2020 3:05 PM
To: 'Peter Lam 1'; budnitz@pacbell.net; perfpeterson@me.com; 'Ferman Wardell'; 'Rick McWhorter'
Cc: info@dcisc.org
Subject: FW: The latest Diablo reporting
Attachments: 10202020 Recurring Problems at Diablo-California Currents.pdf

Members & Consultants – FYI the attached with the email below was received from Dave Weisman this afternoon. I have responded and thanked him.

Looking forward to seeing everyone tomorrow at 9:00 a.m. Bob Lloyd AGP has advised me that the webinar will be open and able to be accessed starting at 8:00 a.m. tomorrow for a 9:00 a.m. start time and on Friday at 7:30 a.m. for the 8:30 a.m. start.

Best,

Bob R
(831) 424-3672 (home)
info@dcisc.org

From: David Weisman <davidjayweisman@gmail.com>
Sent: Wednesday, October 21, 2020 2:02 PM
To: info@dcisc.org
Subject: The latest Diablo reporting

Bob:

In advance of tomorrow's meeting, the latest in media coverage:

See you all tomorrow.

Sincerely,
DAVID WEISMAN
www.adnr.org

G.2 – 163

Info@DCISC.org

From: info@dcisc.org
Sent: Wednesday, October 21, 2020 2:59 PM
To: 'David Weisman'
Cc: info@dcisc.org
Subject: RE: The latest Diablo reporting

David –

Thank you for your email and the attached article which I will provide to our Members & Consultants. We'll be glad to see you again, albeit remotely, at the public meeting tomorrow and on Friday.

As you likely know by now, the agenda packet is online at www.dclsc.org and I expect to have the PowerPoint for the informational presentations (the same as we used to receive in person in the slim white binders) available on website very soon.

Take care and keep well - and I look forward to hearing from you tomorrow,

Best,

Bob
(831) 424-3672 (home)
info@dcisc.org

From: David Weisman <davidjayweisman@gmail.com>
Sent: Wednesday, October 21, 2020 2:02 PM
To: info@dcisc.org
Subject: The latest Diablo reporting

Bob:

In advance of tomorrow's meeting, the latest in media coverage:

See you all tomorrow.

Sincerely,
DAVID WEISMAN
www.adnr.org

G.2 – 164

Recurring Problem Forced Diablo Canyon Nuke Unit Offline 20 Oct 2020



The untimely Oct. 15 shut down of the Diablo Canyon nuclear plant's Unit 2 is the second malfunction in a critical component of its electric generator, which was just rebuilt. In July, the same Pacific Gas & Electric unit was forced offline because then, as now, the cooling system that lowers the extreme heat inside the spinning generator was leaking hydrogen gas, which is the cooling fluid.

"While this isn't a radioactive disaster, it could lead to a catastrophic industrial disaster," warned David Weisman, Alliance for Nuclear Responsibility outreach coordinator. It is not only the loss of the 1,000 MW of power the plant produces, but also the potential loss of over \$100 million worth of machinery, he noted.

Diablo Canyon's only other unit also is down, undergoing planned maintenance since Oct. 3. Thus, the entire 2,200 MW plant was offline when the grid operator called for conservation last Thursday. It is still not sending any power to the grid.

PG&E confirmed that the issue that took down Unit 2 last week is the same as the event in July: a problem at a key component, known as a stator. "We identified an area in the Unit 2 main generator system where hydrogen (used for cooling the electrical generator) was escaping," Susanne Hosn, utility spokesperson, stated in an email to *Current*. She added that back in July repairs were done, "inspections were conducted, and the unit was returned to service." On Sept. 15, PG&E reported the July leak of hydrogen from the Unit 2's cooling system to the Nuclear Regulatory Commission.

Ongoing component problems

Unit 2 has had ongoing problems with its stator since it was first built in the mid-1980s. PG&E rebuilt the component last year after the California Public Utilities Commission approved it spending over \$100 million in ratepayer funds as part of its 2017 general rate case. How much the utility actually spent is not yet known.

During an Oct. 23, 2019, Diablo Canyon Independent Safety Committee meeting, a PG&E representative said the "significant" investment to replace the stator was needed to keep the plant from being forced offline, although it will be permanently shut down in 2025. "It is the right thing to do, even with a limited life span," he said.

The Alliance for Nuclear Responsibility unsuccessfully opposed the investment in the rebuild during the rate case proceeding at the CPUC on grounds it was an unreasonable hit to utility ratepayers.

"All it takes is a small chink in the nuclear armor to disable the machine from generating electricity it was paid billions of dollars to produce," Weisman said. The nuke cost \$5.7 billion.

The utility said it does not know when Unit 2 will be back online.

The problem at Diablo is similar to the issue of flawed parts forcing the early closure of the San Onofre Nuclear Generating Station at Camp Pendleton in 2012. That heightens Weisman's concerns about the NRC's lax oversight. He wonders if the recurring key component failure is because of a possible laissez faire attitude at Diablo ignored by NRC officials. PG&E will have to report last week's stator malfunction over the next few weeks.

—Elizabeth McCarthy



G.2 – 165

Info@DCISC.org

From: info@dcisc.org
Sent: Wednesday, October 21, 2020 3:58 PM
To: Haas, Greg
Cc: info@dcisc.org
Subject: DCISC Public Meeting on October 22-23, 2020
Attachments: DCISC Public Meeting Agenda - October 22-23 2020 (REV 2) doc

Greg –

I want to let you know that the Diablo Canyon Independent Safety Committee will be conducting its next public meeting via Zoom tomorrow, October 22 and on the following day, Friday, October 23. A copy of the meeting agenda is attached and instructions on how to access the Zoom Webinar are provided in the agenda.

I would call your particular attention to the agenda for Friday October 23 morning session when the Committee will receive a presentation from Dr. Lauren Brown on the activities of the Diablo Canyon Decommissioning Engagement Panel and to the discussion during the afternoon on Thursday, October 22 when the Committee will discuss and consider a recommendation based on the relative risk concerning the off-loading and transfer of spent fuel from the spent fuel pools to dry cask storage at the Independent Spent Fuel Storage Installation. I know there has been interest in the local area concerning removing the fuel from the pools.

A copy of the full agenda packet for the meeting is available on our website at www.dcisc.org.

I hope that things are going well for you and you're keeping well. Hope you can attend at least some part of the meetings.

Best Regards,

Bob Rathie
DCISC Asst. Legal Counsel
(831)424-3672 (Home)
info@dcisc.org

G.2 – 167

G.2 – 166

Info@DCISC.org

From: lauren.brown@sbcglobal.net
Sent: Wednesday, October 21, 2020 4:42 PM
To: Bob Rathie
Cc: 'Chuck Anders'
Subject: My PowerPoint presentation
Attachments: Panel Presentation to DCISC_2020_10_23.pptx

Hi Bab,

I'm attaching my presentation for Friday morning.

I'll be joining the meeting for some portions but not all the time due to other obligations.

Looking forward to connecting again, if only virtually!

Lauren

Chuck, here is my final presentation. If you think helpful, you can distribute to the full DCDEP

Lauren

G.2 – 168

From: info@dcisc.org
 Sent: Wednesday, October 21, 2020 6:25 PM
 To: 'Cochran, Justin@Energy'
 Cc: 'Peter Lam 1'; info@dcisc.org
 Subject: RE: DCISC October 22-23 2020, Public Meeting
 Attachments: DCISC September 2020 FF Report AFW System LAR.docx; Agenda - October 22-23 2020 with Times (REV 4).doc

Justin –

At Dr. Lam's suggestion and request, please find attached an excerpt from the September 9-10 fact-finding conducted by Committee Member Dr. Budnitz and Technical Consultant Ferman Wardell concerning their assessment and conclusion concerning the LAR to address the AFW leakage/corrosion issue. This report was not included in the briefing book for the meeting on Monday as I had not yet received a copy at the time I provided the briefing book to Le-Quyen on October 1.

The Committee will receive a report on the September fact-finding visit and have the opportunity to accept the report at the meeting this Friday. The September fact finding report is scheduled to be presented at about 2:15 p.m. ("working agenda" attached). Should you have any questions on the report this would be an excellent opportunity to pose same to the full Committee.

Cordially,

Bob
 (831) 424-3672 (home)
info@dcisc.org

From: Info@DCISC.org <info@dcisc.org>
 Sent: Tuesday, October 20, 2020 2:31 PM
 To: 'Cochran, Justin@Energy' <Justin.Cochran@energy.ca.gov>
 Cc: 'Peter Lam 1' <peterlam1@aol.com>; Info@DCISC.org
 Subject: RE: DCISC October 22-23 2020, Public Meeting

Justin – thank you very much for meeting with Dr. Lam and me yesterday and for your assistance in coordinating the meeting. Very much appreciated.

Attached is a pdf file with the PowerPoints from the July 1-2, 2020 DCISC public meeting along with the PowerPoints used by Drs. Garrick and Wakefield in making their presentation on the spent fuel transfer risk evaluation study. I've also attached a copy of the full study but suspect that you may already have a copy.

Finally, I've attached excerpts from Dr. Lam's November 2019 fact-finding and the discussion during the Committee's February 2020 public meeting concerning the hydrogen flash issue which occurred in 2019 during the twenty-first refueling outage for Unit 2 (2R21). The Committee has requested a status report on the U-2

G.2 – 169

Justin

Sent from my iPhone

On Oct 19, 2020, at 2:40 PM, Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov> wrote:

Good day Bob.

I will be watching the live feed but not sure to what extent I will be able to actively participate.

I think the following information for today's meeting will be helpful. We won't need details but if you could touch upon them or maybe follow-up at a later date that would be helpful. Thank you.

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 - ii. DCCP have established a team of leaders on days and nights to focus on identifying the root cause and to develop and implement the needed corrective actions. As part of that team, DCCP are using independent structural and electrical experts in addition to Siemens to assist in determining cause and corrective actions. The path ahead is to safely disassemble the exciter and turbine ends of the generator to allow for additional inspections and repair.
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Best Regards,

Justin Cochran, Ph.D.
 Emergency Coordinator & Nuclear Advisor to
 Chair David Hochschild
 California Energy Commission
 1516 Ninth Street, MS-39
 Sacramento, CA 95814

Cell: 916-698-2549
 Fax: 916-651-3767
justin.cochran@energy.ca.gov

G.2 – 171

forced shutdown due to the hydrogen leak at the public meeting on Thursday. We expect it may only be a short report.

Thanks again and I hope you can at least view and maybe participate in some part of the public meeting on this coming Thursday and Friday.

Cordially,

Bob
 (831) 424-3672 (home)
info@dcisc.org

From: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
 Sent: Tuesday, October 20, 2020 8:14 AM
 To: info@dcisc.org
 Cc: Peter Lam 1 <peterlam1@aol.com>
 Subject: Re: DCISC October 22-23 2020, Public Meeting

Good day,

Since this is likely to come up in the meeting this week I have shared the latest information I have, italic text below. Bob, if you could share any fact finding/reports on the last hydrogen leakage that would be helpful. Thank you.

Update on the status of the Unit 2 forced outage.

On October 14, 2020, Unit 2 was removed from service due to excessive hydrogen leakage into the stator water system. PG&E team, working with Siemens, cleared the main generator and safely entered the confined space to conduct a leak search.

The team performed an internal inspection and has identified a highly probable source of the hydrogen loss. This new location is different than the issue in July but is on the same component.

PG&E have established a team of leaders on days and nights to focus on identifying the root cause and to develop and implement the needed corrective actions. As part of that team, we are using independent structural and electrical experts in addition to Siemens to assist in determining cause and corrective actions. The path ahead is to safely disassemble the exciter and turbine ends of the generator to allow for additional inspections and repair.

Once the maintenance is safely completed, and we are sure we have addressed any extent of condition, we will return Unit 2 to service.

Best,

G.2 – 170

From: Info@DCISC.org <info@dcisc.org>
 Sent: Monday, October 19, 2020 11:56 AM
 To: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
 Cc: Info@DCISC.org; 'Peter Lam 1' <peterlam1@aol.com>
 Subject: DCISC October 22-23 2020, Public Meeting

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As always, we would welcome your presence at the meeting and participation should you be able to attend. If you plan to attend I will arrange to add your email address to the list of panelists for this Zoom meeting.

Again, I look forward to speaking with you later this afternoon.

Best,

Bob Rathie
 (831) 424-3672 (home)
info@dcisc.org

G.2 – 172

From: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
 Sent: Thursday, October 22, 2020 9:15 AM
 To: Bob.Rathie@DCISC
 Subject: DCISC Meeting

Good day Bob,

Due to my work schedule I will be multi-tasking today. I will likely address any question via email unless something specific comes up. I will also be shifting between phone and computer audio as I shift to answer calls and call into other meetings.

Thank you.

Best Regards,

Justin Cochran, Ph.D.
 Emergency Coordinator & Nuclear Advisor to
 Chair David Hochschild
 California Energy Commission
 1516 Ninth Street, MS-39
 Sacramento, CA 95814

Cell: 916-698-2549
 Fax: 916-651-3767
justin.cochran@energy.ca.gov

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE REPORT

Excerpt from Draft Report on

Fact-Finding Meeting with DCP
 on September 9-10, 2020

by

Robert J. Budnitz, Member, and R. Ferman Wardell, Consultant

3.4 Auxiliary Feedwater System License Amendment Request

The DCISC FFT had a remote (virtual) meeting with Michael Richardson, Regulatory Services Supervisor, and Ken Shrader, Regulatory Services Principal Engineer, for an update on DCP's License Amendment Request (LAR) on performing inspections and repairs of the Unit 1 Auxiliary Feedwater (AFW) System on-line. The DCISC last reviewed this topic in August 2020 (Reference 6.4), when it concluded the following:

The DCISC concluded that there were no safety concerns with the approach that DCP was proposing in a License Amendment Request to perform AFW System Extent of Condition inspections and possible repairs on Unit 1. The DCISC should review the final Root Cause Evaluation for the AFW leak on Unit 2 following its completion by DCP.

The AFW System is a safety-related system that provides feedwater to the Steam Generators (SGs) under shutdown, startup, low power, and accident conditions. The AFW System is designed to provide a water source to the SGs in order to cool and prevent damage to the nuclear reactor fuel and to prevent overpressurization of the Reactor Coolant System in the event of transients such as a loss of normal Main Feedwater (MFW), a stuck open relief valve, or a pipe rupture on the secondary side. During normal plant shutdown, the AFW System replaces the MFW System and serves as a system to remove heat in hot standby or to cool down to a point where the Residual Heat Removal System can be placed in operation (when Reactor Coolant System temperature becomes less than 350 °F). The AFW System is also used during normal plant startup prior to placing the MFW System in service. The AFW System consists of three feedwater supply trains with diverse means of powering the pumps, which draw water from the Condensate Storage Tanks. One train consists of a full-capacity steam turbine-driven pump, which can be aligned to use steam from any of the four SGs. The other two supply trains consist of half-capacity electric-motor-driven pumps, each normally supplying flow to two of the four SGs, with the capability to be aligned to any of the four SGs.

On July 23, 2020, during a forced outage on Unit 2, operators identified a leak on the discharge piping going from AFW Pumps 2-1 and 2-2 to SG 2-2, downstream of valve LCV-111

G.2 – 173

(SAPN50183213). This section of piping was outdoors and insulated. The affected Unit 2 AFW trains were declared inoperable, and the unit was placed on Mode 4 in accordance with the applicable Technical Specification (TS), Section 3.7.5. Insulation was removed from the carbon steel piping and an approximate 3/8-inch diameter hole was found in the piping along with heavy corrosion on the outside of the piping under the insulation. The area of the leak was heavily corroded on the exterior of piping which was previously concealed under the insulation. A Root Cause Evaluation (RCE) was initiated and preliminarily concluded that the cause of the leak was moisture trapped under the insulation which accelerated corrosion on the outside of the piping. The section of the piping where the leak occurred appeared to be in a particularly vulnerable position to be routinely wetted both by ocean moisture and by water falling from SG Power Operated Relief Valves during their periodic operations in hot standby conditions. Interim Corrective Actions were initiated, and those actions included performing an Extent of Condition (EOC) investigation on both DCP units. On Unit 2, additional sections of piping that were outdoors and insulated were inspected both visually and using non-destructive examinations to measure pipe wall thicknesses. No additional leaks were found, but six additional locations were identified in the Unit 2 AFW piping where additional repairs were required because pipe wall thickness did not meet minimum code requirements. All of the additional repairs were in the same section of piping as the leak, and approximately four days were required to repair all of the affected sections of piping.

The EOC evaluation also determined that inspections were needed for similar sections of piping on Unit 1, which was operating at full power at the time of the event. It was believed that the Unit 1 piping would be less susceptible to corrosion under the insulation because the ocean spray environment was less corrosive on the Unit 1 piping rack in general. As such, DCP management did not believe that making an EOC inspection was an urgent matter but at the same time also believed that waiting until the next scheduled shutdown to perform the Unit 1 EOC inspections would not be prudent. Accordingly, DCP prepared a plan to inspect the corresponding piping on Unit 1 while the unit was online and make repairs as necessary. If inspections found defects on Unit 1, two trains of AFW would be required to be declared inoperable under the existing TS 3.7.5 and the unit would be required to be shut down within six hours.

Operations and DCP management reviewed the inspection and repair plan with the associated TS and concluded that the generic TS-required actions poorly fit the situation. Specifically, the potential similar leak and repair location on Unit 1 would only affect AFW flow to one of four SGs. Instead of two AFW trains being completely inoperable as addressed by the TS, one train of AFW would maintain the ability to flow to three of its normal four SGs, one train of AFW would maintain the ability to flow to one of its normal two SGs, and one train of AFW would maintain its full ability to flow to two of its normal two SGs. Also considered was the fact that the AFW system, which is normally in standby while the unit is online, would be required to be started up and used to cooldown the plant if a shutdown were initiated. Isolating a part of the system to perform repairs could limit the system's redundancy and ability to cool down the unit after a shutdown and thus possibly increase the risk to operations.

DCP management then reviewed regulatory alternatives to following TS 3.7.5 during the maintenance should repairs be required. One option was to perform the inspection as soon as possible and then request Enforcement Discretion from the NRC if repairs were needed. Another

G.2 – 174

option would be to request an Emergency License Amendment Request (LAR). These options were ruled out as they were generally both intended to address emergent issues and not inspection and repair activities that could be planned in advance such as was the case in this situation. DCP discussed submitting an LAR on an exigent basis with the NRC, and the NRC responded that such an LAR could be issued within a few weeks if the basis was appropriate and the change was found to adequately protect the safety of the public. DCP concluded that this approach was appropriate for the timeliness of corrective actions given the situation.

The LAR specifically requested a one-time only LCO that would allow for one or two AFW trains to be inoperable in Modes 1, 2, or 3 due to inoperable AFW piping affecting the AFW flow path(s) to a single SG. The new LCO included required actions to isolate AFW to the affected SG within two hours and to restore the AFW system to operable status within seven days. The LCO would only be applicable for the current operating cycle which was scheduled to end in October 2020. The LAR's safety evaluation included risk insights in having the affected AFW equipment out of service for seven days using DCP's Probabilistic Risk Assessment (PRA) model and concluded that the increase in incremental conditional core damage probability was below 1×10^{-6} per year, the incremental conditional large-early-release probability was below 1×10^{-7} per year, and both increases were not risk-significant. The LAR was submitted to the NRC on August 12, 2020, and the NRC made several Requests for Additional Information (RAIs), which were subsequently submitted by PG&E to the NRC.

The NRC License Amendment was approved and issued on August 31.

DCP completed its interim Root Cause Evaluation (RCE) for the Corrective Action Review Board on August 19, 2020. Key elements of the RCE are as follows:

Direct Cause (proposed):

Insulation damage introduced moisture under the AFW piping insulation, which created a Corrosion Under Insulation (CUI) mechanism that accelerated the external corrosion, resulting in the through wall leak to the AFW piping elbow.

Root Cause 1 (proposed):

Past missed opportunities to remove AFW piping insulation existed in the following areas:

- A 1974 design change added check valves, between the Main Feed Water and AFW systems, which lowered the expected normal operating design temperature below the threshold for requiring insulation.
- A 1984 design change sealed closed the leak detection system, which lowered the enveloping pressure and temperature conditions for AFW downstream of the pump discharge check valves. Assumption that insulation may still be beneficial as an extra safety/external elemental barrier
- Removal may be cost prohibitive
- Design Change process at the time may have not been intrusive enough to address new failure modes, such as CUI.

- Design Change Process Initiative Project 1992

Had these activities addressed insulation removal, corrosion would have been more easily recognized in subsequent inspections. Instead, an assumption that insulation damage observed on AFW piping was merely cosmetic led to missed opportunities, during engineering walkdowns and inspections, to identify the unique vulnerability related to insulated cold piping.

Development of corrective actions is in progress. Examples include, but are not limited to:

- Permanently remove insulation from AFW piping.
- Training solution for understanding of CUI phenomenon has been identified.
- Potential revision to TSS.ID1 "System Engineering" to add more detail to aid the engineer in identifying issues with insulation.
- Perform an Extent of Cause to include CUI vulnerable systems identified in License Renewal.

Interim actions taken

- The Emerging Issue Team's extent of condition actions resumed on August 31 after the NRC has addressed the Exigent License Amendment Request (ELAR).
- The Root Cause Team walked down other outdoor systems for evidence of leaks or corrosion as well as some piping systems indoors that may be susceptible to outside elements (near doors, etc.). SAPNs were written for deficiencies or degradations observed on insulation, coatings, or visual corrosion.

After the NRC LAR was granted, DCPD performed the inspection. DCPD reported that the Unit 1 AFW piping inspection found no significant corrosion or leakage problems which needed repair. The DCISC should request a DCPD presentation in its next Public Meeting in October 2020.

Conclusions: The DCISC concluded in August and at this Fact-finding meeting in September that there were no safety concerns with the approach that DCPD was proposing in a License Amendment Request to perform AFW System Extent of Condition inspections and possible repairs on Unit 1. After the NRC LAR was granted, DCPD performed the inspection, and reported that the Unit 1 AFW piping inspection found no significant corrosion or leakage Problems. The DCISC should review the final Root Cause Evaluation for the AFW leak on Unit 2 following its completion by DCPD.

Recommendations: None

Info@DCISC.org

From: info@dcisc.org
Sent: Thursday, October 22, 2020 2:18 PM
To: 'Peter Lam 1'; perfpeterson@me.com; budnitz@pacbell.net; 'Ferman Wardell'; rickmcw1@gmail.com
Cc: info@dcisc.org
Subject: FW: Drone Article

See below from Dr. Cochran ...

BR

From: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Sent: Thursday, October 22, 2020 1:40 PM
To: Bob.Rathie@DCISC <info@dcisc.org>
Subject: Drone Article

Bob,

You and some of the committee may find interest in this article: <https://www.reuters.com/article/us-france-nuclear-greenpeace/greenpeace-crashes-superman-shaped-drone-into-french-nuclear-plant-idUSK8N1J71JM>

Best Regards,

Justin Cochran, Ph.D.
 Emergency Coordinator & Nuclear Advisor to
 Chair David Hochschild
 California Energy Commission
 1516 Ninth Street, MS-39
 Sacramento, CA 95814

Cell: 916-698-2549
 Fax: 916-651-3767
justin.cochran@energy.ca.gov

G.2 – 177

G.2 – 178

Info@DCISC.org

From: rickmcw1@gmail.com
Sent: Thursday, October 22, 2020 2:45 PM
To: 'David Weisman'
Cc: 'DCISC Info'
Subject: RE: Drone-Related NRC Document You Referred to Today?

Very helpful; thanks!

From: David Weisman <davidjayweisman@gmail.com>
Sent: Thursday, October 22, 2020 5:43 PM
To: rickmcw1@gmail.com
Cc: DCISC Info <info@dcisc.org>
Subject: Re: Drone-Related NRC Document You Referred to Today?

Dear Rick:

I am attaching the FORBES article, the NRC list with the number is embedded about 3/4 of the way through the article. And here is a link to a source cited in the Forbes story: <https://www.thedrive.com/the-war-zone/34800/the-night-a-drone-swarm-descended-on-palo-verde-nuclear-power-plant>

I hope this helps your search.

Thanks,
 DAVID WEISMAN
www.a4nc.org

On Oct 22, 2020, at 2:07 PM, <rickmcw1@gmail.com> <rickmcw1@gmail.com> wrote:

Mr. Wiseman,

During our discussion about drones at the start of the DCISC's afternoon session today, you mentioned an NRC document that was worth our review. I thought I wrote down the number but could not find what I wrote down in the NRC's system. Could you give me the information again such that I could find it in the NRC's system or just forward to me a copy if you have it?

Thanks and regards,
 Rick McWhorter
 DCISC Consultant

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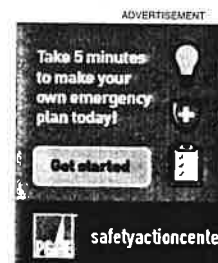
'Drone Swarm' Invaded Palo Verde Nuclear Power Plant Last September — Twice

David Hambling Contributor
 Aerospace & Defense

For a source-based analysis of the drone swarm, visit <https://www.the-war-zone.com/the-war-zone/34800/the-night-a-drone-swarm-descended-on-palo-verde-nuclear-power-plant>

Documents gained under the Freedom of Information Act show how a number of small drones flew around a restricted area at Palo Verde Nuclear Power Plant on two successive nights last September. Security forces watched, but were apparently helpless to act as the drones carried out their incursions before disappearing into the night. Details of the event gives some clues as to just what they were doing, but who sent them remains a mystery.

Details of the events were obtained from the Nuclear Regulatory Commission by Douglas D. Johnson on behalf of the Scientific Coalition for UAP Studies (SCU) using the Freedom of Information Act (FOIA). The SCU's main interest is in anomalous aerospace phenomena, what other people term UFOs. In this case though the flying objects were easily identifiable as drones, although their exact mission and origin are unknown. Johnson passed the information to The War Zone who give a detailed account.



G.2 – 179

G.2 – 180



Palo Verde Nuclear Plant, Unit 3, scene of the attack (Sept. 29, 2014)

Palo Verde Nuclear Power Plant is the largest in the U.S., producing over three gigawatts, 35% of Arizona's total power capacity. It supplies electricity to Phoenix and Tucson, as well as San Diego and Los Angeles. It is a critical piece of strategic infrastructure; during the 2003 Iraq War, National Guard troops were deployed to Palo Verde to defend against a possible terrorist threat. In normal times, as with other nuclear installations, it is protected by armed security guards.

9

The armed guards, gates, fences and barriers were useless on the night of September 29th. According to the official report:
 "Officer noticed several drones (5 or 6) flying over the site. The drones are circling the 3 unit

jammers or other defensive equipment that might stop such incursions.
 Despite this incident, two months later the NRC decided not to require drone defenses at nuclear plants, asserting that small drones could not damage a reactor or steal nuclear material. It is highly likely that such sites are still vulnerable to drone overflights.
 Are such drones a genuine threat to nuclear facilities? Many argue that because reactors are protected by two to three feet of concrete, able to withstand the impact of a small airliner – Sandia Laboratories actually carried out a full-scale test to prove this – small drones are nothing to fear. However, drones would probably not go for a brute-force approach, but would use their ability to strike pinpoint targets to hit control systems and failsafes. While this would be unlikely to cause a Chernobyl, it might well shut the plant down, taking out 35% of Arizona's electricity at a stroke. The successful attack on the Abqaiq facility last year, in which about twenty garage-built drones knocked out a heavily-defended oil facility in Saudi Arabia, should be a wakeup call that such unmanned precision strikes are not just the preserve of state actors any more.



In this case though the drones were clearly not attacking. If it was simply to test the defenses, why send several drones rather than one? Why use big commercial drones rather than disposable consumer models? Why spend so long?
 The most obvious answer is that the drones were gathering intelligence, using cameras or other surveying gear too large for a consumer quadcopter. Surveyors use drones fitted with LiDAR, light-based radar, to build accurate three-dimensional pictures of buildings and landscapes with an accuracy of a few centimeters. Others use drone-based photogrammetry, a

site inside and outside the Protected Area. The drones have flashing red and white lights [sic] and are estimated to be 200 to 300 hundred [sic] feet above the site. It was reported the drones had spotlights on while approaching the site that they turned off when they entered the Security Owner Controlled Area. Drones were first noticed at 20:50 MST and are still over the site as of 21:47 MST. Security Posture was normal, which was changed to elevated when the drones were noticed."
 The drones departed at 22:30, eighty minutes after they were first spotted. The security officers estimated that they were over two feet in diameter. This indicates that they were not simply consumer drones like the popular DJI Phantom, which have a flight endurance of about half an hour and is about a foot across, but something larger and more capable. The Lockheed Martin Indago, a military-grade quadcopter recently sold to the Swiss Army, has a flight endurance of about seventy minutes and is more than two feet across. At several thousand dollars apiece minimum, these are far less expendable than consumer drones costing a few hundred, All of which suggests this was not just a prank.



The next night events were repeated:
 "Four (4) drones were observed flying beginning at 20:51 MST and continuing through the time of this report (21:13 MST). As occurred last night, the drones are flying in, through, and around the owner-controlled area, the security owner-controlled area, and the protected area. Also, as last night, the drones are described as large with red and white flashing lights."
 Local police from Maricopa County were dispatched to find the drone operators, but with no success. The site is reportedly due to receive drone detection gear, but not counter-drone

technique which correlates a large number of two-dimensional images into a full three-dimensional one. Either process requires much longer than a straightforward flyover, which may explain why there were there for so long.
 A fleet of several drones could have been sent to survey the entire site in one hit. However, after their success on the first night, the drone operators may have been tempted to go back again to cover any areas they might have missed or get more detail. This may have gathered all they needed, so there was no need for a third mission.
 This suggests that the intruders, as well as establishing that Palo Verde lacks effective drone defenses, may now have highly detailed maps of the facility, showing the exact location of every valve, pipe, switch and control. Perhaps they simply aim to sell these on the dark web to anyone who will pay. Or perhaps they have something else in mind. Either way, it is an alarming demonstration of how easily drone intruders can now go anywhere anytime they wish.



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 David Hambling
 Author of 'Swarm Troopers: How small drones will conquer the world,' following cutting-edge military technology in general and unmanned systems in particular. New science... [Read More](#)

From: tom marre <tommarre@gmail.com>
Sent: Thursday, October 22, 2020 5:15 PM
To: dcsafety@dcisc.org
Subject: Attn: Bob Budnitz...please forward

Re: Diablo Canyon

- What is the elevation of the current spent fuel facility ?
- Will a new larger one be built?
- What will its elevation be?

In the past 10,000 years the Chumash left this Pacific bench Diablo is located on for about a 1000 years... No one is sure exactly why, only that extremely tall hills around Diablo have seashells and sand on the top of them...around 900 ft.

Please, tell us your thoughts on how this might relate to an expanded risk analysis... I look forward to your reply.

Tom Marré / 805.305.0360

G.2 – 185

From: tom marre <tommarre@gmail.com>
Sent: Friday, October 23, 2020 9:23 AM
To: dcsafety@dcisc.org
Subject: Pls Forward to Diablo Safety Committee... Warranty... Financial relationship

Re:... The financial relationship between PG&E's ability to perform and the stator warranty.

PG&E is not the typical typical company... It has gone through bankruptcy twice in the last 15 years. It's status and financial ability to close Diablo properly is in question buy some. The possible inability does relate to the safety of an admittedly aging plant which needs to be continually repaired, maintained and monitored (thank you for your diligence). ... Please keep in mind that as PG&E emerged out of bankruptcy with six times indebtedness it had before. Further, PG&E has already asked the bankruptcy court to modify its payment structure to the Paradise fire victims.... My point is simply PG&E capacity to operate the plant safely in this Layman's opinion is in question..... I think we can all agree the notion of risk is not static...

Do these elements effect risk analysis?

Tom Marré / 805.305.0360

G.2 – 186

From: tom marre <tommarre@gmail.com>
Sent: Friday, October 23, 2020 3:33 PM
To: dcsafety@dcisc.org
Subject: Please forward to Diablo Safety Committee... Apology

Please excuse my exasperated moment when I use the word "children" toward your. It was wrong and insulting I am humbled..... we all rely on your commitment...

Tom Marré / 805.305.0360

G.2 – 187

From: Abajian, Shelly (Feinstein) <Shelly_Abajian@feinstein.senate.gov>
Sent: Friday, October 23, 2020 11:44 AM
To: dcsafety@dcisc.org
Subject: Oct 23 public meeting

Hello Bob,

I have called into the meeting and am listening.... Some good information.

Hope all has been well with you and Lena,

Best,

Shelly H. Abajian
 Director, Central California
 U.S. Senator Dianne Feinstein

G.2 – 188



FILED
10/28/20
02:53 PM

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company for Approval of the Retirement of Diablo Canyon Power Plant, Implementation of the Joint Proposal, And Recovery of Associated Costs Through Proposed Ratemaking Mechanisms (U39E).

Application 16-08-006

NOTICE OF REASSIGNMENT

Please be advised that Application 16-08-006 is being reassigned from Administrative Law Judge (ALJ) Peter V. Allen to ALJ Carolyn Sisto.

Dated October 28, 2020, at San Francisco, California.

/s/ S. PAT TSEN for
Anne E. Simon, Chief
Administrative Law Judge

349716118

G.2 – 189

Info@DCISC.org

From: dcsafety@dcisc.org
Sent: Thursday, October 29, 2020 6:03 PM
To: 'Rochelle Becker'
Cc: info@dcisc.org
Subject: RE: The Bathtub Curve

Rochelle -- clearly.

I will of course forward your email and attachment to our Members and Technical Consultants.

Hope you are well and thanks for attending the last meeting and for your comments.

Bob
(831) 42403672 (home)
info@dcisc.org

From: Rochelle Becker <rochellea4nr@gmail.com>
Sent: Thursday, October 29, 2020 4:41 PM
To: DCISC <info@dcisc.org>; DCSafety Dcisc <dcsafety@dcisc.org>
Subject: The Bathtub Curve

Hi Bob,

Just another example of why A4NR is concerned about safety/risks of California's last aging reactors (see attached.)

In Peace
Rochelle

Rochelle Becker, Executive Director
Alliance for Nuclear Responsibility
PO 1328
San Luis Obispo, CA 93406
www.a4nr.org

G.2 – 190

Info@DCISC.org

From: dcsafety@dcisc.org
Sent: Friday, October 30, 2020 11:03 AM
To: 'Peter Lam 1'; 'PER PETERSON'; 'Robert J. Budnitz'; 'Ferman Wardell'; rickmcw1@gmail.com
Cc: info@dcisc.org
Subject: FW: Communication from R. Becker - re The Bathtub Curve
Attachments: 10292020 PG&E warns of 'significant' new losses from CA wildfires _ San Luis Obispo Tribune.pdf

FYI -- Communication with attachment received yesterday from Rochelle Becker. Response/acknowledgment provided to her.

Bob R

From: Rochelle Becker <rochellea4nr@gmail.com>
Sent: Thursday, October 29, 2020 4:41 PM
To: DCISC <info@dcisc.org>; DCSafety Dcisc <dcsafety@dcisc.org>
Subject: The Bathtub Curve

Hi Bob,

Just another example of why A4NR is concerned about safety/risks of California's last aging reactors (see attached.)

In Peace
Rochelle

Rochelle Becker, Executive Director
Alliance for Nuclear Responsibility
PO 1328
San Luis Obispo, CA 93406
www.a4nr.org

THE TRIBUNE IMPACT2020
SECTIONS

THE TRIBUNE

PG&E facing 'significant' new losses from California wildfires, utility tells investors

BY DALE ANDERSON
OCTOBER 29, 2020 11:55 AM

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Tyler Bereman, a (San Luis Obispo County) Templeton-born professional motocross freerider won a recent competition for Red Bull (Imagination on a course that he designed in Kansas. BY DAVID CARACCIO | RED BULL

Listen to this article now
2:46 Powered by Trinity Audio

Four months after exiting bankruptcy, PG&E Corp. is facing mounting financial headaches from wildfires again.

California's largest utility warned shareholders Thursday that it could face a "significant liability" in connection with the Zogg Fire, one of a series of wildfires that blew through Northern California this year.

The warning, part of a filing with the Securities and Exchange Commission, came three weeks after PG&E disclosed that it's being investigated by Cal Fire for possibly sparking the Zogg fire. The fire killed four people in Shasta County last month. Cal Fire investigators took possession of some of PG&E's electrical equipment near

G.2 – 191

G.2 – 192

where the fire started.

TOP ARTICLES

Will Oceano Dunes open to vehicles? Snowy plover lawsuit seeks to block park from reopening

PG&E said it's still too early to estimate its financial liabilities. The fire destroyed 204 homes and other buildings and consumed 56,338 acres before being contained.

Meanwhile, the company said its potential losses from last fall's Kincadee Fire are growing. In the SEC filing, it said it now expects liabilities to reach \$625 million, up from the \$600 million previously estimated. Cal Fire investigators concluded that the fire was caused by faulty PG&E transmission equipment. The fire prompted the evacuation of nearly 200,000 residents of Sonoma County and destroyed 374 buildings.

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The latest disclosures came the same day, ironically, that PG&E reported a return to profitability following its stint in bankruptcy. The company said it earned \$83 million in profits in the third quarter of 2020. For the first nine months of 2020, PG&E lost \$1.5 billion.

PG&E was driven into bankruptcy by liabilities from the 2017 wine country fires and the 2018 Camp Fire.

RELATED STORIES FROM SAN LUIS OBISPO TRIBUNE

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OCTOBER 22, 2020 5:00 AM

CALIFORNIA

Court monitor slams PG&E for falling behind on wildfire tree trimming across California

OCTOBER 20, 2020 5:10 PM

CALIFORNIA

PG&E resumes tree cutting in California town that fought back. Activists aren't giving up

OCTOBER 14, 2020 1:11 PM

FIRES

California puts limits on program that paid wealthy homeowners to install backup batteries

OCTOBER 22, 2020 12:22 PM



A house burns on Placita Road as the Zogg Fire near Oro, Calif., on Sunday, Sep. 27, 2020. (AP Photo/Ethan Seng) ETHAN SENG/AP



DALE KASLER

916-321-1066

Dale Kasler covers climate change, the environment, economics and the convoluted world of California water. He also covers major enterprise stories for McClatchy's Western newspapers. He joined The Bee in 1996 from the Des Moines Register and graduated from Northwestern University.

COMMENTS



G.2 - 193

G.2 - 194

DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

By Federal Express

November 2, 2020

Mr. James Welsch
Senior Vice President, Generation & Chief Nuclear Officer
c/o Chief Nuclear Officer Support Manager Mr. Hector Garcia
Pacific Gas & Electric Company
Diablo Canyon Power Plant
DCPP 104/6/641
Avila Beach, California 93424

Re: DCISC's Thirtieth Annual Report on
Safety of Diablo Canyon Operations
July 1, 2019 - June 30, 2020

Dear Mr. Welsch:

At its October 23, 2020 meeting the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. A "flash drive" with the files which make up the Annual Report is enclosed. The DCISC made one recommendation in this 30th Annual Report. Pursuant to the Restated Charter for the Committee approved by California Public Utilities Commission Decision 07-09-028, the report is hereby submitted to PG&E for its review and a written response within forty-five days.

Upon receipt of the PG&E response, that response shall become a part of the DCISC report and we then submit the complete report to the Public Utilities Commission, the Governor, the Attorney General and the California Energy Commission, as provided by the Restated Charter.

If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
DCISC Assistant Legal Counsel

RRW:rwr

Enclosure

cc: (w/o encl.) DCISC Members & Technical Consultants
(w/o encl.) Jennifer K. Post, Esq. - PG&E Law Department, San Francisco
(w/USH.) Mr. Hector Garcia - CNO Support Manager- Diablo Canyon

OFFICE OF LEGAL COUNSEL • ROBERT R. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY • CA • 93940
TELEPHONE (800) 438-6889(831) 647-1044 • FACSIMILE (831) 373-7108 • dcisc@dcisc.org

G.2 - 195

Info@DCISC.org

From: info@dcisc.org
Sent: Friday, November 6, 2020 7:30 AM
To: 'Cochran, Justin@Energy'
Cc: info@dcisc.org
Subject: RE: Article on drones and nuclear power plants

Justin - message received regarding the article on drones which I will provide to our Members and Consultants. Thank you.

Hope everything continues to go well with you and you're keeping well. Looks like we may finally get some rain here today and this weekend on the Central Coast/Salinas area for which, after the recent fires, we're very thankful!

Cordially,

Bob Rathie
(831) 424-3672 (Home)
info@dcisc.org

From: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Sent: Thursday, November 5, 2020 11:23 PM
To: Bob.Rathie@DCISC <info@dcisc.org>
Subject: FW: Article on drones and nuclear power plants

FVI

Best Regards,

Justin Cochran, Ph.D.
Emergency Coordinator & Nuclear Advisor to
Chair David Hochschild
California Energy Commission
1516 Ninth Street, MS-39
Sacramento, CA 95814

Cell: 916-698-2549
Fax: 916-651-3767
justin.cochran@energy.ca.gov

From: Maier, Bill <Bill.Maier@nrc.gov>
Sent: Thursday, November 5, 2020 1:07 PM
To: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>; Earl Fordham <Earl.Fordham@DOH.WA.GOV>;
<Earl.Fordham@DOH.WA.GOV>; Brian Goretzki <bg@ardhs.gov>; Kimberly Steves <kim.steves@ks.gov>;
<kim.steves@ks.gov>; Julia Schmitt <julia.schmitt@nebraska.gov>; Katie Jo Wheeler <KatieJo.Wheeler@dnr.mo.gov>;
<KatieJo.Wheeler@dnr.mo.gov>; Bernard Bevil <Bernard.Bevil@arkansas.gov>; <Bernard.Bevil@arkansas.gov>; 'Bobby

G.2 - 196

Janecka' <Bobby.Janecka@tceq.texas.gov>; Scott Blackwell (richard.blackwell@ia.gov) <richard.blackwell@ia.gov>; Bobby J Smith (bobby.smith@msdh.ms.gov) <bobby.smith@msdh.ms.gov>; Max Woods - ODOE <maxwell.woods@oregon.gov>
Subject: Article on drones and nuclear power plants

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Greetings State Liaison Officers,

I'd like to draw your attention to an article published on a website (called "dronelife", no kidding!) that can be accessed by the weblink below. It discusses a "memo" from the NRC that concluded drones do not constitute a threat to operating nuclear power plants.

I did some digging and asked around within the NRC and found that the "memo" the author cites is probably a notice ("backgrounder") the NRC has recently published on our public website. I have attached a pdf copy of that backgrounder. It contains an additional link to an (UNCLAS) executive summary of a classified analysis report the NRC undertook with Sandia National Lab. That executive summary explains the overall process the NRC and Sandia pursued in reaching the conclusion.

All this is publicly available and can be shared with your state's homeland security or emergency response agencies as you deem appropriate.

<https://dronelife.com/2020/11/03/drones-over-nuclear-power-plants-no-threat-says-regulatory-commission/>

Regards,

Bill

Bill Maier
Regional State Liaison Officer
U. S. Nuclear Regulatory Commission
Region 4 office
1600 E. Lamar Blvd.
Arlington, TX 76011-4511
Office: 817-200-1267
bill.maier@nrc.gov

G.2 - 197

<maxwell.woods@oregon.gov>

Subject: Article on drones and nuclear power plants

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Greetings State Liaison Officers,

I'd like to draw your attention to an article published on a website (called "dronelife", no kidding!) that can be accessed by the weblink below. It discusses a "memo" from the NRC that concluded drones do not constitute a threat to operating nuclear power plants.

I did some digging and asked around within the NRC and found that the "memo" the author cites is probably a notice ("backgrounder") the NRC has recently published on our public website. I have attached a pdf copy of that backgrounder. It contains an additional link to an (UNCLAS) executive summary of a classified analysis report the NRC undertook with Sandia National Lab. That executive summary explains the overall process the NRC and Sandia pursued in reaching the conclusion.

All this is publicly available and can be shared with your state's homeland security or emergency response agencies as you deem appropriate.

<https://dronelife.com/2020/11/03/drones-over-nuclear-power-plants-no-threat-says-regulatory-commission/>

Regards,

Bill

Bill Maier
Regional State Liaison Officer
U. S. Nuclear Regulatory Commission
Region 4 office
1600 E. Lamar Blvd.
Arlington, TX 76011-4511
Office: 817-200-1267
bill.maier@nrc.gov

G.2 - 199

Info@DCISC.org

From: info@dcisc.org
Sent: Friday, November 6, 2020 7:33 AM
To: 'Peter Lam'; 'Robert J. Budnitz'; 'Per Peterson'; 'Ferman Wardell'; 'Rick McWhorter'
Cc: info@dcisc.org
Subject: FW: Article on drones and nuclear power plants
Attachments: UAS Backgrounder ML20300A547.pdf

Members & Consultants - Please see the attached article provided by Justin Cochran concerning the NRC's review of drone activity in the vicinity of nuclear power plants. I have acknowledged receipt and thanked Dr. Cochran.

Best,

Bob R
(831) 424-3672 (home)
info@dcisc.org

From: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Sent: Thursday, November 5, 2020 11:23 PM
To: Bob.Rathie@DCISC <info@dcisc.org>
Subject: FW: Article on drones and nuclear power plants

FYI

Best Regards,

Justin Cochran, Ph.D.
Emergency Coordinator & Nuclear Advisor to
Chair David Hochschild
California Energy Commission
1516 Ninth Street, MS-39
Sacramento, CA 95814

Cell: 916-698-2549
Fax: 916-651-3767
justin.cochran@energy.ca.gov

From: Maier, Bill <Bill.Maier@nrc.gov>
Sent: Thursday, November 5, 2020 1:07 PM
To: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>; Earl Fordham (Earl.Fordham@DOH.WA.GOV) <Earl.Fordham@DOH.WA.GOV>; Brian Goretzki (bg@ardhs.gov) <bg@ardhs.gov>; Kimberly Steves (kim.steves@ks.gov) <kim.steves@ks.gov>; Julia Schmitt (NE HHS) <julia.schmitt@nebraska.gov>; Katie Jo Wheeler (MO DNR) <katie@wheeler.dnr.mo.gov>; Bernard Beville (Bernard.Beville@arkansas.gov) <Bernard.Beville@arkansas.gov>; 'Bobby Janecka' <Bobby.Janecka@tceq.texas.gov>; Scott Blackwell (richard.blackwell@ia.gov) <richard.blackwell@ia.gov>; Bobby J Smith (bobby.smith@msdh.ms.gov) <bobby.smith@msdh.ms.gov>; Max Woods - ODOE

G.2 - 198



Drones and Nuclear Power Plant Security

The increasing availability and popularity of commercial unmanned aerial systems, or drones, have resulted in numerous reports of sightings over critical infrastructure facilities, such as nuclear power plants. While these sightings often make headlines, the Nuclear Regulatory Commission believes there are no risk-significant vulnerabilities at nuclear power plants that could be exploited by adversarial use of currently available commercial drones.

The Federal Aviation Administration issued a Notice to Airmen in 2004 advising private pilots to avoid airspace over nuclear power plants; this notice was later revised to include drone overflights. In late 2019, the nuclear industry began coordinating with the Department of Energy and the FAA to explore the possibility of restricting drone overflights of nuclear power plants.

The NRC asks nuclear power plant licensees to voluntarily report any sightings of drones over their protected areas. The NRC relays this information to state and local authorities, the FAA and the FBI. Nuclear power plant security forces do not have authority to attempt to interdict or shoot down aircraft flying over their facilities. This includes drones.

Technical Analysis

As the frequency of drone sightings at nuclear power plants increased, the NRC initiated a technical analysis with Sandia National Laboratory to gauge the extent of the threat drones pose. That assessment is classified, but an unclassified executive summary was released in October 2019 (ML 19102F402).

The technical analysis concluded that U.S. nuclear power plants do not have any risk-significant vulnerabilities that could be exploited by adversaries using commercially available drones to result in radiological sabotage, theft or diversion of special nuclear material (essentially the reactor fuel). In addition, the study concluded that any information an adversary could glean from overhead surveillance using drones is already accounted for in the NRC's design-basis threat, which assumes adversaries have insider information about the plant and its operations.

October 2020

G.2 - 200

Info@DCISC.org

From: info@dcisc.org
Sent: Friday, November 6, 2020 7:37 AM
To: 'David Weisman'
Cc: 'Rochelle Becker'; 'John Geesman'; info@dcisc.org
Subject: RE: NRC inspections, Diablo, AFW piping and future fact-findings....

David –

This will acknowledge and thank you for your message on behalf of the Alliance concerning inspection of the AFW System piping at DCPD which I have provided to our Members and the Technical Consultants.

Hope all is well with you and that you're continuing to keep well.

Best,

Bob Rathie
(831) 424-3672 (Home)
info@dcisc.org

From: David Weisman <davidjayweisman@gmail.com>
Sent: Thursday, November 5, 2020 2:26 PM
To: DCISC Info <info@dcisc.org>
Cc: Rochelle Becker <rochellea4nr@gmail.com>; John Geesman <John@dicksongeesman.com>
Subject: NRC inspections, Diablo, AFW piping and future fact-findings.....

Dear DCISC:

As you may be aware, topics of interest to the Alliance discussed at your last public meeting include the two incidents regarding the newly replaced stator failures in Unit 2—in July and again in mid-October. As a result of the July failure, the problems in the AFW piping were revealed. While we await PG&E's further reports on the "root cause analysis" we are also equally concerned that such a problem lurked unseen, and it begs the question as to how many similar potential problems lurk beneath other blankets of insulating material.

In the time since your public meeting, the NRC has issued their findings on the July issue, and gave PG&E a "green" non-cited violation for the problems that led to the piping failure.

The finding—which carries no penalty severe enough to coerce PG&E to improve their behavior—was issued because PG&E received warnings from the industry about corrosion events that it failed to incorporate into preventative measures taken at Diablo Canyon. Two separate warnings were not handled properly. Those industry warnings are not publicly available, so we are unable to check whether these are the only two warnings unheeded by PG&E. The DCISC, however, though your fact-findings and other research capabilities, may have access to those and any other earlier warnings. The DCISC, as a new action item, should require that PG&E review all industry warnings over the past decade or so to determine whether these are the only two failures (AFW) or if other failures have eroded safety margins. The results of this review would inform a decision whether continued operation to 2025 is prudent or unduly risky.

G.2 – 201

Thank you for your attention to this matter. We will look forward to your reporting on this at the next public meeting of the DCISC.

Yours truly,
DAVID WEISMAN
Outreach Coordinator

Alliance for Nuclear Responsibility
PO Box 1328
San Luis Obispo, CA 93406
(805) 704-1810 cell
davidayweisman@gmail.com
www.a4nr.org

Info@DCISC.org

From: info@dcisc.org
Sent: Sunday, November 8, 2020 4:39 PM
To: 'Megan Hey'
Cc: 'Robert J. Budnitz'; info@dcisc.org
Subject: RE: Briefing Book Zoom Meeting with DCISC on November 13 at 2 p.m.
Attachments: Briefing Book - November 13 2020 Meeting with Attorney General Representatives & DCISC Vice Chair Dr Robert J. Budnitz.pdf

Meg –

Attached please find the Briefing Book for our meeting this coming Friday. I know Dr. Budnitz joins me in looking forward to discussing these and any other topics you or the other Attorney General's representatives may want to discuss or receive information concerning.

Thanks again for your assistance in setting up this meeting. It is very much appreciated. Please let me know if you should have any questions or require anything further before Friday.

Will you be sending out a Zoom meeting invitation later this week with meeting ID and Password information for the meeting?

Cordially,
Bob Rathie
(831) 424-3672 (home)
info@dcisc.org

From: attys@wellingtonlaw.com <attys@wellingtonlaw.com>
Sent: Friday, October 9, 2020 7:58 AM
To: 'Megan Hey' <Megan.Hey@doj.ca.gov>
Cc: 'Robert J. Budnitz' <budnitz@pacbell.net>; info@dcisc.org
Subject: RE: Zoom Meeting with DCISC on November 13 at 2 p.m.

Meg – Friday the 13th at 2:00 p.m. it is – both Dr. Budnitz and I are confirmed.

Looking forward to speaking with you and the others on that day at that time. We will provide an electronic version of a "briefing book" in time to give folks a chance to review it beforehand.

Best for a great weekend, and thanks as always,

Bob

From: Megan Hey <Megan.Hey@doj.ca.gov>
Sent: Thursday, October 8, 2020 10:04 PM
To: attys@wellingtonlaw.com
Cc: 'Robert J. Budnitz' <budnitz@pacbell.net>; info@dcisc.org
Subject: Re: Request for a Zoom Meeting with the Attorney General's Appointee to the DCISC

G.2 – 203

DCSafety@DCISC.org

From: Ken Thompson <kg2256@gmail.com>
Sent: Monday, November 23, 2020 10:25 AM
To: Bill Crewe; Bob Rathie; Brand, Marti; Brown, Anne; Denise Allen; Jim Hartig; Julia Hartzell; Kirt Collins; Lisa Newton; Liz Guho-Johnson; Margaret Greenough; Martin Suits; Mary El Hansen; Mary Matakovich; Michael Clayton; Sherri Danoff; Steve Benedict; Thompson, Ken; Carol Hayden
Subject: Fwd: November 24, 2020 - Teleconference Meeting with NRC Staff

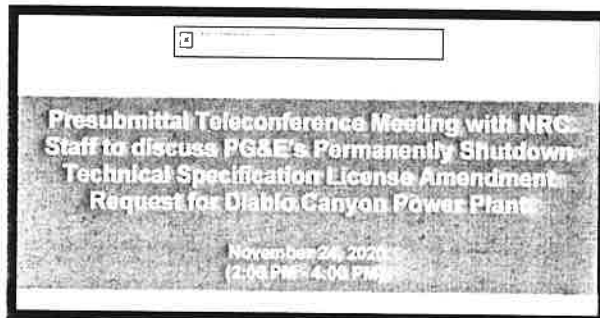
To: AVAC Council Members

Below is information on a meeting between the Diablo Canyon Community Engagement Panel and the NRC Staff about the License Amendments and the Specifications for permanent closure. This meeting will occur tomorrow, Tuesday 11/24 starting at 2:00PM. I hope you will be able to listen in on the conversations which will improve your understanding of what is going to happen over the next few years in our community. Please share this meeting information with your neighbors and friends.

Thanks, Ken

----- Forwarded message -----

From: Diablo Canyon Decommissioning Engagement Panel <facilitator@diablocanyonpanel.org>
Date: Mon, Nov 23, 2020 at 9:49 AM
Subject: November 24, 2020 - Teleconference Meeting with NRC Staff
To: <kg2256@gmail.com>



G.2 – 204

Greetings,

The Engagement Panel wants to make sure you are aware of the subject teleconference between the NRC staff and PG&E on November 24 from 2:00 - 4:00 PM.

The purpose of this teleconference meeting between Pacific Gas and Electric Company (PG&E, the licensee) and the U.S. Nuclear Regulatory Commission (NRC) staff, is to provide information to the NRC staff regarding a proposed license amendment request to revise the Diablo Canyon Nuclear Power Plant, Units 1 and 2 licenses and technical specifications to reflect a permanently defueled condition.

The public is invited to attend the teleconference meeting and will have the opportunity to provide public comment.

[View Meeting Information](#)

[View Meeting Announcement and Agenda](#)

[View PG&E Presentation Slides](#)

About the Diablo Canyon Decommissioning Engagement Panel

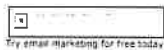
The Engagement Panel is a forum to facilitate the two-way flow of information between local community members and PG&E on matters related to DCCP decommissioning. Since its inception in 2018, the Panel meets regularly to discuss decommissioning topics important to the community such as future use of the facility and lands surrounding the Diablo Canyon Power Plant. Visit the Panel's website at DiabloCanyonPanel.org for information or to submit questions or comments to the Panel.

Diablo Canyon Decommissioning Engagement Panel | 6588 Ontario Rd., San Luis Obispo, CA 93401

[Unsubscribe kqt2256@gmail.com](#)

[Update Profile](#) | [About our service provider](#)

Sent by facilitator@diablocanyonpanel.org powered by



G.2 – 205

1375 East Grand Ave Ste 103 #523
Arroyo Grande, CA 93420-2421
(805) 363 - 4697 cell
Government@CGNP.org email
<http://CGNP.org> website

Subject: [DCPP] RE: Earthquake Hazard Uncertainties Improved Using Precariously Balanced Rocks
Date: 2020-11-22 17:06
From: government@cgnp.org
To: Kamome@humboldt.edu, anna.rood@imperial.ac.uk

Hello, Drs. Dengler and Rood:

Independent nonprofit Californians for Green Nuclear Power, Inc. (CGNP) is very pleased to review your attached trio of articles regarding the innovative use of precariously balanced boulders and geochronologic dating methods based on the concentration of a cosmogenic radionuclide, beryllium-10. Dr. Rood's team established that the probabilistic seismic hazard models overestimate seismic risk near Diablo Canyon Power Plant (DCPP) by 27%.

CGNP recently filed a Federal Energy Regulatory Commission (FERC) Complaint that opened FERC docket EL21-13-000. The objective of our complaint is to maintain the continued safe operation of DCPP beyond 2025. The work by Dr. Rood strengthens our technical claims.

CGNP has attached a copy of our Complaint. Please note the first and second color photographs in our complaint which show SoCalGas's natural gas transmission line 44-1088 being bent by aseismic creep where the line crosses the San Andreas Fault trace in northeast San Luis Obispo County, California. One of our technical appendices, available on request, provides additional details regarding this seismic setting.

We would appreciate your feedback regarding the geologic points we raise in our Complaint.

Thank you again for your reporting and investigations.

Sincerely,

Gene Nelson, Ph.D. CGNP Legal Assistant Californians for Green Nuclear Power, Inc. (CGNP)
1375 East Grand Ave Ste 103 #523
Arroyo Grande, CA 93420-2421
(805) 363 - 4697 cell
Government@CGNP.org email
<http://CGNP.org> website

G.2 – 207

Info@DCISC.org

From: dcsafety@dcisc.org
Sent: Tuesday, November 24, 2020 6:18 PM
To: government@cgnp.org
Cc: 'Info@DCISC.org'
Subject: RE: [DCPP] RE: Earthquake Hazard Uncertainties Improved Using Precariously Balanced Rocks

Dr. Nelson -

This is to acknowledge receipt and to thank you for your email with the attached communications which I will, of course, provide to our Members and Technical Consultants for their information.

Thank you once again for your interest in the Diablo Canyon Independent Safety Committee and its activities and for providing this information.

Best regards,

Bob Rathie
DCISC Asst. Legal Counsel
info@dcisc.org

-----Original Message-----

From: government@cgnp.org <government@cgnp.org>
Sent: Sunday, November 22, 2020 3:16 PM
To: dcsafety@dcisc.org
Subject: [DCPP] RE: Earthquake Hazard Uncertainties Improved Using Precariously Balanced Rocks

Diablo Canyon Independent Safety Committee Office of the Legal Counsel
857 Cass Street, Suite D
Monterey, California 93940
Telephone:
In California call 800-439-4688
Outside of California call 831-647-1044
Send E-mail to: dcsafety@dcisc.org

Dear DCISC. Here is a message to Drs. Dengler and Rood that we are requesting be included in the communication record for the DCISC. The summary is the current probabilistic models overestimate seismic risk by 27% in the vicinity of Diablo Canyon Power Plant.

CGNP has also attached a copy of its FERC Complaint that opened FERC docket EL21-13-000.

Thank you.

Gene Nelson, Ph.D. CGNP Legal Assistant Californians for Green Nuclear Power, Inc. (CGNP)

G.2 – 206

Info@DCISC.org

From: dcsafety@dcisc.org
Sent: Tuesday, November 24, 2020 6:23 PM
To: 'Peter Lam'; 'Robert J. Budnitz'; 'Per Peterson'; 'Ferman Wardell'; 'Rick McWhorter'
Cc: 'Info@DCISC.org'
Subject: FW: From Californians for Green Nuclear Power - Earthquake Hazard Uncertainties Improved Using Precariously Balanced Rocks & CGNP FERC Complaint
Attachments: DCPP Earthquake Risk Lower than Anticipated%20-%20Dengler%2011%2021%2020.pdf; Ready-to-roll rocks improve seismic hazard models 11 10 20.pdf; Earthquake Hazard Uncertainties Improved Using%20Precariously%20Balanced%20Rocks%2007%2020%2020.pdf; CGNP FERC Complaint Final.pdf

Members & Consultants -

Received the email below yesterday afternoon from Dr. Nelson with the attachments regarding seismic assessment at DCPP and a complaint filed with the FERC regarding the removal of DCPP's 2,240 MW from the California electric grid.

I have responded to Dr. Nelson, acknowledged receipt and thanked him for the communication.

Best to everyone this Thanksgiving week,

Bob R
(831) 424-3672 (home)
info@dcisc.org

-----Original Message-----

From: government@cgnp.org <government@cgnp.org>
Sent: Sunday, November 22, 2020 3:16 PM
To: dcsafety@dcisc.org
Subject: [DCPP] RE: Earthquake Hazard Uncertainties Improved Using Precariously Balanced Rocks

Diablo Canyon Independent Safety Committee Office of the Legal Counsel
857 Cass Street, Suite D
Monterey, California 93940
Telephone:
In California call 800-439-4688
Outside of California call 831-647-1044
Send E-mail to: dcsafety@dcisc.org

Dear DCISC. Here is a message to Drs. Dengler and Rood that we are requesting be included in the communication record for the DCISC. The summary is the current probabilistic models overestimate seismic risk by 27% in the vicinity of Diablo Canyon Power Plant.

CGNP has also attached a copy of its FERC Complaint that opened FERC docket EL21-13-000.

G.2 – 208

Thank you.

Gene Nelson, Ph.D. CGNP Legal Assistant Californians for Green Nuclear Power, Inc. (CGNP)
1375 East Grand Ave Ste 103 #523
Arroyo Grande, CA 93420-2421
(805) 363 - 4697 cell
Government@CGNP.org email
http://CGNP.org website

Subject: [DCPP] RE: Earthquake Hazard Uncertainties Improved Using Precariously Balanced Rocks
Date: 2020-11-22 17:06
From: government@cgnp.org
To: Kamome@humboldt.edu, anna.rood@imperial.ac.uk

ENTIRE REPORT AVAILABLE THROUGH THE OFFICE OF THE DCISC LEGAL COUNSEL

Hello, Drs. Dengler and Rood:

Independent nonprofit Californians for Green Nuclear Power, Inc. (CGNP) is very pleased to review your attached trio of articles regarding the innovative use of precariously balanced boulders and geochronologic dating methods based on the concentration of a cosmogenic radionuclide, beryllium-10. Dr. Rood's team established that the probabilistic seismic hazard models overestimate seismic risk near Diablo Canyon Power Plant (DCPP) by 27%.

CGNP recently filed a Federal Energy Regulatory Commission (FERC) Complaint that opened FERC docket EL21-13-000. The objective of our complaint is to maintain the continued safe operation of DCPP beyond 2025. The work by Dr. Rood strengthens our technical claims.

CGNP has attached a copy of our Complaint. Please note the first and second color photographs in our complaint which show SoCalGas's natural gas transmission line 44-1088 being bent by aseismic creep where the line crosses the San Andreas Fault trace in northeast San Luis Obispo County, California. One of our technical appendices, available on request, provides additional details regarding this seismic setting.

We would appreciate your feedback regarding the geologic points we raise in our Complaint.

Thank you again for your reporting and investigations.

Sincerely,

Gene Nelson, Ph.D. CGNP Legal Assistant Californians for Green Nuclear Power, Inc. (CGNP)
1375 East Grand Ave Ste 103 #523
Arroyo Grande, CA 93420-2421
(805) 363 - 4697 cell

G.2 – 209

G.2 – 210

Info@DCISC.org

From: info@dcisc.org
Sent: Tuesday, November 24, 2020 6:32 PM
To: 'Peter Lam'; 'Robert J. Budnitz'; 'Per Peterson'; 'Ferman Wardell'; 'Rick McWhorter'
Cc: info@dcisc.org
Subject: FW: Service List I.15-08-019: President Batjer Letter to PG&E Interim CEO Smith
Attachments: PGE Letter - President Batjer November 24 2020.pdf

Members & Consultants:

Attached FYI is a letter from President Batjer concerning a CPUC fact-finding opened to determine whether PG&E should be placed in enhanced oversight and enforcement process due to possible defects in PG&E's vegetation management/wildfire suppression programs.

I've also included a link regarding the appointment of the present CEO of CMS Energy Corp, Patricia Poppe, as the new CEO at PG&E-Utility.

<https://www.sfgate.com/news/bayarea/article/PG-E-Corp-Announces-Newly-Appointed-Ceo-15736464.php#:~:text=PG%26E%20Corp.%20announced%20Tuesday%20that,in%20June%20of%20this%20year>

Bob R

From: Diaz-Torres, Belen <Belen.Diaz-Torres@cpuc.ca.gov>
Sent: Tuesday, November 24, 2020 4:17 PM
To: 'CSkelding@Reorg.com'; 'CSkelding@Reorg.com'; 'JCrozier@LuminusMgmt.com'; 'JCrozier@LuminusMgmt.com'; 'Edwin@Newtyn.com'; 'Edwin@Newtyn.com'; 'Gregory.Reiss@CentenusLP.com'; 'Gregory.Reiss@CentenusLP.com'; 'Jamieson.Ward@centenuslp.com'; 'Jamieson.Ward@centenuslp.com'; 'cpuc@DuceraPartners.com'; 'cpuc@DuceraPartners.com'; 'Jeremiah.booream@baml.com'; 'jeremiah.booream@baml.com'; 'utilitydockets@gmail.com'; 'utilitydockets@gmail.com'; 'Kobus@DEShaw.com'; 'Kobus@DEShaw.com'; 'Josephine.moore@baml.com'; 'josephine.moore@baml.com'; 'Julien.Dumoulin-Smith@baml.com'; 'Julien.Dumoulin-Smith@baml.com'; 'Ivana@Nexus-cap.com'; 'Ivana@Nexus-cap.com'; 'AM@MadisonAvelp.com'; 'AM@MadisonAvelp.com'; 'JCBeh@JonesDay.com'; 'JCBeh@JonesDay.com'; 'JLSalazar@SoCalGas.com'; 'JLSalazar@SoCalGas.com'; 'MHowseplan@SempraUtilities.com'; 'MHowseplan@SempraUtilities.com'; 'RDiaz@SempraUtilities.com'; 'RDiaz@SempraUtilities.com'; 'SArizi@SempraUtilities.com'; 'SArizi@SempraUtilities.com'; 'SHrubby@SempraUtilities.com'; 'SHrubby@SempraUtilities.com'; 'TOConnor@edf.org'; 'TOConnor@edf.org'; 'Steven.Greco@NextEraEnergy.com'; 'Steven.Greco@NextEraEnergy.com'; 'Jason.Cox@EDFenergyServices.com'; 'Jason.Cox@EDFenergyServices.com'; 'mark@alphainception.com'; 'mark@alphainception.com'; 'Tracy.C.Davis@NextEraEnergy.com'; 'Tracy.C.Davis@NextEraEnergy.com'; 'CPUCdockets@eq-research.com'; 'CPUCdockets@eq-research.com'; 'BTheaker@mrpgenco.com'; 'BTheaker@mrpgenco.com'; 'Mona.Tierney-Lloyd@Enel.com'; 'Mona.Tierney-Lloyd@Enel.com'; 'RVanDertLeeden@SempraUtilities.com'; 'RVanDertLeeden@SempraUtilities.com'; 'DALcala@SoCalGas.com'; 'DALcala@SoCalGas.com'; 'JLSalazar@SoCalGas.com'; 'JLSalazar@SoCalGas.com'; 'MHowseplan@SempraUtilities.com'; 'MHowseplan@SempraUtilities.com'; 'RDiaz@SempraUtilities.com'; 'RDiaz@SempraUtilities.com'; 'SArizi@SempraUtilities.com'; 'SArizi@SempraUtilities.com'; 'SHrubby@SempraUtilities.com'; 'SHrubby@SempraUtilities.com'; 'TOConnor@edf.org'; 'TOConnor@edf.org';

'YMejia@SempraUtilities.com'; 'YMejia@SempraUtilities.com'; 'Giovanni.SaarmanGonzalez@mto.com'; 'Giovanni.SaarmanGonzalez@mto.com'; 'Henry.Weissmann@MTO.com'; 'Henry.Weissmann@MTO.com'; 'James.rutten@mto.com'; 'James.rutten@mto.com'; 'Johnston@JonesDay.com'; 'Johnston@JonesDay.com'; 'case.admin@sce.com'; 'case.admin@sce.com'; 'Fadia.Khoury@sce.com'; 'Fadia.Khoury@sce.com'; 'sarah.lee@sce.com'; 'sarah.lee@sce.com'; 'JW Mitchell@MBarTek.com'; 'JW Mitchell@MBarTek.com'; 'Ty@TosdalAPC.com'; 'Ty@TosdalAPC.com'; 'DCheng@TURN.org'; 'DCheng@TURN.org'; 'Marcie.Milner@Shell.com'; 'Marcie.Milner@Shell.com'; 'CLyons@sdcg.com'; 'CLyons@sdcg.com'; 'KRaagas@sdcg.com'; 'KRaagas@sdcg.com'; 'SNelson@SempraUtilities.com'; 'SNelson@SempraUtilities.com'; 'PPearson@3CE.org'; 'PPearson@3CE.org'; 'skeehe@mbcommunitypower.org'; 'skeehe@mbcommunitypower.org'; 'info@DCISC.org'; 'info@DCISC.org'; 'JWaeln@PeninsulaCleanEnergy.com'; 'JWaeln@PeninsulaCleanEnergy.com'; 'imandelbaum@smc.gov.org'; 'imandelbaum@smc.gov.org'; 'mdjoseph@adamsbroadwell.com'; 'mdjoseph@adamsbroadwell.com'; 'MBuckner@AdamsBroadwell.com'; 'MBuckner@AdamsBroadwell.com'; 'Hilary.staver@SVCleanEnergy.org'; 'Hilary.staver@SVCleanEnergy.org'; 'danette.valdez@doj.ca.gov'; 'danette.valdez@doj.ca.gov'; 'RNakason@SFwater.org'; 'RNakason@SFwater.org'; 'Laura.Genao@sce.com'; 'Laura.Genao@sce.com'; 'MRamirez@SFwater.org'; 'MRamirez@SFwater.org'; 'theresa.mueller@SFcityAtty.org'; 'theresa.mueller@SFcityAtty.org'; 'candace.morey@cpuc.ca.gov'; 'candace.morey@cpuc.ca.gov'; 'Fogel, Cathleen A. <cathleen.fogel@cpuc.ca.gov>; Lambert, Christian <Christian.Lambert@cpuc.ca.gov>; Lee, Diana <diana.lee@cpuc.ca.gov>; Burton, Henry <Henry.Burton@cpuc.ca.gov>; Ormond, Jamie <Jamie.Ormond@cpuc.ca.gov>; Jp8@cpuc.ca.gov'; 'Jp8@cpuc.ca.gov'; Divina, Marianne <Marianne.Divina@cpuc.ca.gov>; Poon, Nathan <Nathan.Poon@cpuc.ca.gov>; DeAngelis, Regina <regina.deangelis@cpuc.ca.gov>; Simon, Sean A. <sean.simon@cpuc.ca.gov>; O'Rourke, Shannon <Shannon.O'Rourke@cpuc.ca.gov>

Subject: Service List I.15-08-019: President Batjer Letter to PG&E Interim CEO Smith

Parties to I.15-08-019:

Attached please find a letter from President Batjer to PG&E Interim CEO William L. Smith.

Please note that due to the size of the service lists, this letter is being served in separate installments to reach all service list recipients.

Thank you,

Belen Diaz-Torres

Belen Diaz-Torres
Office of President Marybel Batjer
California Public Utilities Commission
(916) 894-5841
bd@cpuc.ca.gov

G.2 – 211

G.2 – 212



PUBLIC UTILITIES COMMISSION
STATE OF CALIFORNIA

MARYBEL BATJER
PRESIDENT

TEL: (916) 823-4840
WWW.CPUC.CA.GOV

November 24, 2020

Via Email

Mr. William L. Smith
Interim Chief Executive Officer
Pacific Gas and Electric Company
77 Beale Street
San Francisco, CA 94105

Mr. Smith:

As you are aware, as a condition of approval of Pacific Gas and Electric Company's (PG&E) plan of reorganization, the California Public Utilities Commission (CPUC) instituted a six-step enhanced oversight and enforcement process to ensure PG&E is held accountable for delivering on its safety responsibilities. By this letter, I am writing to inform you that I have directed CPUC staff to conduct fact-finding to determine whether a recommendation to place PG&E into the enhanced oversight and enforcement process is warranted. These fact-finding activities are well underway and are being undertaken expeditiously.

My concerns arose from what appears to be a pattern of vegetation and asset management deficiencies that implicate PG&E's ability to provide safe, reliable service to customers. Specifically, Wildfire Safety Division Staff has identified a volume and rate of defects in PG&E's vegetation management that is notably higher than those observed for the other utilities. In addition, CPUC staff are reviewing recent filings made by PG&E in its federal criminal proceeding regarding deficiencies and inconsistencies in its vegetation management practices and recordkeeping.

The CPUC has been intensely focused on progress by PG&E in its wildfire mitigation activities this past year. We will require remediation on specific issues identified in PG&E's Wildfire Mitigation Plan progress reports. That work will continue, and I have requested staff to further consider whether a pattern of deficiencies in the company's safety program supports a recommendation to place PG&E into the enhanced oversight and enforcement process.

I also note that a CPUC order to place PG&E into the process does not replace or limit CPUC enforcement authority, including authority to issue Orders to Show Cause and Orders Instituting Investigations and to impose fines and penalties.

At the same time, the Wildfire Safety Division is completing its review of PG&E's request for issuance of a safety certification, pursuant to the requirements of Assembly Bill 1054. The requirements an electric utility must meet to earn a safety certificate are important and provide a critical snapshot of compliance with prior safety culture recommendations and implementation of PG&E's approved Wildfire Mitigation Plan. However, the safety certification is separate from the CPUC's enforcement authority and does not preclude the CPUC from pursuing remedies for past conduct. In particular, the enhanced oversight and enforcement process mentioned above is unique to PG&E because of its failed record in safety, and it is not tied to the statutory requirements for the issuance of a wildfire safety certification.

In short, CPUC staff and I plan to hold PG&E accountable, in real time to fulfill its safety responsibilities, independent and parallel to any other regulatory or judicial process.

The CPUC continues to make customer safety a top priority and expects leadership from PG&E to execute on its safety responsibilities. When PG&E is unable to do this on its own, we have used, and will continue to use, the tools and authority at our disposal to hold PG&E accountable for these responsibilities.

Sincerely,

Marybel Batjer, President
California Public Utilities Commission

Cc:
Service Lists of 1.15-08-019, R.18-12-005 and R.18-10-007

2

G.2 - 213

G.2 - 214



William L. Smith
Interim CEO and President

77 Beale Street
32nd Floor
San Francisco, CA 94105

November 25, 2020

Marybel Batjer, President
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Dear President Batjer:

I am writing in response to your letter dated November 24, 2020.

I would like to take this opportunity to address the points you raise and to affirm to you that we take seriously the privilege we have of serving and protecting our customers, communities, and employees. That is our most important responsibility. It is our focus every day. We know we always have room to improve and do more. And we are committed to doing it the right way.

We fully recognize your authority and will continue to work tirelessly to meet your expectations. Both the PG&E employees and leadership will continue to work closely with you and your staff to assure we continuously make the system safer.

In 2020, we have made substantial operational and safety improvements and we are continuing to make significant progress on our 2020 Wildfire Mitigation Plan, on which we are submitting quarterly reports to the Wildfire Safety Division (WSD) of the California Public Utilities Commission (CPUC).

We appreciate WSD's focus on assessing our wildfire mitigation work. We are reviewing the issues that WSD raised and we will continue to engage with the WSD in the coming days to discuss them in detail. Based on our review, many of the issues were previously identified by PG&E's inspection processes and have already been prioritized for remediation in accordance with existing CPUC maintenance protocols. We look forward to further engaging with WSD to better understand their perspective on the identified issues, as well as how we can improve working together toward our shared goal of keeping our customers and communities safe.

We are in regular, ongoing contact with WSD leadership and staff regarding our work to further reduce the growing risk of wildfires in our service area as well as our progress on our 2020 Wildfire Mitigation Plan. We are also in regular contact with the CPUC's Safety and Enforcement Division (SED) and Safety Policy Division (SPD) leadership and staff. We will incorporate the feedback we receive from WSD, SED, SPD and other stakeholders into our 2021 Wildfire Mitigation Plan.

President Marybel Batjer
November 25, 2020
Page 2

Again, I want to assure you, the rest of the CPUC, our customers, and the public that we are working hard every day to further reduce wildfire risk on our system. We are committed to evaluating, evolving, refining, and continuously improving our approaches to make California a better and safer place.

Regards,

William L. Smith
Interim CEO and President
PG&E Corporation

G.2 - 215

G.2 - 216

Decision _____

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company for Authorization to Establish the Diablo Canyon Decommissioning Planning Cost Memorandum Account (U39E).

Application 18-07-013

And Related Matter.

Application 18-12-008

ORDER EXTENDING STATUTORY DEADLINE**Summary**

This decision extends the statutory deadline in these proceedings until March 13, 2021.

1. Background

Pub. Util. Code § 1701.5(a) provides that ratesetting cases must be resolved within 18 months after initiation unless the Commission makes a written determination that the deadline cannot be met, including findings as to the reason, and issues an order extending that deadline. In these proceedings, the 18-month deadline for resolution was August 15, 2020. On August 6, 2020, the Commission issued Decision (D.) 20-08-019 which extended the statutory deadline of these proceedings to December 13, 2020.

On July 16, 2018, Pacific Gas and Electric Company (PG&E) filed Application (A.) 18-07-013 to establish the Diablo Canyon Decommissioning Planning Cost Memorandum Account. On August 15, 2018, The Utility Reform Network filed a protest and on August 27, 2018, PG&E filed its reply.

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- 1 -

G.2 – 217

A Prehearing Conference (PHC) was held on September 7, 2018, to discuss the issues of law and fact, to determine the need for hearing, and to set the schedule to resolve this matter. On October 11, 2018, the assigned Commissioner issued a scoping memo and ruling for this proceeding.

On December 13, 2018, PG&E filed A.18-12-008 in the 2018 Nuclear Decommissioning Cost Triennial Proceeding. On March 7, 2019, PG&E filed a motion to consolidate A.18-07-013 with A.18-12-008. An amended scoping memo was issued on March 7, 2019 consolidating the proceedings, including additional concerns raised by Mothers for Peace and Alex S. Karlin, and modifying the schedule.

Public Participation Hearings were held on August 7-8, 2019. Evidentiary Hearings were held from September 23, 2019 through September 25, 2019.

On January 10, 2020, a Joint Motion for Adoption of a Settlement Agreement (Joint Settlement Agreement) was filed by The Utility Reform Network, Public Advocates Office at the California Public Utilities Commission, Alliance for Nuclear Responsibility, County of San Luis Obispo, Women's Energy Matters, yak tityu tityu yak tilhini Northern Chumash Cultural Preservation Kinship and PG&E.

The assigned Administrative Law Judge (ALJ) is reviewing the terms and conditions of the Joint Settlement Agreement. Therefore, an extension of the statutory deadline until March 13, 2021 is necessary to publish a proposed decision, to review comments on the proposed decision, and to allow the Commission sufficient time to deliberate and to issue its final decision.

- 2 -

G.2 – 218

2. Waiver of Comment Period

Under Rule 14.6(c)(4) of the Rules of Practice and Procedure, the Commission may waive the otherwise applicable 30-day period for public review and comment on a decision that extends the 18-month deadline set forth in Pub. Util. Code § 1701.5(a). Under the circumstances of this case, it is appropriate to waive the 30-day period for public review and comment.

3. Assignment of Proceeding

Marybel Batjer is the assigned Commissioner and Robert W. Haga is the assigned Administrative Law Judge in these proceedings.

Findings of Fact

1. PG&E filed A.18-07-013 on July 16, 2018 and A.18-12-008 on December 13, 2018.
2. A PHC was held on September 7, 2018.
3. On October 11, 2018, the scoping memo and ruling was issued and on March 7, 2019 an amended scoping memo was issued consolidating the proceedings, including additional concerns raised by Mothers for Peace and Alex S. Karlin, and modifying the schedule.
4. Public Participation Hearings were held on August 7-8, 2019.
5. Evidentiary Hearings were held from September 23, 2019 through September 25, 2019.
6. The statutory deadline for resolving these ratesetting proceedings is December 13, 2020.
7. An extension of the statutory deadline until March 13, 2021 is necessary to allow sufficient time to publish the proposed decision on the Joint Settlement

- 3 -

G.2 – 219

Agreement, review comments received on the proposed decision and allow the Commission enough time to deliberate and to issue its final decision.

Conclusion of Law

Pursuant to the authority granted to the Commission under Pub. Util. Code § 1701.5(a), the statutory deadline should be extended to March 13, 2021.

IT IS ORDERED that the statutory deadline for completion of these proceedings is extended until March 13, 2021.

This order is effective today.

Dated _____, at San Francisco, California.

- 4 -

G.2 – 220

Info@DCISC.org

From: Garcia, Hector M. <HMG4@pge.com>
Sent: Wednesday, December 2, 2020 7:36 PM
To: info@dcisc.org; Baldwin, Thomas; 'Per Peterson'; 'Bob Budnitz'; 'Peter Lam'; 'Rick McWhorter'; 'Ferman Wardell'
Subject: Fwd: Update on Status of Unit 2 - 2G22

DCISC,

Please see communication below from Paula on Status of Unit 2.

Regards
Hector

From: A Message from Paula Gerfen <AMessagefromPaulaGerfen@pge.com>
Sent: Wednesday, December 2, 2020 7:23 PM
To: DCPD *NPG Nuclear Power Generation Business Unit
Subject: Update on Status of Unit 2 - 2G22



A Message from Paula Gerfen

Vice President of Nuclear Generation

DCPD Team,

Today, Operations initiated a shutdown of Unit 2 to Mode 3 to allow for additional maintenance on the main electrical generator. We returned Unit 2 to service last week understanding the potential that we might have to take the unit back offline for additional work.

Similar to what we observed before, we detected an issue with the main electrical generator hydrogen cooling system. As in previous circumstances, our investigations and repairs can't be performed while the unit is online. The schedule for this outage is currently being developed, and our team will be working with the vendor and others to conduct inspections on the generator and determine our path forward.

We have communicated with our NRC Resident Inspectors regarding this 2G22 outage. As with 2Y22 and 2Z22, this is not a nuclear safety issue and there are no impacts to the health and safety of our workforce or the community as a result of this outage. We are continuing to work closely with a team of specialists from Siemens and the industry on this issue, and we will keep you updated as we safely and methodically plan, prepare and execute our next actions.

G.2 – 221

Info@DCISC.org

From: info@dcisc.org
Sent: Friday, December 4, 2020 5:03 PM
To: 'David Weisman'
Cc: budnitz@pacbell.net; peterson@nuc.berkeley.edu; peterlam1@aol.com; 'Per Peterson'; 'Ferman Wardell'; 'Rick McWhorter'; info@dcisc.org
Subject: RE: Diablo Canyon Unit 2 stator fails again shortly after restart

David –

Yes, the Committee was timely informed by PG&E of the latest U-2 unplanned shutdown and will be making inquiries and reporting on the issues at the appropriate times.

Thanks for keeping is "in the loop" and for the California Current article.

Hope you and your colleagues at A4NR are all also keeping well during this pandemic, we're apparently coming up on some very crucial times.

Best regards,

Cordially

Bob
(831) 424-3672 (home)
info@dcisc.org

From: David Weisman <davidjayweisman@gmail.com>
Sent: Friday, December 4, 2020 3:40 PM
To: DCISC Info <info@dcisc.org>
Cc: budnitz@pacbell.net; peterson@nuc.berkeley.edu; peterlam1@aol.com
Subject: Diablo Canyon Unit 2 stator fails again shortly after restart

Dear Bob and DCISC members,

Not sure if you are all aware of this (see story below). We believe this aborted restart, and the scenario that led to it, deserves increased scrutiny considering that PG&E's post-bankruptcy emphasis on placing "safety above all else" seems to be failing.

PG&E stated in its GRC application that replacing the stator was needed to mitigate the increased risk of a hydrogen fire/explosion in the generator. Was this most recent restart attempt premature? What policies and procedures were in place, or need to be in place to prevent a worst-case scenario?

Thank you for your attention to this matter.

Hoping you are all remaining well and healthy through this pandemic,

Yours truly,

G.2 – 223

We knew that we would potentially have to take Unit 2 offline again to make further repairs. We must continue to remain focused on flawlessly executing the job at hand, and taking the time we need to ensure the continued reliable operations of Unit 2.

We can do this.

Paula

G.2 – 222

DAVID WEISMAN
www.a4nr.org



Diablo Canyon Unit Down Again

3 Dec 2020

One of two main units at the Diablo Canyon Nuclear Power Plant is down for the third time. Soon after Unit 2 was restarted over the Thanksgiving weekend after a month-and-a-half long outage, Pacific Gas & Electric again had to take it offline. The problem continues to be with an electric generator component that was rebuilt last year.

"Operators have previously taken the unit offline twice this year to allow for needed maintenance on this component, which had been refurbished in 2019 and is located on the non-nuclear side of Unit 2," PG&E stated the evening of Dec. 2.

After the 1,150 MW Unit 2 went back online on Sunday, Nov. 29, the Alliance for Nuclear Responsibility questioned whether the second repair of a key electric generation component, known as a stator, would be lasting, or was a mere band-aid.

"Two days later, PG&E has apparently attempted to hose the stator down and its soggy band-aid sits on the floor in the shower," David Weisman, Alliance spokesperson, told *Current*.

Ratepayers paid \$100 million for the stator replacement.

What is the cause of the hydrogen leak, who pays for the repair, and whether there are plans for special monitoring to catch subsequent leaks, are among the Alliance's questions.

PG&E did not respond to *Current's* requests for answers to those queries.

Alliance's request for ratepayer refund denied

The Alliance challenged PG&E's request for full rate recovery of the replaced stator but was unsuccessful. On Thursday, state regulators approved raising PG&E revenue this year to \$9.1 billion. Its decision included denying the organization's recent request to return \$12.5 million of the \$100 million rebuild tab to ratepayers, though the commissioners may not have been aware of the third Unit 2 outage.

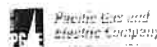
Diablo's other operating unit, which was shut down for planned maintenance and refueling starting Oct. 3, resumed sending power to the grid Nov. 9.

The entire 2,100 MW nuclear plant was offline when the grid operator called for conservation on Oct. 15 because of spiking temperatures.

G.2 – 224

The Alliance has argued that electricity from Diablo has been significantly more expensive than other sources the last three years. It recently told the CPUC that in 2018, consumers paid \$410 million extra for this above-market power, and that amount soared to nearly \$1.3 billion this year. It estimated that ratepayers will have paid \$5-6 billion in higher electricity costs by the time the two nuclear units are retired in 2025.

—Elizabeth McCarthy



James M. Welsch
Senior Vice President
Generation and
Chief Nuclear Officer

Diablo Canyon Power Pla
P.O. Box 98
Avila Beach, CA 93424
805.545.3342
E-Mail: jmw@pg&e.com

December 7, 2020

PG&E Letter ISC-20-001

Dr. Peter Lam
c/o The Diablo Canyon Independent Safety Committee
857 Cass Street, Suite D
Monterey, CA 93940

Response to the Diablo Canyon Independent Safety Committee Thirtieth Annual Report on the Safety of Diablo Canyon Power Plant Operations - July 1, 2019, to June 30, 2020

Dear Dr. Lam:

On November 2, 2020, Pacific Gas and Electric Company (PG&E) received the Diablo Canyon Independent Safety Committee's (DCISC) Thirtieth Annual Report on the Safety of Diablo Canyon Operations for the period of July 1, 2019, to June 30, 2020.

Your report concludes that PG&E continues to operate Diablo Canyon Power Plant (DCPP) safely and includes one recommendation for PG&E during this report period.

The recommendation is to consider the risks arising from spent fuel management as one part of the PG&E decision process and that process should be informed by the conclusions contained in the study entitled "Probabilistic Risk Assessment of Nuclear Power Plant Spent Fuel Handling and Storage Programs: Methodology and Application to the Diablo Canyon Power Plant (The B. John Garrick Institute for the Risk Sciences, GIRS-2020-3/L)."

We agree with the recommendation and will incorporate it into our decision process on spent fuel management at the plant.

As you are aware, operating the plant conservatively to protect public health and safety is our highest priority, and we will continue to ensure that we fulfill this commitment.

We welcome the DCISC independent review and oversight, which contributes to the continued safe operation of DCPP.

G.2 – 225

G.2 – 226

Dr. Peter Lam
December 7, 2020
Page 2

PG&E Letter ISC-20-001

Sincerely,

James M. Welsch
Senior Vice President, Generation and Chief Nuclear Officer

cc: Dr. Robert J. Budnitz
Dr. Peter Lam
Dr. Par F. Peterson
Richard McWhorter
Robert W. Rathle
Ferman Wardell
Robert R. Wellington
Thomas Baldwin



ATTENTION: Diablo Canyon Decommissioning Engagement Panel – 12/11/20, Update 21

WHAT: Operational Update

WHEN: December 11, 2020

Operational Update

- As previously communicated, Diablo Canyon operators removed Unit 2 from service on December 2 to allow for additional maintenance on the main electrical generator.
- This is not a nuclear safety issue and there is no impact to the health and safety of the public. The Unit 2 main generator is located on the non-nuclear side of the plant.
- Operators had previously taken the unit offline twice this year to allow for needed maintenance of the Unit 2 main generator, which was refurbished in 2019.
- Similar to what we observed before, we detected a hydrogen leak on the main electrical generator (again, on the non-nuclear side). We use hydrogen for cooling inside this component.
- When the unit was offline in October-November, we conducted in-depth inspections with the manufacturer, Siemens, and other industry experts and determined we were experiencing issues caused by vibrations when the generator is operating.
- These vibrations led us to make some repairs and we made further adjustments to address the vibrations. The unit returned to service in late November with the understanding that there existed the potential to take the unit offline again for additional inspections, refinements and maintenance.
- The two units at DCPP operate independently. As in previous circumstances, our investigations and repairs can't be performed while the unit is online. Unit 1 is currently operating at full power.

Next Steps?

- We are currently focused on analyzing recent operational performance data and conducting in-depth inspections with Siemens and industry experts.
- We are also working with them to determine additional corrective action options to address this issue, which will inform our path forward in bringing the unit back online.

G.2 – 227

G.2 – 228

- The schedule for this outage is currently being developed, and we will keep you updated as we safely and methodically plan, prepare and execute our next actions.

Contact us

If you have questions or would like to discuss this update in greater detail, please call Tom Jones at 805-459-4530 or email tom.jones@pge.com.

Thank you,

G.2 – 229

To: Bill Crewe <wscrawe@charter.net>; Bob Rathie <dcisafet@dcisc.org>; Brand, Marti <marti.brand@icloud.com>; Brown, Anne <annemb@sbcglobal.net>; Denise Allen <dchristyallen@gmail.com>; Jim Hartig <jimhartig@gmail.com>; Julia Hartzell <julhartz@aol.com>; Kirt Collins <kirt.katiecollins@gmail.com>; Lisa Newton <lisanewton711@gmail.com>; Liz Guho-Johnson <guhojo@gmail.com>; Margaret Greenough <mgreenough2010@gmail.com>; Martin Suits <msuits7793@att.net>; Mary El Hansen <meh1@charter.net>; Mary Matakovich <mmatakovavila@gmail.com>; Michael Clayton <clayton1m@charter.net>; Sherri Danoff <sherri39@charter.net>; Steve Benedict <stevebenedict@charter.net>; Thompson, Ken <kgt2256@gmail.com>; Carol Hayden <CarolSLBE@gmail.com>
Cc: Daniels, Eric <EADH@pge.com>
Subject: Diablo Canyon - Unit 2 Removed from Service

*****CAUTION: This email was sent from an EXTERNAL source. Think before clicking links or opening attachments.*****

The following message and attachment are from our Sherri Danoff who is also on the Diablo Canyon Decommissioning Engagement Panel.

From Sherri "I think AVAC members would be interested in this update from PG&E about one of the two Diablo units which continues to be offline."

Maybe Eric could give us an update during his presentation this Monday evening.
Ken

G.2 – 231

Info@DCISC.org

From: dcisafet@dcisc.org
Sent: Sunday, December 13, 2020 6:03 PM
To: 'Peter Lam'; 'Bob Budnitz'; PER PETERSON; 'Ferman Wardell'; 'Rick McWhorter'
Cc: info@dcisc.org
Subject: FW: Diablo Canyon - Unit 2 Removed from Service

Members & Consultants --

Following is short email exchange between Ken Thompson of the Avila Valley Advisory Council and PG&E's Eric Daniels concerning a presentation to be made by Mr. Daniels on Unit 2's current outage at the AVAC's next meeting. The AVILA Valley Advisory Council is scheduled to meet tomorrow evening, Monday, December 14 from 7:00 to 9:00 p.m. via Zoom. If anyone is interested in attending remotely, I can contact Mr. Thompson and try to obtain a Zoom meeting ID and Password.

Ken Thompson frequently communicates with me concerning the dates and times for our DCISC public meetings and keeps the AVAC members well informed on DCCP-related matters.

Let me know if I should obtain the Zoom information,

Best regards,

Bob R
(831) 424-3672 (home)
info@dcisc.org
s

From: Daniels, Eric <EADH@pge.com>
Sent: Sunday, December 13, 2020 11:56 AM
To: Ken Thompson <kgt2256@gmail.com>; Bill Crewe <wscrawe@charter.net>; Bob Rathie <dcisafet@dcisc.org>; Brand, Marti <marti.brand@icloud.com>; Brown, Anne <annemb@sbcglobal.net>; Denise Allen <dchristyallen@gmail.com>; Jim Hartig <jimhartig@gmail.com>; Julia Hartzell <julhartz@aol.com>; Kirt Collins <kirt.katiecollins@gmail.com>; Jim Hartig <jimhartig@gmail.com>; Lisa Newton <lisanewton711@gmail.com>; Liz Guho-Johnson <guhojo@gmail.com>; Margaret Greenough <mgreenough2010@gmail.com>; Martin Suits <msuits7793@att.net>; Mary El Hansen <meh1@charter.net>; Mary Matakovich <mmatakovavila@gmail.com>; Michael Clayton <clayton1m@charter.net>; Sherri Danoff <sherri39@charter.net>; Steve Benedict <stevebenedict@charter.net>; Carol Hayden <CarolSLBE@gmail.com>
Subject: Re: Diablo Canyon - Unit 2 Removed from Service

I will cover this, yes. Speak to you all tomorrow.

Eric A. Daniels
PG&E Public Policy and External Affairs
San Luis Obispo and Santa Barbara Counties
805-440-1870 cell

From: Ken Thompson <kgt2256@gmail.com>
Sent: Sunday, December 13, 2020 1:23:09 PM

G.2 – 230

Info@DCISC.org

From: Ken Thompson <kgt2256@gmail.com>
Sent: Monday, December 14, 2020 7:17 AM
To: info@dcisc.org
Subject: Re: DCISC Attendance at AVAC Meeting - Diablo Canyon - Unit 2 Removed from Service
Attachments: AVAC-Agenda-December-14-2020.pdf

Hi Bob,
YES, the Avila Valley Advisory Committee meetings are Public Meetings and below is the ZOOM log-in information.
In addition, I have attached our Agenda so you can see where Eric Daniels presentation about Diablo Canyon activities fits in.
If there is anything else you need, just let me know.

Ken Thompson
Avila Valley Advisory Council - Diablo Canyon Committee

Join Zoom Meeting
<https://us02web.zoom.us/j/81230932150?pwd=VHhnUG9PUjBuVXk4U2tJNltdGNXZdz09>

Meeting ID: 812 3093 2150
Passcode: 066999

On Sun, Dec 13, 2020 at 9:31 PM Info@DCISC.org <info@dcisc.org> wrote:

Ken --

If the AVAC's meeting tomorrow night is open to the public, would you be so kind as to provide me with the information required to attend via Zoom (Zoom meeting ID and password, if necessary)?

If schedule allows, DCISC Member Dr. Budnitz and possible others from the DCISC have expressed a desire to attend and hear from Mr. Daniels. The Committee is expecting to receive a report from PG&E on the Unit 2 forced outage at its next public meeting to be held on Tuesday & Wednesday, February 16-17, 2021, which will again be conducted via Zoom.

Thanks for contacting me and providing the information.

I hope all is well with you,

G.2 – 232

Cordially,

Bob Rathie

(831) 424-3672 (home)

info@dcisc.org

From: Ken Thompson <kg2256@gmail.com>

Sent: Sunday, December 13, 2020 11:23 AM

To: Bill Crewe <wscrewe@charter.net>; Bob Rathie <dcisc@dcisc.org>; Brand, Marti <marti.brand@icloud.com>; Brown, Anne <anemb@sbcglobal.net>; Denise Allen <dchristyallen@gmail.com>; Jim Hartig <jimhartig@gmail.com>; Julia Hartzell <julhartz@aol.com>; Kirt Collins <kirt.katiecollins@gmail.com>; Lisa Newton <lisanewton711@gmail.com>; Liz Guho-Johnson <guhojo@gmail.com>; Margaret Greenough <mgreenough2010@gmail.com>; Martin Suits <msuits7793@att.net>; Mary El Hansen <meh1@charter.net>; Mary Matakovich <mmatakovich@gmail.com>; Michael Clayton <clayton1m@charter.net>; Sherri Danoff <sherri39@charter.net>; Steve Benedict <stevebenedict@charter.net>; Thompson, Ken <kg2256@gmail.com>; Carol Hayden <CarolSLBE@gmail.com>
Cc: Eric Daniels <EADH@pge.com>
Subject: Diablo Canyon - Unit 2 Removed from Service

The following message and attachment are from our Sherri Danoff who is also on the Diablo Canyon Decommissioning Engagement Panel.

From Sherri "I think AVAC members would be interested in this update from PG&E about one of the two Diablo units which continues to be offline."

Maybe Eric could give us an update during his presentation this Monday evening.

Ken

G.2 – 233

To: Hall, Julie <Julie.Hall@cpuc.ca.gov>

Subject: CPUC Seeks Applications for Diablo Canyon Independent Safety Committee: CPUC Press Release

FOR IMMEDIATE RELEASE

PRESS RELEASE

Media Contact: Terrie Prosper, 415.703.1366, news@cpuc.ca.gov

CPUC SEEKS APPLICATIONS FOR DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

SAN FRANCISCO, December 18, 2020 - The California Public Utilities Commission (CPUC) today began soliciting applications for nominees to the Diablo Canyon Independent Safety Committee. There is one vacancy on the Committee for a three-year term that begins on or after July 1, 2021 and ends on June 30, 2024.

The Committee assesses the safety of the operations of Pacific Gas and Electric Company's (PG&E) Diablo Canyon Nuclear Power Plant and has authority to review quarterly reports and conduct on-site inspections. The Committee reports its observations and recommendations annually: first to PG&E and then, along with PG&E's response, to the Governor, the California Attorney General, the California Energy Commission (CEC), and the CPUC.

The Committee consists of three members, one each appointed in turn by the Governor of California, the California Attorney General, and the Chair of the CEC. This year's application is for nomination as a candidate for appointment by the Chair of the CEC.

Only persons with knowledge, background, and experience in the field of nuclear power plants and nuclear safety issues are eligible for Committee membership.

The application is available on the CPUC website at www.cpuc.ca.gov/General.aspx?id=11368 under "Diablo Canyon Independent Safety Committee" or by e-mailing david.zizmor@cpuc.ca.gov (due to COVID-19 protocols, the CPUC is not accepting applications via U.S. postal service at this time).

Applications should be received at either of the above addresses by February 1, 2021.

The CPUC will provide an opportunity for public comment on qualified applications by posting information on the CPUC's website concerning each qualified applicant. Information about each qualified applicant will be posted shortly after the person's application is received. The comment period will run for 20 days.

G.2 – 235

Info@DCISC.org

From: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Sent: Friday, December 18, 2020 2:12 PM
To: Venskus@LawSV.com; LathropAS@gmail.com; Government@CGNP.org; dhkorn@earthlink.net; Yip-Kikugawa, Amy C.; Peleo, Marlon; matthew@turn.org; JArmstrong@GoodinMacBride.com; MSomogyi@GoodinMacBride.com; Jennifer.Post@pge.com; JNMwem@gmail.com; John@DicksonGeesman.com; Susannah@VoteSolar.org; JSAdams4910@yahoo.com; Alex Karlin; Peck, David B.; Ed@VoteSolar.org; Kearney@WEAWlaw.com; Kavya@NewsData.com; mrw@mrwassoc.com; RUmoff@seia.org; BLacy@LacyConsultingGroup.com; Moore, Christopher; Walker, Matthews@scs.com; Douglass@EnergyAttorney.com; case.admin@scs.com; Jose.Perez@scs.com; APak@AlPakLaw.com; ATrial@SemptraUtilities.com; EAPeters@SemptraUtilities.com; Beaver, Elizabeth; WDJohnson@SemptraUtilities.com; JaneSLO@iCloud.com; karaslo@charter.net; LathropCo@gmail.com; LindaSeeley@gmail.com; Sherry.Lewis66@iCloud.com; DavidJayWeisman@gmail.com; Rochelle@A4NR.org; meal@co.slo.ca.us; VioletSageWalker@gmail.com; DJBalsamo@BalsamoLaw.com; Bob Rathie (attys@wellingtonlaw.com); Peck, David B.; Zizmor, David; Haga, Robert; Shek, Seina; Kelsey Piro@pge.com; MCade@Buchalter.com; Malkina, Viktoriya; JSqueri@GoodinMacBride.com; Mattes, Martin; RegRelCPUCases@pge.com; Lindsey How-Downing; ATrowbridge@DayCarterMurphy.com; Burns, Truman L. info@dcisc.org; Bob Rathie (attys@wellingtonlaw.com); mdq@scwe.net; Bob Budnitz; peterlam1@aol.com; Cochran, Justin@Energy; David.Hochschild@energy.ca.gov; Nguyen, Le-Quyen@Energy; peterson@nuc.berkeley.edu; Mattes, Martin CPUC Seeks Applications for Diablo Canyon Independent Safety Committee: CPUC Press Release

To: Service List for A.18-12-008 (PG&E Nuclear Decommissioning Cost Triennial Proceeding)

Please note that applications for the 3-year term beginning July 1, 2021 for the Diablo Canyon Independent Safety Committee are now being accepted through February 1, 2021. The application is available on the CPUC website at <http://www.cpuc.ca.gov/General.aspx?id=11368> (scroll to the bottom and click on the "Application" link). Feel free to forward this link to anyone you think might be interested in the position – all qualified applicants will be considered.

See the press release below.

David Zizmor, Esq.
Public Utilities Regulatory Analyst
California Public Utilities Commission – Energy Division
505 Van Ness Avenue
San Francisco, CA 94102
(415) 703-1575 --- DAVID.ZIZMOR@CPUC.CA.GOV

From: Hall, Julie <Julie.Hall@cpuc.ca.gov>

Sent: Tuesday, December 17, 2019 11:01 AM

G.2 – 234

Info@DCISC.org

From: John Geesman <john@dictsongeesman.com>
Sent: Monday, December 21, 2020 7:17 PM
To: evelyn@cal-cca.org; McCallahan@MCECleanEnergy.org; PatrickFerguson@dwtd.com; Tim@LargeScaleSolar.org; Diamond@EnergyHub.net; FrankJ@ProgressiveLaw.com; DLowrey@Converge.com; Mona.Tierney-Lloyd@Enel.com; DJacobson@EnvironmentCalifornia.org; Klatt@EnergyAttorney.com; douglass@energyattorney.com; Apak@AlPakLaw.com; John.Leslie@Dentons.com; Marcie.Milner@shell.com; venskus@lawsv.com; KaraSlo@Charter.net; Samuel@Blakeslee-Blakeslee.com; Liaison@CGNP.org; MDJoseph@AdamsBroadwell.com; lj@cpuc.ca.gov; Austin.Yang@sfcityatt.org; Matthew@turn.org; RCavanagh@nrdc.org; Charles.Middlekauff@pge.com; LKoehler@edf.org; NSheriff@Buchalter.com; Matt@ohmConnect.com; MarkShahinian@FutureGridCoalition.org; BCragg@GoodinMacBride.com; MVespa@Earthjustice.org; MSomogyi@GoodinMacBride.com; VidhyaPrabhakaran@dwtd.com; VidhyaPrabhakaran@dwtd.com; VWM3@pge.com; MeganMMyers@yahoo.com; SMyers@att.net; JAC@CPowerEnergyManagement.com; jnmWEM@gmail.com; SMyers@MeyersNave.com; LChaset@tflaw.com; cesa_regulatory@storagealliance.org; G.Morris@emf.net; info@cal-cca.org; FrankRichLindh@gmail.com; SMarshall@LeanEnergyUS.org; SSHupe@SonomaCleanPower.org; Policy@EfficiencyCouncil.org; Danielle@RenewableEnergyStrat.com; cmkehrin@ems-ca.com; Brad@Calssa.org; Blasing@BraunLegal.com; Ty@TosdallLaw.com; abb@eslawfirm.com; ATrowbridge@DayCarterMurphy.com; Barbara@BarkovichAndVap.com; bce@alcantar-law.com; CBarry@iwpnews.com; CynthiaMitchell@gmail.com; Danielle@LargeScaleSolar.org; DavidJayWeisman@gmail.com; dbp@cpuc.ca.gov; dcl4@pge.com; liddell@energyattorney.com; esheffer@slusd.org; JHCaldwelljr@gmail.com; KatieLorrie@dwtd.com; Kavya@NewsData.com; AppRhg@cpuc.ca.gov; Leuwam.Tesfai@cpuc.ca.gov; MGML@pge.com; MCohen@ucscusa.org; pmiller@nrdc.org; Rhonda@rtides.com; rfreh123@sbcglobal.net; SSwaroop@mceCleanEnergy.org; eddyconsulting@gmail.com; TomH@SVCleanEnergy.org; regulatory@mceCleanEnergy.org; DWTcpucDockets@dwtd.com; MRW@mrwAssoc.com; Tam@CommunityRenewables.biz; Constantine.Lednev@db.com; jonathan.arnold@db.com; jeremiah.booream@baml.com; josephine.moore@baml.com; Julien.Dumoulin-Smith@baml.com; nicholas.campanella@baml.com; DMoglen@foe.org; greencowboysdf@gmail.com; mrp@dwgwp.com; CPUCdockets@eq-research.com; KKitz@USGeothermal.com; Mike@ActiumLP.com; HChoy@isd.lacounty.gov; klatt@energyattorney.com; Case.Admin@scs.com; walker.mathew@scs.com; ESalustro@SemptraUtilities.com; jaxbury@iid.com; RALaurie@iid.com; James.J.Hirsch@gmail.com; JBBrown@gate.net; CDietrick@slcity.org; Witomanium@gmail.com; Sherry.Lewis66@att.net; Rochelle@A4NR.org; JCaudle@CityOfLancaster.org; info@dcisc.org; dhkorn@earthlink.net; sue.mara@RTOAdvisors.com; DSilberman@smc.gov.org; JPepper@PeninsulaCleanEnergy.com; MBuckner@AdamsBroadwell.com; MMAurino@AdamsBroadwell.com; Hilary.Staver@SVCleanEnergy.org; RegCleanPowers@SFWater.org; cs8@cpuc.ca.gov; dz1@cpuc.ca.gov; dil@cpuc.ca.gov; dm1@cpuc.ca.gov; iak@cpuc.ca.gov; mh3@cpuc.ca.gov; rp1@cpuc.ca.gov; rc5@cpuc.ca.gov; rmp@cpuc.ca.gov; svin@cpuc.ca.gov; sc8@cpuc.ca.gov; tdp@cpuc.ca.gov; ys2@cpuc.ca.gov; jhendry@sfwater.org; jeanne.sole@sfcityatt.org; hayley@turn.org; LAIper@sfwater.org; Docket@Buchalter.com; dbrookhyser@buchalter.com;

G.2 – 236

To: DElliott@MoFo.com; JKairam@edf.org; MCade@Buchalter.com; sarah.keane@morganlewis.com; SRRD@pge.com; Ek-Info@Buchalter.com; LRafii@Buchalter.com; Brian@ohmConnect.com; DFRanz@Tesla.com; FWahl@Tesla.com; JMcIntyre@GoodinMacBride.com; MMattes@Nossaman.com; irene@igc.org; RegRelCPUCases@pge.com; JCDT@pge.com; Luisa.Elkins@Procopio.com; AlexeyOrkin@FlynnRci.com; BRFlynn@FlynnRci.com; BarmackM@calpine.com; sjm001@sbcglobal.net; BHalter@MeyersNave.com; bstrottman@meyersnave.com; jerry@abag.ca.gov; LWisland@UCSusa.org; sgriffin@meyersnave.com; John Geesman; TLindl@kfwlaw.com; NMalcolm@mceCleanEnergy.org; philm@scdenergy.com; mpa@alcantar-law.com; PushkarWagle@flynnrci.com; NReardon@SonomaCleanPower.org; AHartmann@SWMconsult.com; liz@CEERT.org; kevin.d.woodruff@gmail.com; Regulatory@BraunLegal.com; SKozal@WEAWLaw.com; SMN@dwg.com; RL@eslawfirm.com; JSAdams4910@yahoo.com; DCohen@navigant.com; Chris@ecobee.com; Chris@ecobee.com; btb@cpucca.gov

Subject: A.16-08-006 Alliance for Nuclear Responsibility's Opening Comments on PD; Certificate of Service; Served by John Geesman

Attachments: A.16-08-006 A4NR Opening Comments on PD of ALJ Carolyn Sisto.pdf; A.16-08-006 COS for A4NR Opening Comments on PD of ALJ Carolyn Sisto.pdf

ENTIRE REPORT AVAILABLE THROUGH THE OFFICE OF THE DCISC LEGAL COUNSEL

Attached please find Alliance for Nuclear Responsibility's Reply Comments on Proposed Decision and Certificate of Service.

The documents are in PDF/A format. This email is message one of one.

John L. Geesman

Dickson Geesman LLP
P.O. Box 177
Bodega, CA 94922
(510) 919-4220

PLEASE NOTE CHANGE OF MAILING ADDRESS

G.2 – 237

G.2 – 238

Info@DCISC.org

From: dcsafety@dcisc.org
Sent: Wednesday, December 23, 2020 11:52 AM
To: 'Ken Thompson'
Cc: info@dcisc.org
Subject: RE: FW: Operational Update on Unit 2 at Diablo FYI

Ken – this will acknowledge and thank you for the information in the email chain below. I have provided the information to the DCISC Members and Technical Consultants for follow-up.

Thanks again – and best for the Holiday Season,

Cordially,

Bob
(831) 424-3672 (home)
info@dcisc.org

From: Ken Thompson <kgt2256@gmail.com>
Sent: Wednesday, December 23, 2020 9:47 AM
To: Bob Rathie <dcsafety@dcisc.org>
Subject: Fwd: FW: Operational Update on Unit 2 at Diablo FYI

Hi Bob,
The Independent Safety Committee may find the information below interesting and may want to follow-up with the Senior Management at DCPD during their regular inspections.

Ken Thompson
AVAC - Diablo Canon Committee

----- Forwarded message -----

From: Ken Thompson <kgt2256@gmail.com>
Date: Wed, Dec 23, 2020 at 9:43 AM
Subject: Fwd: FW: Operational Update on Unit 2 at Diablo FYI
To: Bill Crewe <wscreeve@charter.net>, Brand, Marti <marti.brand@icloud.com>, Brown, Anne <annemb@sbcglobal.net>, Carol Hayden <carolsibbe@gmail.com>, Denise Allen <christyallen@gmail.com>, Jim Hartig <runhartig@gmail.com>, Julia Hartzell <julhartz@aol.com>, Kirt Collins <kirt.katiecollins@gmail.com>, Lisa Newton <lisanewton711@gmail.com>, Liz Guho-Johnson <lizguho@gmail.com>, Margaret Greenough <margreenough2010@gmail.com>, Mary El Hansen <men1@charter.net>, Mary Matakovich <mimatakovich@gmail.com>, Michael Clayton <claytonjm@charter.net>, Sherri Danoff <sherri39@charter.net>, Steve Benedict <stevebenedict@charter.net>, Thompson, Ken <kgt2256@gmail.com>

AVAC Council Members,
Below is the latest information from Tom Jones, PG&E, about Diablo Canyon's plans to bring Unit 2 back on-line.

G.2 – 239

Eric will update the AVAC Council at our monthly meetings.
Ken

----- Forwarded message -----

From: Sherri Danoff <sherri39@charter.net>
Date: Tue, Dec 22, 2020 at 1:23 PM
Subject: FW: Operational Update on Unit 2 at Diablo FYI
To: Ken Thompson <kgt2256@gmail.com>
Cc: Jim Hartig <runhartig@gmail.com>, Steve Benedict <stevebenedict@charter.net>

From PG&E representative Tom Jones:

I want to provide you with another update regarding the Unit 2 main electrical generator and our work to return it to service. I want to reiterate that this is not a nuclear safety issue and there is no impact to the health and safety of the public. The main electrical generator is located on the non-nuclear side of the plant.

Since we last provided an update on this scenario, please know we have been focused on analyzing data and conducting in-depth inspections of the main electrical generator with Siemens -- the vendor -- and other industry experts. We fully appreciate the importance of getting the unit back up and reliably operating, especially before the summer season, and have now determined our path forward. After consultation with Siemens and other industry partners, we have decided to complete this latest round of inspections, make some additional repairs and vibration reduction enhancements, and then conduct a series of operational tests beginning in the first part of January. During these operational testing windows, we expect to bring the unit online and offline again several times in order to gather additional operational data, which will be used to evaluate the actions we have taken to date to address the vibration issues we are experiencing. We expect these operational testing windows to last for several weeks, after which we will enter into our previously planned Spring refueling and maintenance outage.

After careful and methodical consideration, we have determined that we will move the start of our scheduled 2R22 refueling and maintenance outage up to mid-March, from our original planned start time in late April. During the planned Spring outage, we will use the data from the operational testing windows to make any needed refinements to address the vibration issue, replace some components, and after completion of previously planned work and a refueling, will return the unit to service. Moving the planned outage forward will provide us with additional time to address the vibration issue and return the unit to reliable operation before the summer season.

I will keep you updated as we safely and methodically plan, prepare, and execute our next actions. As always, please do not hesitate to reach out to me if you have any further questions.

G.2 – 240



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

January 4, 2021

BY FEDERAL EXPRESS

The California Public
Utilities Commission
505 Van Ness Avenue
San Francisco, California 94104

Attention: Ms Rachel Peterson, Acting Executive Director

Re: Diablo Canyon Independent Safety
Committee; Annual Report on
Safety of Operations.

Dear Ms. Peterson:

Enclosed please find a copy of the two volumes which comprise the "Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020," which was adopted at the ninety-seventh public meeting of the Diablo Canyon Independent Safety Committee ("DCISC") held via Zoom on October 22, 2020.

As required, the DCISC first submits a copy of its report to PG&E, and then includes PG&E's written response as part of the report. We then file our report with your office as well as with the California Energy Commission, the Governor and the Attorney General. This Report is also made available to the public on the DCISC's website, at the R.E. Kennedy Library on the campus of California Polytechnic University at San Luis Obispo and at local public libraries.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports.

Thank you for your attention to this matter.

Very truly yours,

Robert R. Wellington [Electronic signature]
Robert R. Wellington
DCISC Legal Counsel

RRW:rr
Enclosure

cc w/encl: Mr. Truman L. Burns - CPUC/ORA
cc w/o encl: Ms. Maria Salinas - CPUC/ENERGY
Mr. David Zizmor - CPUC/ENERGY
DCISC Members
Mr. Hector Garcia - PG&E/DCPP

OFFICE OF LEGAL COUNSEL - ROBERT R. WELLINGTON - 857 CASS STREET - SUITE D - MONTEREY - CA - 93940
TELEPHONE (800) 439-6688/(831) 647-1044 - FACSIMILE (831) 373-7106 - dcisc@dcisc.org

G.2 - 241



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

January 4, 2021

Via Federal Express

Hon. David Hochschild
Chair
California Energy Commission
1516 Ninth Street, MS-33
Sacramento, California 95814

Attention: Commission Supervising Librarian

Re: Diablo Canyon Independent Safety
Committee; Annual Report on Safety of Operations.

Dear Chair Hochschild:

Enclosed please find a copy of the two volumes which comprise the "Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020," which was adopted at the ninety-seventh public meeting of the Diablo Canyon Independent Safety Committee ("DCISC") held via Zoom on October 22, 2020.

As required, the DCISC first submits a copy of its report to PG&E, and then includes PG&E's written response as part of the report. We then file the report with your office as well as with the CPUC, the Governor and the Attorney General. This Report is also made available to the public on the DCISC website, at the R.E. Kennedy Library on the campus of California Polytechnic University at San Luis Obispo and at local public libraries.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports.

Thank you for your attention to this matter.

Very truly yours,

Robert R. Wellington [Electronic signature]
Robert R. Wellington
DCISC Legal Counsel

RRW:rr
Enclosure

cc w/o encl: Dr. Justin Cochran - Sr. Nuclear Policy Advisor CEC
DCISC Members
Mr. Hector Garcia - PG&E/DCPP

OFFICE OF LEGAL COUNSEL - ROBERT R. WELLINGTON - 857 CASS STREET - SUITE D - MONTEREY - CA - 93940
TELEPHONE (800) 439-6688/(831) 647-1044 - FACSIMILE (831) 373-7106 - dcisc@dcisc.org

G.2 - 243



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

WEBSITE - WWW.DCISC.ORG

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

January 4, 2021

BY FEDERAL EXPRESS

Office of the Governor
State of California
State Capitol Building
Suite 1173
Sacramento, California 95814

Re: Diablo Canyon Independent Safety
Committee; Annual Report on Safety of Operations.

Dear Sir or Madam:

Enclosed please find a copy of the two volumes which comprise the "Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020," which was adopted at the ninety-seventh public meeting of the Diablo Canyon Independent Safety Committee ("DCISC") held via Zoom on October 22, 2020.

As required, the DCISC first submits a copy of its report to PG&E, and then includes PG&E's written response as part of the report. We then file the report with your office as well as with the California Public Utilities Commission, the Office of the Attorney General and the California Energy Commission. This Report is also made available to the public on the DCISC website, at the R.E. Kennedy Library on the campus of California Polytechnic University at San Luis Obispo and at local public libraries.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. Thank you for your attention to this matter.

Very truly yours,

Robert R. Wellington [Electronic signature]
Robert R. Wellington
DCISC Legal Counsel

RRW:rr
Enclosure

cc w/o encl: Alice B. Reynolds, Esq. - Senior Advisor to the Governor for Energy
DCISC Members
Mr. Hector Garcia - PG&E/DCPP

OFFICE OF LEGAL COUNSEL - ROBERT R. WELLINGTON - 857 CASS STREET - SUITE D - MONTEREY - CA - 93940

G.2 - 242



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

WEBSITE - WWW.DCISC.ORG

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

January 4, 2021

BY FEDERAL EXPRESS

Office of the Attorney General
State of California
California Department of Justice
1300 "I" Street
Sacramento, California 95814

Attn: Senior Assistant Attorney General - Natural Resources Section

Re: Diablo Canyon Independent
Safety Committee; Annual
Report on Safety of Operations.

Dear Senior Assistant Attorney General:

Enclosed please find a copy of the two volumes which comprise the "Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2019 - June 30, 2020," which was adopted at the ninety-seventh public meeting of the Diablo Canyon Independent Safety Committee ("DCISC") held via Zoom on October 22, 2020.

As required, the DCISC first submits a copy of its report to PG&E, and then includes PG&E's written response as part of the report. We then file the report with your office as well as with the CPUC, the Governor and the California Energy Commission. This Report is also made available to the public on the DCISC website, at the R.E. Kennedy Library on the campus of California Polytechnic University at San Luis Obispo and at local public libraries.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports.

Very truly yours,

Robert R. Wellington [Electronic signature]
Robert R. Wellington
DCISC Legal Counsel

RRW:rr
Enclosure

cc w/o encl: Deputy Attorney General Megan Hey
DCISC Members
Mr. Hector Garcia - PG&E/DCPP

OFFICE OF LEGAL COUNSEL - ROBERT R. WELLINGTON - 857 CASS STREET - SUITE D - MONTEREY - CA - 93940
TELEPHONE (800) 439-6688/(831) 647-1044 - FACSIMILE (831) 373-7106 - dcisc@dcisc.org

G.2 - 244

COMMITTEE MEMBERS

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

BY FEDERAL EXPRESS

January 4, 2021

Mr. James Welsch
Senior Vice President Generation
& Chief Nuclear Officer
Pacific Gas and Electric Company
Diablo Canyon Power Plant
P.O. Box 56
Avila Beach, California 93424

Re: DCISC Thirtieth Annual Report on
Safety of Diablo Canyon Operations
July 1, 2019 - June 30, 2020

Dear Mr. Welsch:

At its October 22, 2020 meeting the Diablo Canyon Independent Safety Committee acted to approve and adopt its "Thirtieth Annual Report on Safety of Diablo Canyon Operations for the period of July 1, 2019 through June 30, 2020." We enclose a completed report with PG&E's response incorporated therein for your information and files. We also file the report with the CPUC, the Governor, the California Attorney General and the California Energy Commission. This Report is also made available to the public on the DCISC's website, at the R.E. Kennedy Library on the campus of California Polytechnic University at San Luis Obispo and at local public libraries.

If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert R. Wellington [Electronic signature]
Robert R. Wellington
DCISC Legal Counsel

RRW:rr

Enclosure

cc w/o encl.: DCISC Members

William V. Manheim, Esq., PG&E Law Dept.
Jennifer K. Post, Esq., PG&E Law Dept.
Mr. Mark Krauss, PG&E Director, State Agency Relations
Mr. Hector Garcia, PG&E/DCPP

OFFICE OF LEGAL COUNSEL • ROBERT R. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY • CA • 93940
TELEPHONE (800) 439-4688/(831) 647-1044 • FACSIMILE (831) 373-7106 • rrw@dcisc.org

G.2 - 245

Info@DCISC.org

From: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Sent: Monday, January 4, 2021 11:42 AM
To: info@dcisc.org
Subject: Re: Response to Question about Diablo Canyon hydrogen leak

Thanks Bob...this is very helpful.

David Zizmor, Esq.
Public Utilities Regulatory Analyst
California Public Utilities Commission - Energy Division
505 Van Ness Avenue
San Francisco, CA 94102
(415) 703-1575 — DAVID.ZIZMOR@CPUC.CA.GOV

From: Info@DCISC.org <info@dcisc.org>
Sent: Wednesday, December 30, 2020 12:49 PM
To: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Cc: Ikle, Judith <judith.ikle@cpuc.ca.gov>; info@DCISC.org <info@dcisc.org>; 'Peter Lam' <peterlam1@aol.com>; 'PER PETERSON' <perfpeter@me.com>; 'Robert J. Budnitz' <rbudnitz@pacbell.net>; 'Ferman Wardell' <fwardell@bellsouth.net>; rickmcw1@gmail.com <rickmcw1@gmail.com>; 'Mattes, Martin' <mmattes@nossaman.com>
Subject: RE: Response to Question about Diablo Canyon hydrogen leak

David -

On behalf of Committee Chair Dr. Lam and at his direction please find attached the response from the DCISC to CPUC's concerns and the questions posed in your email below regarding the hydrogen leak affecting Unit 2's operations. I hope you find the attached responsive to your inquiry. Please do not hesitate to contact the Committee should you have further questions or require additional information.

I will be sending you the agenda packet for the February 16-17, 2021, public meeting when it is available. This meeting will be conducted via Zoom.

Concerning CEC's appointment of a member of the DCISC you should have received an email from Dr. Lam sent on December 28 at 2:49 p.m., with an attached letter confirming his willingness to accept reappointment to the Committee for the 2021-2024 term of service.

Hope this finds you well and looking forward to 2021!

Cordially,

Bob Rathie
DCISC Asst. Legal Counsel
(831) 424-3672 (home)

COMMITTEE MEMBERS

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

BY FEDERAL EXPRESS

January 4, 2021

R.E. Kennedy Library
Reference Department Desk
Cal Polytechnic State University
San Luis Obispo, California 93407

Attention: Librarian

Re: Diablo Canyon Independent Safety
Committee; Thirtieth Annual Report.

Dear Librarian:

Enclosed please find a copy of the Thirtieth Annual Report of the Diablo Canyon Independent Safety Committee for the period July 1, 2019 through June 30, 2020. Would you please file the Annual Report in the Reference Department and make it available to the public.

Thank you for your cooperation and assistance in this matter.

Very truly yours,

Robert R. Wellington [Electronic signature]
Robert R. Wellington
DCISC Legal Counsel

RRW:rr

Enclosure

cc w/o encl to:

Dr. Robert J. Budnitz

Dr. Per Peterson

Dr. Peter Lam

Mr. Richard D. McWhorter, Jr.

Mr. R. Ferman Wardell P.E.

Martin A. Mattes, Esq.

OFFICE OF LEGAL COUNSEL • ROBERT R. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY • CA • 93940
TELEPHONE (800) 439-4688/(831) 647-1044 • FACSIMILE (831) 373-7106 • rrw@dcisc.org

G.2 - 246

info@dcisc.org

From: Info@DCISC.org <info@dcisc.org>
Sent: Tuesday, December 22, 2020 4:56 PM
To: 'Zizmor, David' <David.Zizmor@cpuc.ca.gov>; 'Bob Rathie (attys@wellingtonlaw.com)' <attys@wellingtonlaw.com>; 'Mattes, Martin' <mmattes@nossaman.com>
Cc: 'Ikle, Judith' <judith.ikle@cpuc.ca.gov>; info@DCISC.org
Subject: RE: Question about Diablo Canyon hydrogen leak

David -

Message received and I will forward the request for information to our Members and Technical Consultants for a response on the Unit 2 stator cooling system hydrogen leak.

The Committee does plan to discuss the issue at its next public meeting to be held via Zoom on Tuesday and Wednesday, February 16-17, 2021. We've proposed a discussion during the evening session on Tuesday, February 16. I've attached a copy of the list of topics we have requested that DCPD present at the February public meeting. These are pending confirmation from PG&E.

My understanding is that if Dr. Lam intends to accept consideration for renomination by the CPUC as a candidate for consideration by the CEC Chair for reappointment to another term he should submit a letter to you prior to February 1, 2021 - as has been the custom for incumbent members?

Hope this response finds you well and ready for the pending New Year - I think we're all looking forward to some big changes for the better in 2021.

Keep well,

Bob Rathie
DCISC Asst. Legal Counsel
(800)439-4688
(831) 424-3672 (home)
info@dcisc.org

From: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Sent: Tuesday, December 22, 2020 3:19 PM
To: info@dcisc.org; Bob Rathie (attys@wellingtonlaw.com) <attys@wellingtonlaw.com>; Mattes, Martin <mmattes@nossaman.com>
Cc: Ikle, Judith <judith.ikle@cpuc.ca.gov>
Subject: Question about Diablo Canyon hydrogen leak

Bob/Martin,

The CPUC has concerns about the current outage at Diablo Canyon caused by the hydrogen leak at Unit 2 and we were hoping the DCISC could help us get a better understanding of what's happening there and how the

DCISC is monitoring the situation. In particular, we would like to know (1) to what extent Unit 2 is similar to Unit 1 and whether their similarities make it likely the same leak problem could happen at Unit 1, (2) what safety issues are implicated by the hydrogen leak as well as what critical safety issues are not implicated, and (3) does the DCISC plan to discuss/examine the hydrogen leaks at its next meeting in February (also, could you provide the date for that meeting)?

And separately, as the nomination cycle for Dr. Lam's seat on the Committee has begun, could you remind him to let me know whether he intends to seek another term?

Thanks and happy holidays!

David Zizmor, Esq.
Public Utilities Regulatory Analyst
California Public Utilities Commission – Energy Division
505 Van Ness Avenue
San Francisco, CA 94102
(415) 703-1575 --- DAVID.ZIZMOR@CPUC.CA.GOV

In response to the CPUC's Email request of December 22, 2020, regarding the DCCP Unit 2 Main Generator hydrogen leak, the DCISC provides the following information:

CPUC Question 1 – To what extent is Unit 2 similar to Unit 1 and whether their similarities make it likely the same leak problem could happen at Unit 1?

DCISC response – Unit 1 and Unit 2's Main Generators were virtually identical when installed during original plant construction. Routine testing performed during outages identified degrading electrical performance for the Unit 2 Main Generator, and that Main Generator was extensively rebuilt during the refueling outage ending in March 2019. The Unit 2 rebuilding scope included a complete removal and replacement of all internal generator stationary windings, bus bars and cabling. Approximately 600,000 pounds of steel and copper parts were removed and replaced with new components. The project took about seven years from initial scoping to completion and involved approximately 170,000 person-hours of work. The bulk of the work was performed by the generator vendor under contract to PG&E. As no significant degradation in electrical performance has been observed on Unit 1's Main Generator, that generator has not been similarly rebuilt. Given that the extensive rebuilding project was performed solely on Unit 2's Main Generator, that the problem first occurred on that generator approximately 15 months after completion of the Unit 2 rebuilding, and that no similar issues have ever been observed on Unit 1, the likelihood of a similar problem occurring on Unit 1 is judged by PG&E (and by the DCISC) to be remote.

CPUC Question 2 – What safety issues are implicated by the hydrogen leak as well as what critical safety issues are not implicated?

DCISC response – The hydrogen leak on the Unit 2 Main Generator primarily affects only the non-nuclear generation side of the plant. There is a possibility that a major hydrogen leak could result in a fire or explosion, but fire detection and extinguishing equipment are installed to detect and mitigate such an event and the accumulation of a significant amount of an explosive mixture is unlikely due to the large volume of air circulating in the turbine building. Additionally, there is a possibility that high Main Generator vibrations could result in subsequent damage to non-nuclear generation equipment located in the Turbine Building. However, equipment in the building is designed to be robust, and vibration sensors are installed to warn of the need to shut down the generator prior to the occurrence of vibrations that could cause significant damage. Lastly, any rapid shutdown of the Main Generator could result in a plant transient and possibly a reactor trip, but the plant is designed to respond safely to this type of transient. In summary, in the DCISC's opinion, based on its review of the available information, the hydrogen leak does not pose any significant nuclear safety risks. The hydrogen leak could pose some risks to non-nuclear equipment, but those risks are addressed by existing plant design features.

G.2 – 249

G.2 – 250

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DIABLO CANYON INDEPENDENT SAFETY COMMITTEE REPORT

Draft Excerpt from
Report on

**Fact-Finding Review of DCCP
on November 10, 12, and 19, 2020**

by

Robert Budnitz, Member, and Richard D. McWhorter, Consultant

3.4 Unit 2 Forced Outage

The DCISC FFT met remotely with Mike Quitter, Outage Manager, and Mark Frauenheim, Design Engineering Manager, to review the cause and corrective actions for Unit 2 Forced Outage 2222 that began on October 15, 2020. The DCISC last reviewed a related topic in August 2020 (Reference 6.3), when it concluded the following:

The FFT concluded that the Unit 2 Forced Outage on July 17, 2020, was properly managed, and corrective actions to identify and repair a hydrogen leak in the Main Generator were appropriate.

Mr. Quitter briefed the FFT regarding the problem that initiated the need to perform an unscheduled shutdown of Unit 2 for repairs. In mid-October, operators noted that hydrogen usage was increasing on the Unit 2 Main Generator. Indications were similar to a problem that occurred three months earlier, in July 2020, which resulted in a two-week Unit 2 forced outage to repair a hydrogen leak internal to the Main Generator. In accordance with Abnormal Procedures for the size and location of the leak (revised since the July 2020 event), operators initiated a controlled shutdown of Unit 2 and placed the plant in a stable condition in Mode 3, Hot Shutdown. The unit remained in Hot Shutdown at approximately 360 °F in the Reactor Coolant System for the duration of the forced outage. Because Unit 1 was also in its regularly planned refueling outage simultaneously, the FFT inquired if the unusual dual-unit outage caused any operational issues, and Mr. Quitter responded that it did not and sufficient steam was available from Unit 2 in Hot Standby to support the Unit 1 startup.

Investigations were initiated into the location and cause of the leak. Hydrogen was removed from the generator, and a generator crawl-through inspection was performed on both the exciter and turbine ends of the generator. A leak at a weld was found on a transition box between the Stator Closed Cooling Water (SCCW) inlet header and the exciter end SCCW manifold. The leak was very similar to the leak that drove the July forced outage but at a different location on the manifold. Specifically, the leak was located at the approximately three o'clock position on the manifold.

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G.2 – 251

G.2 – 252

whereas the previous leak was located at approximately the twelve o'clock position. Minor damage was also found to other gas baffle and core frame welds inside the generator.

Mr. Quitter reported that the forced outage was nearing completion and no other major equipment problems required work during the outage. The start of the Unit 2 Forced Outage 2Z22 overlapped with the end of the Unit 1 Refueling Outage 1R22, which placed significant demands upon station personnel. However, Mr. Quitter stated that personnel were able to maintain a regular schedule with one day off per week and some planned vacation schedules were maintained. The total length of the combined outages was comparable to some past extended Refueling Outages. He also noted that Refueling Outage 1R22 was completed without any major emergent issues.

A Root Cause Evaluation (RCE) was initiated in response to the repeated failure, and Mr. Frauenheim summarized the preliminary investigations and findings as of the date of the FFT's meeting. To assist with the RCE, DCPD obtained the services of four consulting parties as follows:

- An independent technical consultant to review cause evaluation actions and conclusions to ensure that neither PG&E nor the generator vendor missed any items of concern
- A structural vibration analysis consultant to perform vibrational nodal analysis for the generator frame and manifold as well as to perform shaker testing on the generator
- An individual consultant with knowledge of similar generator failures in the industry
- Personnel from the Electric Power Research Institute to review and provide industry technical documentation applicable to the problem

The initial findings of the RCE investigations revealed that one of the feet of the generator frame was not properly shimmed to the concrete floor. It was postulated that the refurbishment of the generator in the fall of 2019 may have changed the weight distribution of the generator, but a check of the generator frame to floor weight loadings was not completed at that time. DCPD and the generator vendor performed a check of the frame to floor weight loadings for all of the generator feet during this outage and corrected loadings as required. Investigations also revealed a total of 14 cases of weld cracks for equipment mounted to the frame inside the generator. Most of the cracks that had been analyzed showed indications of high cycle fatigue consistent with failures due to high vibrations. Shaker testing was performed, and several minor modifications were made inside the generator in order to reduce the likelihood of future high cycle fatigue failures. The FFT inquired if it were possible that a catastrophic failure could have resulted from any of the cracks had they not been identified and corrected. Mr. Quitter responded that there were no problems found with any major structural elements of the generator, and there was no risk of a catastrophic failure.

Mr. Frauenheim explained that DCPD believed that it had identified and corrected all off-normal conditions on the generator. However, because the RCE was still open and other possible causes for the problem were being reviewed, DCPD would be implementing an extensive monitoring program upon restart of the generator. Twenty-five vibration sensors had been installed inside the generator, and the information from the sensors was being routed to a real-time monitoring system

Info@DCISC.org

From: Garcia, Hector M <HMG4@pge.com>
Sent: Thursday, January 14, 2021 2:38 PM
To: 'Rick McWhorter'; 'Peter Lam'; info@dcisc.org
Cc: Baldwin, Thomas
Subject: Fwd: Unit 2 Parallels with the Grid, Enters Testing Window Phase

DCISC,

Please see email below from Paula on our Unit 2 plan.

I mentioned the below information to Mr. McWhorter today.

We are now entering our testing window phase, in which we can expect to potentially bring the unit online and offline again several times in order to gather additional operational data.

Regards
Hector

From: A Message from Paula Gerfen <AMessagefromPaulaGerfen@pge.com>
Sent: Thursday, January 14, 2021 1:09 PM
To: DCPD *NPG Nuclear Power Generation Business Unit
Subject: Unit 2 Parallels with the Grid, Enters Testing Window Phase



Team,

We paralleled Unit 2 to the grid yesterday afternoon and our team is methodically ramping the unit back to full power. We are now entering our testing window phase, in which we can expect to potentially bring the unit online and offline again several times in order to gather additional operational data. This data will be used to evaluate the actions we have taken to date and are continuing to take to address the vibration issues in the Unit 2 main generator, on the non-nuclear side of the plant.

For those who are working onsite at this time, if you are walking through the Turbine Building, you may see the addition of large metal plates affixed to the side of the generator cover. These have been put into place and may be adjusted to add weight to address the vibrations of the main electrical generator. The effects of these weights and other adjustments are being continuously monitored.

We previously communicated that we have moved the start of our scheduled 2R22 refueling and maintenance outage up to mid-March, from our original planned start time in late April.

located on the turbine operating deck near the generator. It was currently anticipated that the system would need to remain in place for the remaining lifetime for operations of Unit 2. Operators were being provided with guidelines for responding to changes in data, which were based on generator historical data as well as industry standards. The FFT was provided with a preliminary copy of the monitoring plan and observed that it provided guidance for both Engineering and Operations with regards to data points to be monitored, periodicity of monitoring, and thresholds for initiating additional actions.

The FFT inquired as to when the RCE was expected to be completed, and Mr. Frauenheim reported that 45 days was the typical timeframe. The FFT concluded that the DCISC should continue to follow this event, review the results of the RCE once it is finalized, and request a presentation on the topic from PG&E at the next DCISC Public Meeting.

Conclusions: DCPD was appropriately managing Unit 2's Forced Outage 2Z22 which was driven by a hydrogen leak inside the Main Generator that was very similar to a leak that drove a forced outage three months earlier. The DCISC should continue to follow this event and review the final Root Cause Evaluation for the problem during a future Fact-Finding Meeting as well as at the next Public Meeting.

Recommendations: None

During the 2R22 outage, we will make any needed refinements to address the vibration issues. We'll also replace some components, and after completion of previously planned work and refueling activities, will return the unit to reliable service before the summer season.

This is important work for our team, our customers and our state, and I so appreciate your dedication, focus and the spirit of teamwork that I see in action. The work we do at the station powers the lives of our customers and communities. They rely on us to safely and reliably generate electricity, and we can and will continue to do so with excellence.

Please work safely and follow our COVID-19 health measures today and every day.

Paula

Decision 21-01-002 January 14, 2021

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company for Approval of the Retirement of Diablo Canyon Power Plant, Implementation of the Joint Proposal, And Recovery of Associated Costs Through Proposed Ratemaking Mechanisms (U39E).

Application 16-08-006

DECISION DENYING PETITION FOR MODIFICATION**Summary**

On December 12, 2018, the Alliance for Nuclear Responsibility (A4NR) filed a Petition for Modification of Decision (D.)18-10-050, which granted compensation for their contribution to D.18-01-022 relating to Pacific Gas and Electric Company's Diablo Canyon Nuclear Plant and the cost of its operation. A4NR claims that the Commission modified D.18-01-022 in a manner that resulted in its contribution being more significant, and that it should receive additional intervenor compensation. AN4R's Petition for Modification is denied.

1. Background

In January 2018, the Commission issued Decision (D.) 18-01-022 granting the request of Pacific Gas and Electric Company (PG&E) to retire both units of its Diablo Canyon Nuclear Power Plant (Diablo Canyon), with Unit 1 shutting down in 2024 and Unit 2 shutting down in 2025. D.18-01-022 also addressed other issues relating to the retirement of Diablo Canyon, including rate recovery

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- 1 -

G.2 – 257

A.16-08-006 ALJ/CS8/avs

for rehearing or otherwise sought to appeal the Commission's decision on these issues.⁵

On March 15, 2018, A4NR filed a timely claim seeking compensation for its contribution to D.18-01-022.

On October 25, 2018, the Commission issued D.18-10-050, granting A4NR compensation of \$725,407.32 for its contribution to D.18-01-022, but disallowing 50 percent of the intervenor's claimed costs for hours spent prior to 2016. The Commission found that while D.18-01-022 adopted many provisions of a Joint Proposal that A4NR contributed to, only parts of the Joint Proposal made a "substantial contribution to the decision."⁶

On September 19, 2018, Governor Gavin Newsom signed Senate Bill (SB) 1090, which added Section 712.7 to the Public Utilities Code, effective January 1, 2019. Section 712.7 reads:

- (a) The commission shall approve both of the following:
 - (1) The full funding for the community impact mitigation settlement proposed in A.16-08-006.
 - (2) The full funding for the employee retention program proposed in A.16-08-006.
- (b) The commission shall ensure that integrated resource plans are designed to avoid any increase in emissions of greenhouse gases as a result of the retirement of the Diablo Canyon Units 1 and 2 powerplant.
- (c) The commission shall establish an expedited advice letter process for the approval and implementation pursuant to subdivision (a) of the community impact mitigation settlement and the employee retention program.

⁵ Californians for Green Nuclear Power filed an application for rehearing on a different issue.

⁶ D.18-10-050 at 11.

- 3 -

G.2 – 259

A.16-08-006 ALJ/CS8/avs

for Diablo Canyon employee retention and retraining, a proposed "Community Impacts Mitigation Program" (CIMP) and costs previously incurred for Nuclear Regulatory Commission license renewal activities.¹

PG&E's initial Application (A.) 16-08-006 included a request for \$49.5 million in ratepayer funding for the CIMP and \$352.1 million in ratepayer funding for an employee retention program. Those requests were included in a "Joint Proposal," through which Alliance for Nuclear Responsibility (A4NR) and several other parties supported PG&E's application.²

PG&E later settled with several other parties and proposed to increase the cost of the CIMP from \$49.5 million to \$85 million, with the CIMP funds being allocated to San Luis Obispo County (County), the cities within the County, and the San Luis Coastal Unified School District. The proposed settlement also would have provided annual bonuses for up to seven years for all 1,461 PG&E employees at Diablo Canyon.³

Based on the record of the proceeding, the Commission in D.18-01-022 authorized \$0 in rate recovery for the CIMP, and a maximum of \$211.3 million in rate recovery for the employee retention program.⁴ No party filed an application

¹ D.18-01-022 at 2, 8.

² D.18-01-022 at 3. The Joint Proposal also included other issues that are not addressed by Pub. Util. Code § 712.7 that are not addressed in this Decision.

³ D.18-01-022 at 23. The County would allocate the money it received to local cities and districts based upon past tax revenue allocations. (D.18-01-022 at 31-32.)

⁴ D.18-01-022 at 54. The Commission confirmed its authority to consider a CIMP under express new legislative authorizations or in light of new facts uncovered by its own study of community impacts being conducted to comply with Public Utilities Code Section 712.5 but found the existing statutes at that time did not provide a basis for rate recovery of the CIMP.

- 2 -

G.2 – 258

A.16-08-006 ALJ/CS8/avs

On December 7, 2018, the Commission issued D.18-11-024, implementing SB 1090 and modifying D.18-01-022 to reflect the provisions adopted in Section 712.7.

On December 12, 2018, A4NR filed a Petition for Modification of D.18-10-050 requesting an additional \$256,655.97 in compensation for its contribution to D.18-01-022. The Petition claims that due to the modifications adopted in D.18-11-024, "100% of the A4NR-related portions of the Joint Proposal have now been approved by the modified decision in A.16-08-006."⁷

2. Jurisdiction

The Commission has the authority under Public Utilities Code Sections 1801-1812 to grant intervenor compensation to parties that are found to provide significant contribution to proceedings and their outcomes.

Specifically, Pub. Util. Code Section 1802(j) states that: "Substantial Contribution" means that, in the judgement of the commission, the decision adopted in whole or in part one or more factual or legal contentions or specific policy or procedural recommendations presented by the intervenor. The code gives the Commission jurisdiction to determine the reasonable compensation if a decision adopts the intervenor's recommendations in part or in full.

Rule 16.4(b) of the Commission's Rules of Practice and Procedure requires any Petition for Modification to:

- (a) Concisely state the justification for the requested relief;
- (b) Propose specific wording to carry out all requested modifications to the Decision;
- (c) Support any factual allegations with specific citations to the record in the proceeding or matters that may be officially noticed; and

⁷ PFM at 3.

- 4 -

G.2 – 260

- (d) Support allegations of new or changed facts with an appropriate declaration or affidavit.

3. Issues Before the Commission

A4NR claims it is eligible for a higher amount of compensation for its contribution to D.18-01-022 than was awarded by the Commission in D.18-10-050, since D.18-01-022 was later modified to align with the portions of the Joint Proposal the intervenor initially supported. The Commission must determine whether A4NR's support for those sections of the Joint Proposal during the initial review of A.16-08-006 provided a substantial contribution to the modifications to D.18-01-022 that were later adopted in D.18-11-024.

4. D.18-11-024 implemented SB 1090, not A4NR's Joint Proposal

SB 1090 (Monning, 2018) required the Commission modify its initial decision on PG&E's plans to close Diablo Canyon as adopted in D.18-01-022.

D.18-11-024 was issued solely to modify D.18-01-022 in order to implement subdivisions (a) and (c) of Public Utilities Code Section 712.7.⁹ To comply with the newly-created statute, the Commission adopted modifications to D.18-01-022 required by the legislation, including granting PG&E cost recovery for \$85 million for the CIMP and \$352.1 million for employee retention programs. The Commission also adopted an advice letter process for implementing the CIMP and employee retention programs.

Nothing within D.18-11-024 refers to A4NR or its support of the portions of the Joint Proposal that were not adopted in D.18-01-022 but were later required under Public Utilities Code Section 712.7. The modifications would not

⁹ D.18-11-024 at 5, 8.

and the Commission's initial review of those proposals was only revisited because the Legislature required it. A4NR's request for additional compensation for its contribution to D.18-01-022 is denied.

6. Comments on Proposed Decision

The Proposed Decision of ALJ Sisto in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commissioner's Rules of Practice and Procedure (Rules). Comments were filed on December 21, 2020 by A4NR.

A4NR's comments on the proposed decision do not add any new factual information to the record. Minor revisions were made throughout the proposed decision to improve clarity and correct typographical errors.

7. Assignment of Proceeding

Marybel Batjer is the assigned Commissioner and Carolyn Sisto is the assigned Administrative Law Judge in this proceeding.

Findings of Fact

1. D.18-01-022 adopted modifications to a Joint Proposal that A4NR supported related to funding for a CIMP and employee retention program proposed in A.16-08-006.

2. The Commission in D.18-10-050 awarded A4NR \$725,407.32 for its contribution to D.18-01-022.

3. Public Utilities Code Section 712.7 directs the Commission to approve full funding for the community impact mitigation settlement and employee retention program proposed in A.16-08-006, effective January 1, 2019.

4. D.18-11-024 was adopted to implement Public Utilities Code Section 712.7 by modifying D.18-01-022.

have occurred had the legislation not directed the Commission to authorize full cost recovery of the proposed CIMP and employee retention programs.

Similarly, A4NR's Petition does not include any reference to new or existing evidence that its support of the CIMP and employee retention portions of the Joint Proposal, as considered in D.18-01-022, significantly contributed to the modifications adopted in D.18-11-024. Although A4NR may have contributed to the development of the Joint Proposal, and supported portions of it through the Commission's initial review of A.16-08-006, the Commission initially disallowed and reduced, respectively, PG&E's recovery of the costs for the CIMP and employee retention programs. D.18-11-024 clearly defends the Commission's initial review of the Joint Proposal and approves the full cost recovery of the CIMP and employee retention programs only because SB 1090 required it. The adoption of SB 1090, however, was not tied to the record of A.16-08-006.

D.18-10-050 awarded compensation for A4NR's significant contribution to D.18-01-022 and its development of the Joint Proposal submitted as A.16-08-006. The Commission finds that D.18-10-050 accurately compensated A4NR for its contribution to the record in A.16-08-006 and D.18-01-022.

5. Conclusion

D.18-11-024 adopted modifications to a prior Commission decision that were required by subsequently enacted legislation. Although those modifications may align with A4NR's initial support for specific sections of the Joint Proposal, the intervenor has already been compensated for that contribution. The CIMP and employee retention program sections of the Joint Proposal, as supported by A4NR, were disallowed or modified by D.18-01-22,

Conclusions of Law

1. It was reasonable for the Commission to disallow 50 percent of A4NR's hours claimed prior to 2016, because only parts of the Joint Proposal were found to make a substantial contribution to D.18-01-022.

2. The Commission would not have modified D.18-01-022 but for the legislative directives adopted in Public Utilities Code Section 712.7.

3. A4NR is not eligible for additional compensation because it has not provided clear evidence that it significantly contributed to the modifications adopted in D.18-11-024, as required by Rule 16.4.

ORDER

IT IS ORDERED that:

1. The Alliance for Nuclear Responsibility's Petition for Modification of Decision 18-10-050 is denied.

2. Application 16-08-006 is closed.

This order is effective today.

Dated January 14, 2021, at San Francisco, California.

MARYBEL BATJER
President
MARTHA GUZMAN ACEVES
CLIFFORD RECHTSCHAFFEN
GENEVIEVE SHIROMA
Commissioners

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE (DCISC) - PUBLIC MEETING -

When: Tuesday Morning, February 16 9:00 A.M.

Opening comments and remarks; receive public comments and communications to the Committee; acceptance of the Minutes of the October 22-23, 2020 public meeting; discussion of administrative matters, including receipt of PG&E's response to the DCISC 30th Annual Report on the Safety of Diablo Canyon Nuclear Power Plant (DCPP) Operations for the period July 1, 2019 - June 30, 2020, an update on DCP Performance Indicators, recent Licensee Event Reports, NRC Inspection Reports and history of violations, recent state of the plant inspection, recent compliance issues and license amendment requests, and a presentation on plant performance during the twenty-second refueling outage for Unit 1 (R22) including key activities, results achieved, fuel and steam generator inspection results, compliance issues and steam generator inspection results, compliance issues and steam generator inspection results, compliance issues and steam generator inspection results.

Tuesday Afternoon, February 16 1:30 P.M.

Receive public comments and communications to the Committee; receive informational presentations related to plant safety and operations by PG&E, including the "State of the Plant" regarding key events, highlights, outages including Unit 2 forced outages to address main generator issues, organizational changes, response to the COVID-19 pandemic and other station activities since October 2020, an update on DCP Performance Indicators, recent Licensee Event Reports, NRC Inspection Reports and history of violations, recent state of the plant inspection, recent compliance issues and license amendment requests, and a presentation on plant performance during the twenty-second refueling outage for Unit 1 (R22) including key activities, results achieved, fuel and steam generator inspection results, compliance issues and steam generator inspection results, compliance issues and steam generator inspection results, compliance issues and steam generator inspection results.

Tuesday Evening, February 16 6:30 P.M.

Receive public comments and communications to the Committee; further informational presentations related to plant safety and operations by PG&E, including the history of drone sightings at DCP and implications upon nuclear safety, and a report concerning monitoring and reporting of radiological effluent releases and radiological environmental impacts.

Wednesday Morning, February 17 9:00 A.M.

Introductions, comments by Committee members; receive public comments and communications to the Committee; receive further informational presentations related to plant safety and operations by PG&E, including the results of the 2020 Operating Plan and key elements of the 2021 Operating Plan, and a report concerning the causes and corrective actions for the Unit 2 Auxiliary Feedwater System leak that occurred during shutdown in July 2020 and actions taken to inspect Unit 1 for similar issues; and a report by a DCISC Technical Consultant on the January 2021 fact-finding.

Wednesday Afternoon, February 17 1:30 P.M.

Receive public comments and communications to the Committee; receive informational presentations from PG&E on the Engineering Department including the purposes and results of the 2019-2020 reorganization, the 2020-2021 reorganization, the Excellence Plan and current significant work activities, and wrap-up discussion by Committee members.

Where:

In response to Executive Order N.20-20 related to the COVID-19 (coronavirus) pandemic, public participation in the DCISC public meetings shall be electronic only and without a physical location for public participation in the DCISC public meetings in real-time by accessing the Zoom webinar meeting via the web link or meeting ID or by calling a phone number provided. Instructions on how to access, view and participate in remote meetings are provided by visiting the DCISC's home page at <http://www.dccisc.org>.

Please plan to attend!

For further information call 1-800-439-4688 or visit the Committee's website at www.dccisc.org. A copy of the meeting Agenda packet may be reviewed at the Cal Poly Library's Reference Department and the Agenda packet is available on the DCISC's website. Each session of a public meeting of the DCISC is available live and online during the meeting by visiting www.slo-span.org and after a meeting in archived format, indexed to the meeting's agenda, or by following links on the Committee's website. WATCH THE SESSIONS LIVE, OR SUBSEQUENTLY IN ARCHIVE, INDEXED TO THE MEETING'S AGENDA, BY FOLLOWING THE LINK ON THE COMMITTEE'S WEBSITE TO WWW.SLO-SPAN.ORG OR AFTER THE MEETING ON GOVERNMENT ACCESS TELEVISION.

G.2 - 265

Diablo Canyon

INDEPENDENT SAFETY COMMITTEE (DCISC) Public Meeting:

When: Tuesday Morning, February 16 9:00 A.M.

Opening comments and remarks; receive public comments and communications to the Committee; acceptance of the Minutes of the October 22-23, 2020 public meeting; discussion of administrative matters, including receipt of PG&E's response to the DCISC 30th Annual Report on the Safety of Diablo Canyon Nuclear Power Plant (DCPP) Operations for the period July 1, 2019 - June 30, 2020, an update on financial matters and activities, review of the Open Items List, reports by Committee Members including scheduling of future fact-finding visits and public meetings, a report by a DCISC Technical Consultant on the November 2020 fact-finding and a report by the Assistant Legal Counsel.

Tuesday Afternoon, February 16 1:30 P.M.

Receive public comments and communications to the Committee; informational presentations related to plant safety and operations by PG&E, including the "State of the Plant" regarding key events, highlights, outages including Unit 2 forced outages to address main generator issues, organizational changes, response to the COVID-19 pandemic and other station activities since October 2020, an update on NRC Performance Indicators, recent Licensee Event Reports, NRC Inspection Reports and Notices of Violation, issues raised by NRC Resident Inspectors, open compliance issues and license amendment requests, and a presentation on plant performance during the twenty-second refueling outage for Unit 1 (R22) including key activities, results achieved, fuel and steam generator inspection results, unexpected equipment issues and open items; and a report by a DCISC Technical Consultant on the December 2020 fact-finding.

Tuesday Evening, February 16 6:30 P.M.

Receive public comments and communications to the Committee; further informational presentations related to plant safety and operations by PG&E, including the history of drone sightings at DCP and implications upon nuclear safety, and a report concerning monitoring and reporting of radiological effluent releases and radiological environmental impacts.

Wednesday Morning, February 17 9:00 A.M.

Introductions, comments by Committee members; receive public comments and communications to the Committee; receive further informational presentations related to plant safety and operations, including the results of the 2020 Operating Plan and key elements of the 2021 Operating Plan, and a report concerning the causes and corrective actions for the Unit 2 Auxiliary Feedwater System leak that occurred during shutdown in July 2020 and actions taken to inspect Unit 1 for similar issues; and a report by a DCISC Technical Consultant on the January 2021 fact-finding.

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Receive public comments and communications to the Committee; receive informational presentations from PG&E on the Engineering Department including the purposes and results of the 2019-2020 reorganization, the Excellence Plan and current significant work activities, and wrap-up discussion by Committee members.

Where:

In response to Executive Order N.20-20 related to the COVID-19 (coronavirus) pandemic, public participation in the DCISC public meetings shall be electronic only and without a physical location for public participation in the DCISC public meetings in real-time by accessing the Zoom webinar meeting via the web link or meeting ID or by calling a phone number provided. Instructions on how to access, view and participate in remote meetings are provided by visiting the DCISC's home page at <http://www.dccisc.org>.

Please plan to attend!

For further information call 1-800-439-4688 or visit the Committee's website at www.dccisc.org. A copy of the meeting Agenda packet may be reviewed at the Cal Poly Library's Reference Department and the Agenda packet is available on the DCISC's website. Each session of a public meeting of the DCISC is available live and online during the meeting by visiting www.slo-span.org and after a meeting in archived format, indexed to the meeting's agenda, or by following links on the Committee's website. WATCH THE SESSIONS LIVE, OR SUBSEQUENTLY IN ARCHIVE, INDEXED TO THE MEETING'S AGENDA, BY FOLLOWING THE LINK ON THE COMMITTEE'S WEBSITE TO WWW.SLO-SPAN.ORG OR AFTER THE MEETING ON GOVERNMENT ACCESS TELEVISION CHANNEL 71.

G.2 - 266

Info@DCISC.org

From: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Sent: Friday, February 12, 2021 3:31 PM
To: attys@wellingtonlaw.com
Cc: 'Mattes, Martin'; info@dccisc.org; 'Peter Lam'; 'Robert Budnitz'; 'PER PETERSON'; 'Ferman Wardell'; rickmcw1@gmail.com
Subject: RE: Agenda for DCISC Public Meeting - February 16-17, 2021re Hydrogen Leak/Vibration Issue

Bob,

Please add me and Judith Ikle (judith.ikle@cpuc.ca.gov) to the zoom list as we may wish to ask some questions.

It's possible I may have some additional attendees to add on Tuesday.

Have a great weekend!

David Zizmor, Esq.
Public Utilities Regulatory Analyst
California Public Utilities Commission - Energy Division
505 Van Ness Avenue
San Francisco, CA 94102
(415) 703-1575 --- DAVID.ZIZMOR@CPUC.CA.GOV

From: Attys@WellingtonLaw.com <attys@wellingtonlaw.com>
Sent: Friday, February 12, 2021 2:43 PM
To: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Cc: 'Mattes, Martin'; 'mmattes@nossaman.com'; info@dccisc.org <info@dccisc.org>; 'Peter Lam' <peterlam1@aol.com>; 'Robert Budnitz' <budnitz@pacbell.net>; 'PER PETERSON' <perpeter@me.com>; 'Ferman Wardell' <wardell@bellsouth.net>; rickmcw1@gmail.com <rickmcw1@gmail.com>
Subject: RE: Agenda for DCISC Public Meeting - February 16-17, 2021re Hydrogen Leak/Vibration Issue

David -

Thank you for this information. We are going to try to work with PG&E to slightly rearrange the agenda for Tuesday afternoon in order to be able to present as much information as we can on the Unit-2 main generator issues during the latter part of the afternoon session. I'll keep you informed. Whenever you can provide me a list of who from the Commission may want to attend along with an email address for each that will be fine. I can then have them on the Panelist side of the webinar and bring them in if they want to ask a question or make a comment. Are you planning to be there?

Thanks also for the update on the NDCTP - seems like the AU has taken his time on this but not much we can do but wait and see if he decides to address the DCISC post-shutdown proposal in the Settlement Agreement.

Wishing you a great Presidents' Day weekend,

G.2 - 267

Cordially,

Bob Rathie

From: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Sent: Thursday, February 11, 2021 5:50 PM
To: attys@wellingtonlaw.com
Cc: 'Mattes, Martin'; 'mmattes@nossaman.com'; info@dccisc.org <info@dccisc.org>; 'Peter Lam' <peterlam1@aol.com>; 'Robert Budnitz' <budnitz@pacbell.net>; 'PER PETERSON' <perpeter@me.com>; 'Ferman Wardell' <wardell@bellsouth.net>
Subject: RE: Agenda for DCISC Public Meeting - February 16-17, 2021re Hydrogen Leak/Vibration Issue

Bob,

We will definitely have some people in attendance, though I'm still waiting to hear back from several people so I don't yet have a list to give you for zoom. Given the length of the meeting and that there's a lot going on at the CPUC, we may focus on being there around 4pm Tuesday when you discuss the January fact-finding visit since we'll be most interested in the latest information. Hopefully I'll have a full list for you by COB tomorrow, but I may not have it until Tuesday morning what with people taking advantage of the long weekend.

As for the NDCTP, I'm expecting to get a draft of the proposed decision soon, but as of today I have not received it.

David Zizmor, Esq.
Public Utilities Regulatory Analyst
California Public Utilities Commission - Energy Division
505 Van Ness Avenue
San Francisco, CA 94102
(415) 703-1575 --- DAVID.ZIZMOR@CPUC.CA.GOV

From: Attys@WellingtonLaw.com <attys@wellingtonlaw.com>
Sent: Monday, February 8, 2021 4:18 PM
To: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Cc: 'Mattes, Martin'; 'mmattes@nossaman.com'; info@dccisc.org <info@dccisc.org>; 'Peter Lam' <peterlam1@aol.com>; 'Robert Budnitz' <budnitz@pacbell.net>; 'PER PETERSON' <perpeter@me.com>; 'Ferman Wardell' <wardell@bellsouth.net>
Subject: RE: Agenda for DCISC Public Meeting - February 16-17, 2021re Hydrogen Leak/Vibration Issue

David - Happy to hear from you and thanks for the update.

During the February 16 presentation on Tuesday afternoon (approx. 1:45 p.m.) on the "State of the Plant" the DCP Station Director Cary Harbor will include some information in his presentation on the Unit 2 forced outages to deal with the Unit 2 main generator issues. Prior to that, during the Tuesday morning presentations (at approx. 11 a.m.) the Committee will receive a report from Committee Technical Consultant Rick McWhorter on the November 2020 fact-finding visit with Dr. Budnitz which includes their review of the Unit 2 forced outage. (The presentations made earlier during the Tuesday morning session concern Committee administrative and business matters, likely not of much interest to CPUC representatives).

G.2 - 268

Later on Tuesday afternoon, February 16 (at approx. 4:10 p.m.) we could arrange to have the report on the January 2021 fact-finding visit by Dr. Lam be presented. This fact-finding included review of the Unit 2 main generator issues and an update on the root cause evaluation. The full scope of the Committee's consideration of the Unit 2 main generator hydrogen leak/vibration issues would therefore be covered between 11:am. and 5:00 p.m. on Tuesday, February 16. The interested CPUC representatives could access the Zoom webinar for all or any one or more of these presentations.

There is always the opportunity to pose questions to the Committee and DCCP's representatives on any topic under review or on the Committee's operation and activities in general. If you want to provide me with the email addresses for interested CPUC representatives I can have them listed as panelists for purposes of making comments or asking questions during the webinar.

Let me know if you have any questions, suggestions or need more information and thank you for the information on the CEC candidates. We'll standby for more information on the 2018 NDCTP Proposed Decision. It is not on our agenda for February.

Take care and keep well,

Bob Rathie
(831) 424-3672 (home)
info@dcisc.org

From: Zlzmor, David <David.Zlzmor@cpuc.ca.gov>
Sent: Friday, February 5, 2021 3:54 PM
To: attys@wellingtonlaw.com
Cc: Mattes, Martin <mmattes@nossaman.com>; info@dcisc.org
Subject: Re: Agenda for DCISC Public Meeting - February 16-17, 2021 & Inquiry re Appointments and 2018 NDCTP

Thanks for the update. Could you let me know in what part of the agenda the hydrogen leak/vibration issues and their related outages will be discussed? Several CPUC members are interested in that subject and want to know when to join the meeting.

For the 2021 DCISC nominations, the application period closed at the beginning of the week with Peter Lam and Michael Quinn as the only two people to submit themselves as candidates.

As for the NDCTP, I have been told to expect a draft of the proposed decision soon, but I have not yet seen it so I do not expect it to get published by the time of the meeting. In December the statutory deadline was extended to March 13th so I'm hopeful we'll have it out before then.

David Zlzmor, Esq.
Public Utilities Regulatory Analyst
California Public Utilities Commission – Energy Division
505 Van Ness Avenue
San Francisco, CA 94102
(415) 703-1575 — DAVID.ZIZMOR@CPUC.CA.GOV

G.2 – 269

Info@DCISC.org

From: info@dcisc.org
Sent: Sunday, February 14, 2021 2:49 PM
To: 'Cochran, Justin@Energy'
Cc: info@dcisc.org
Subject: DCISC February 16-17, 2021, Public Meeting
Attachments: Agenda - REV 3.2 Draft - February 16-17 2021 with Times.doc

Justin - I hope all is going well with you. It's been some time since we corresponded.

You should have received on Friday the agenda packet for the DCISC public meeting taking place this coming week on Tuesday and Wednesday, February 16-17. I want to let you know that we have made a slight changes to the agenda for Tuesday afternoon to move the presentation on the "State of the Plant" by the DCCP Station Director, which will include a discussion of the Unit 2 forced outages to address the issues with the main generator, to be the third of the PG&E informational presentations for that afternoon and to follow that presentation with Consultant Rick McWhorter's report on his January 2021 fact-finding with Dr. Lam which included the fact-finding team's review of the issues with the Unit 2 main generator and an update on the root cause evaluation.

As I know you are aware, the generator issues have engendered much interest, including inquiries to the Committee from the CPUC, and the Committee is changing the agenda for Tuesday afternoon slightly to be able to present the bulk of its reporting on the Unit 2 generator issues during the latter part of Tuesday afternoon.

I want to extend an invitation to you for the DCISC's upcoming meeting. Once again, due to the coronavirus and social distancing precautions, we are conducting the meeting remotely using Zoom. I have attached a copy of the "working agenda" showing the revisions discussed above for the meeting which has the estimated times for the various presentations and the Meeting ID etc. to access the meeting via Zoom.

As always, we would welcome your presence at the meeting and participation should you care to do so, and I close with my wish that you continue to keep well in these times.

Bob Rathie
(831) 424-3672 (home)
info@dcisc.com

G.2 – 271

From: Attys@WellingtonLaw.com <attys@wellingtonlaw.com>
Sent: Tuesday, February 2, 2021 7:31 PM
To: Zlzmor, David <David.Zlzmor@cpuc.ca.gov>
Cc: Mattes, Martin <mmattes@nossaman.com>; info@dcisc.org <info@dcisc.org>
Subject: Agenda for DCISC Public Meeting - February 16-17, 2021 & Inquiry re Appointments and 2018 NDCTP

David –

I hope all continues to be well with you. I have attached a copy of the "working agenda" for the next public meeting of the DCISC to be held on Tuesday and Wednesday, February 16-17, 2021. This is the version which has the estimated times for the various presentations and the Meeting ID, Password, etc. to access the meeting via Zoom. Once again, due to the continuing coronavirus and social distancing precautions, the Committee is conducting the meeting remotely using Zoom. The Committee has continued to conduct all the scheduled fact-findings remotely with DCCP as it has done since March 2020.

I wanted to check in with you to see how many candidates applied for the CEC nomination for the 2021-2024 term and their names if possible as well as whether you've heard anything relative to the pending nomination of a DCISC Member by the Governor for the 2020-2023 term.

I also want to follow up with you on whether there is anything I can report to the DCISC Members relative to circulation of or progress on a proposed decision in the 2018 NDCTP or anything regarding the Settlement Agreement in that proceeding?

As always, thanks for your assistance and counsel and I wish you and your family my best for keeping well in these times.

Bob Rathie
(831) 424-3672 (home)
info@dcisc.org

ROBERT W. RATHIE - WELLINGTON LAW OFFICES - 857 CASS STREET - SUITE D - MONTEREY - CA - 93940 -
(831) 373-8733 - FAX (831) 373-7106

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Please consider the environment before printing this email.

G.2 – 270

Info@DCISC.org

From: info@dcisc.org
Sent: Sunday, February 14, 2021 2:59 PM
To: lauren.brown@sbcglobal.net
Cc: info@dcisc.org
Subject: DCISC Public Meeting - February 16-17, 2021
Attachments: Public Agenda.doc

Lauren –

I want to let you know that the Diablo Canyon Independent Safety Committee will be conducting its next public meeting via Zoom next week on Tuesday and Wednesday, February 16-17. A copy of the meeting agenda is attached and instructions on how to access the Zoom Webinar are provided in the agenda.

I also want to let you know that we are proposing to make a slight changes to the agenda for Tuesday afternoon to move the presentation on the "State of the Plant" by the DCCP Station Director, which will include a discussion of the Unit 2 forced outages to address the issues with the main generator, to be the third of the PG&E informational presentations for that afternoon and to follow that presentation with Technical Consultant Rick McWhorter's report on his January 2021 fact-finding with Dr. Lam which included the fact-finding team's review of the issues with the Unit 2 main generator and an update on the root cause evaluation.

As I know you are aware, the generator issues have engendered much interest, including inquiries to the Committee from the CPUC, and the Committee's change to the order of the agenda for Tuesday afternoon is to be able to present the bulk of its reporting on the Unit 2 generator issues during the latter part of Tuesday afternoon.

A copy of the full agenda packet for the meeting is available on our website at <http://www.dcisc.org>.

I hope that things are going well for you and you're keeping well. Hope you can attend at least some part of the meetings.

Best Regards,

Bob Rathie
DCISC Asst. Legal Counsel
(831)424-3672 (Home)
mailto:info@dcisc.org

G.2 – 272

Info@DCISC.org

From: Haas, Greg <Greg.Haas@mail.house.gov>
Sent: Monday, February 15, 2021 5:15 PM
To: info@dcisc.org
Subject: Re: DCISC Public Meeting - February 16-17, 2021

Yes, please. What time do you think this will be discussed?
Greg

Sent from my iPhone

> On Feb 15, 2021, at 9:37 AM, info@dcisc.org wrote:

>
> Greg - If you have no objection, I'll add you as a panelist for the meeting so you should receive an invitation in case you wish to make any comments or ask a question on Tuesday.

>
> Bob
> -----Original Message-----
> From: Haas, Greg <Greg.Haas@mail.house.gov>
> Sent: Sunday, February 14, 2021 4:27 PM
> To: Info@dcisc.org
> Subject: Re: DCISC Public Meeting - February 16-17, 2021

>
> Bob,
> Thank you for the update. I have been having many discussions with the NRC about unit 2 and will be interested in the DCISC discussion.
> Unfortunately, I won't be able to attend on Wednesday at all.
> I will try to attend on Tuesday when I can.

>
> Greg Haas
>
> Sent from my iPhone

>> On Feb 14, 2021, at 3:00 PM, info@dcisc.org wrote:

>>
>> Greg -
>>
>> I want to let you know that the Diablo Canyon Independent Safety
>> Committee will be conducting its next public meeting via Zoom next
>> week on Tuesday and Wednesday, February 16-17. A copy of the meeting
>> agenda is attached and instructions on how to access the Zoom Webinar are provided in the agenda.
>>
>> I also want to let you know that we are proposing to make a slight
>> changes to the agenda for Tuesday afternoon to move the presentation
>> on the "State of the Plant" by the DCCP Station Director, which will

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G.2 - 273

>> include a discussion of the Unit 2 forced outages to address the
>> issues with the main generator, to be the third of the PG&E
>> informational presentations for that afternoon and to follow that
>> presentation with Technical Consultant Rick McWhorter's report on his
>> January 2021 fact-finding with Dr. Lam which included the
>> fact-finding team's review of the issues with the Unit 2 main generator and an update on the root cause
>> evaluation.

>>
>> As I know you are aware, the generator issues have engendered much
>> interest, including inquiries to the Committee from the CPUC, and the
>> Committee's change to the order of the agenda for Tuesday afternoon
>> is to be able to present the bulk of its reporting on the Unit 2 generator issues during the
>> latter part of Tuesday afternoon.

>>
>> A copy of the full agenda packet for the meeting is available on our
>> website at https://urldefense.proofpoint.com/v2/url?u=http-3A__www.dcisc.org&d=DwIFAw&c=L93KkjKsAC98uTvC4KvQDdTDzAeWDDrMg653YXlH0&r=PirOY1LrcDp7MEuRFM-WRiifkAI2Ik5pNreYGvEYm&m=G4PiB164dwT8Mis5Lb7WNhgWraueKRcenLqPhYN2QI&s=bqSn3lMsY0rvM7ZyLpJJfEYix058W2B47XXPtWJlTQ&e=.
>>

>> I hope that things are going well for you and you're keeping well.
>> Hope you can attend at least some part of the meetings,

>>
>> Best Regards,
>>
>> Bob Rathie
>> DCISC Asst. Legal Counsel
>> (831)424-3672 (Home)
>> mailto: info@dcisc.org
>>
>>
>> <Public Agenda.doc>
>

2

G.2 - 274

Info@DCISC.org

From: Robert J. Budnitz <budnitz@pacbell.net>
Sent: Tuesday, February 16, 2021 1:21 PM
To: David Weisman; peterlam@aol.com; perfpeterson@me.com; attys@wellingtonlaw.com; info@dcisc.org
Subject: Re: DCISC and NRC events concurrent with Jewish High Holidays...

TO: David Weisman
FROM: Bob Budnitz

A few years ago, I recall dimly, you sent me this same film clip, which I looked at and then used as the basis for a response to you. (I looked at my old Jewish calendars and this clip is apparently from October 13, 2005, by the way. And everyone, including you, looks younger!)

Here goes: Ever since I joined the DCISC, the probability of any DCISC schedule overlapping with a Jewish holiday has been zero. I have always had the Jewish calendar out and on my desk during our scheduling sessions, and that includes today's scheduling discussions. Thanks for your interest, Bob

On 2/16/2021 12:08 PM, David Weisman wrote:

> Members of the DCISC:

>
> For you to consider during your lunch break: The questions about why the NRC (or DCISC) should chose to schedule meetings and events concurrent with the autumnal Jewish high holidays...this is not a new issue. As the following small video clip reveals, I have raised this issue with the DCISC 15 years ago, and you can see David Rossin's response at that time. In this decade and a half, it appears that NRC, and in certain instances, the DCISC, do not take this cultural factor into consideration.

>
> Presented merely as historical precedent for this topic. Please feel free to contact me with any questions.

>
> Yours truly,
>
> DAVID WEISMAN
>
>

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G.2 - 275

Info@DCISC.org

From: David Weisman <davidjayweisman@gmail.com>
Sent: Tuesday, February 16, 2021 6:45 PM
To: info@dcisc.org; peterlam@aol.com; perfpeterson@me.com; attys@wellingtonlaw.com; budnitz@pacbell.net
Subject: Comments of Dave Lochbaum on "drain down" situation and "closed valve" at Diablo
Attachments: Lochbaum04-valve.rtf; zip

Dear Committee;

I am taking the liberty of passing on to you, for your records, the comments and analysis of Dave Lochbaum on the situation you described today regarding the resolution of the NRC's Green Finding on the incident involving the mistaken opening/closing of the valve in the reactor vessel drain down situation.

Thank you.

DAVID WEISMAN
Alliance for Nuclear Responsibility

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G.2 - 276

From: David Lochbaum <davelochbaum@gmail.com>

Dear California Colleagues:

I reviewed the attached recent NRC inspection report for Diablo Canyon.

The NRC issued a Green finding.

The violation that prompted this finding is described on the report's 14th page. I've highlighted in yellow the portions that were most significant to me.

It seems that two workers were sent out to close a valve before other workers lifted the reactor vessel head off the reactor vessel.

One worker was to close the normally open valve.

The second worker was to verify that the valve had been closed.

Both workers signed the work package indicating the valve was closed.

As the other workers later began lifting the head off the vessel (not by hand, they used the overhead crane), water spraying into the containment was noticed.

It took workers about 30 minutes to find the valve that was supposed to be closed was in fact fully open. It was a valve on a 3/4-inch diameter line. About 10 gallons per minute drained from the reactor vessel through the open valve until workers closed the valve -- a drain of about 300 gallons.

The NRC classified this finding as Green. Given that it was noticed fairly soon and corrected fairly soon and that it would have taken either a larger leak rate or a longer drain time to pose a safety problem, that classification seems appropriate.

The NRC's report does not mention whether practices commonly performed in the nuclear industry were used here but unsuccessful.

One is IPTE -- infrequently performed tests and evolutions. Things that are seldom done can be challenging to workers. Dominion even considers tests that are performed by control room operators on a quarterly basis to be IPTEs. Their rationale is that an operating crew may not have conducted a quarterly test for several years due to shift rotation. So, Dominion sends the crew to the control room simulator to rehearse the quarterly test before they try it live.

Another is the pre-job briefing. A supervisor meets in person with the workers performing a task before they head out into the field to conduct the task. The supervisor outlines the work to be performed and answers questions the workers have about the task.

G.2 - 277

In this case, the worker assigned to close the valve thought the valve was closed because he or she was unable to turn the valve's handwheel in the closed direction. The second worker assigned to verify that the valve was closed bought that notion.

But the valve had been sealed in the open position. To ensure it was open, workers used tie wraps to prevent someone from turning the handwheel the close the valve.

The seal worked -- the workers could not close the valve despite that being their goal.

The valve even had tags hanging on it indicating that it was sealed open. The two workers apparently did not see the warning tag (transparency can be over-rated).

The blame for this event extends beyond the two workers. They could have performed better, for sure. But as outlined above, the process used to control this work could have, and should have, been far better. Unless one can honestly conclude that the majority of other workers, except for these two, would have successfully closed the valve, the system set a trap these two fell into. Those setting the trap are as guilty as the two caught in it.

Having written that, the NRC's Green finding should help lessen the number of traps in the future. The NRC's report indicates that PG&E took steps like a shift stand-down (essentially, a nuclear time-out) and remedial training. The NRC's Green finding will likely serve to extend the lifetime of those corrective actions beyond a shift or a month. While the NRC's report does not name the two workers, nearly everyone at Diablo Canyon knows who they are. Having worked at several sites, workers try hard to avoid being the next nameless clunkheads.

Thanks,
Dave

G.2 - 278

Info@DCISC.org

From: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Sent: Wednesday, February 17, 2021 9:44 AM
To: Bob Rathie@DCISC
Subject: Slides for the DCISC meeting

Good day Bob.

I am streaming the meeting from my TV since I am juggling phone-email-webcasts due to cascading impacts from winter storms... I think the nation needs a 3 day holiday free of drama (I know I need some drama free days)...

As usual the committee has brought some important issues up and we value the questions and focus the team brings to the subjects and topics. I was wondering if you can share the slides when you get a chance so I can link them to my notes (if there is link where I can download them that will also work).

Also, let Dr. Peterson that is not just the electric grid that is collapsing but natural gas and petroleum is also having issues and many of these issues are spreading downstream...

Also, glad to hear everyone and see that they appear to be doing well.

Thank you and have a great day. I am missing the beach even if it would be chilly...

Best Regards,

Justin Cochran, Ph.D.
Emergency Coordinator & Nuclear Advisor to
Chair David Hochschild
California Energy Commission
1516 Ninth Street, MS-39
Sacramento, CA 95814

Cell: 916-698-2549
Fax: 916-651-3767
justin.cochran@energy.ca.gov

G.2 - 279

G.2 - 280

Info@DCISC.org

From: info@dcisc.org
Sent: Wednesday, February 17, 2021 1:23 PM
To: 'Peter Lam'; 'Robert J. Budnitz'; 'Per Peterson'; Ferman Wardell; rickmcw1@gmail.com
Cc: info@dcisc.org
Subject: FW: Running to failure

FYI - Received from Rochelle Becker during the break. Link below is to an article that concerns the Camp Fire wildfire event causation.

Bob R

From: Rochelle Becker <rochellea4nr@gmail.com>
Sent: Wednesday, February 17, 2021 12:52 PM
To: DCISC <info@dcisc.org>
Subject: Running to failure

Dear DCISC,

These continuing articles remind us that it is PG&E that owns Diablo Canyon and while we appreciated the workforce presentations, the corporate culture continues to sow seeds of doubt.

"An internal report from PG&E's own materials lab neglected the risk of those parts cracking and concluded that they had as many as 28 years of "remaining life," even though PG&E's own maintenance policies said they did not. The lab report provides a window into what prosecutors call PG&E's "run to failure" policy of delaying maintenance on power line parts until they break."

<https://www.abc10.com/article/news/local/wildfire/run-to-failure-what-pge-knew-and-when/103-e4654595-1036-47bb-9078-137893ac242d>

In Peace
Rochelle

Rochelle Becker, Executive Director
Alliance for Nuclear Responsibility
PO 1328
San Luis Obispo, CA 93406
www.a4nr.org

ENTIRE REPORT AVAILABLE THROUGH THE OFFICE OF THE DCISC LEGAL COUNSEL

G.2 – 281

G.2 – 282

Info@DCISC.org

From: attys@wellingtonlaw.com
Sent: Wednesday, February 17, 2021 2:13 PM
To: 'David Weisman'
Cc: info@dcisc.org
Subject: RE: DCISC February 16-17 2021 Public Meeting Power Points
Attachments: DCISC-February 2021 Public Meeting Compiled Informational Presentations.pdf

David – PowerPoints are attached for today and yesterday's presentations. Sorry for any inconvenience. Still getting some "bugs" out of the new website.

Cordially,
Bob

From: David Weisman <davidjayweisman@gmail.com>
Sent: Tuesday, February 16, 2021 6:54 PM
To: info@dcisc.org; budnitz@pacbell.net; peterlam1@aol.com; perfpeterson@me.com; attys@wellingtonlaw.com
Subject: Here is the email from Lochbaum as a PDF file as well

Dear Committee;

I am taking the liberty of passing on to you, for your records, the comments and analysis of Dave Lochbaum on the situation you described today regarding the resolution of the NRC's Green Finding on the incident involving the mistaken opening/closing of the valve in the reactor vessel drain down situation.

Here It is as a PDF as well.

Thank you.

DAVID WEISMAN
Alliance for Nuclear Responsibility

DCSafety@DCISC.org

From: tom marre <tommarre@gmail.com>
Sent: Wednesday, February 17, 2021 2:49 PM
To: dcsafety@dcisc.org
Subject: DCISC/ thank you

Robert J. Budnitz ,Peter Lam, Per F. Peterson

Just a brief note to thank you for providing this forum.

Thomas Marré
Cell:1.805.305.0360
tommarre@gmail.com

G.2 – 283

G.2 – 284

Info@DCISC.org

From: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Sent: Thursday, February 18, 2021 4:41 PM
To: info@dcisc.org
Cc: 'Peter Lam'; 'Robert J. Budnitz'; 'Per Peterson'; 'Ferman Wardell'; rickmcw1@gmail.com
Subject: Re: Response to South Texas Nuclear outage question

Thanks so much everyone! That was very helpful.

One more question: did my explanation make any sense whatsoever given my limited info on the plant? I'd like to think I've learned a little about how the plants work after all these years.

David Zizmor, Esq.
Public Utilities Regulatory Analyst
California Public Utilities Commission – Energy Division
505 Van Ness Avenue
San Francisco, CA 94102
(415) 703-1575 — DAVID.ZIZMOR@CPUC.CA.GOV

From: Info@DCISC.org <info@dcisc.org>
Sent: Thursday, February 18, 2021 4:30 PM
To: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Cc: 'Peter Lam' <peterlam1@aol.com>; 'Robert J. Budnitz' <budnitz@pacbell.net>; 'Per Peterson' <perfpeterson@me.com>; 'Ferman Wardell' <wardell@bellsouth.net>; rickmcw1@gmail.com <rickmcw1@gmail.com>; info@DCISC.org <info@dcisc.org>
Subject: RE: Response to South Texas Nuclear outage question

David:

Committee Consultant Rick McWhorter found a link to the most detailed publicly-available information that we could find regarding the event: <https://atomicinsights.com/south-texas-project-unit-1-tripped-at-0537-on-feb-15-2021/>

That article states, "The trip resulted from a loss of feedwater attributed to a cold weather-related failure of a pressure sensing lines to the feedwater pumps, causing a false signal, which in turn, caused the feedwater pump to trip. This event occurred in the secondary side of the plant (non-nuclear part of the unit). The reactor trip was a result of the feedwater pump trips. The primary side of the plant (nuclear side) is safe and secured." It sounds to us like an instrument sensing line froze initiating the event, and it was not caused by freezing of a major feedwater line or pump. That scenario sounds plausible to us and you might want to reword your explanation paragraph based on that information.

It's assumed that the scenario would not be applicable to Diablo Canyon based on the fact that Diablo Canyon's location does not typically experience significant periods of time with temperatures below freezing. The Committee has not previously reviewed the plant's protections against low temperatures for the same reason. As best we can tell at this stage, the failure(s) leading up to the South Texas reactor shutdown are not applicable to the Diablo Canyon plant. Dr. Budnitz also reviewed this response.

Thanks for contacting the DCISC.

G.2 – 285

(831) 424-3672 (home)
info@dcisc.org

From: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Sent: Thursday, February 18, 2021 12:20 PM
To: info@dcisc.org; Mattes, Martin <mmattes@nossaman.com>; peterson@nuc.berkeley.edu; Bob Budnitz <budnitz@pacbell.net>; Peter Lam 1 <peterlam1@aol.com>
Subject: Fw: South Texas Nuclear outage question

Dear DCISC team,

I received an internal inquiry about the shutdown of one of Texas' nuclear plants due to a feedwater pump shutdowns (see the South Texas event from 2 days ago at the bottom of <https://www.nrc.gov/reading-rm/doc-collections/event-status/event/2021/20210216en.html>).

Could you tell me if my attempted explanation below is in any way close to being accurate? And if you can add any detail that might help us technical laypeople better understand the reason for that shutdown, I'd really appreciate it.

Thanks!

David Zizmor, Esq.
Public Utilities Regulatory Analyst
California Public Utilities Commission – Energy Division
505 Van Ness Avenue
San Francisco, CA 94102
(415) 703-1575 — DAVID.ZIZMOR@CPUC.CA.GOV

From: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Sent: Thursday, February 18, 2021 12:13 PM
To: Dupre, Eric <Eric.Dupre@cpuc.ca.gov>
Cc: Ikle, Judith <judith.ikle@cpuc.ca.gov>
Subject: Re: South Texas Nuclear outage question

I'm not much of an expert on the technical aspects.

That said, the article says "It was the connection between the power plant and outside systems," Alex Gilbert, project manager at the Nuclear Innovation Alliance, told the Washington Examiner." Considering the actual pumps should be inside the plant and not exposed to the weather, that comment makes it sound like they didn't insulate the water pipes bringing water into the feedwater system from outside the plant.

The NRC report says "At 0526 [CST] on 02/15/2021, Unit 1 automatically tripped due to low steam generator levels. The low steam generator levels were due to loss of Feedwater pumps 11 and 13 (cause unknown)." So that sounds like the pumps didn't actually fail, but that they shutdown as designed.

The feedwater pump system basically takes water, increases pressure, and then shoots it into the steam generator as steam to spin the turbines (this site has a pretty easy-to-understand explanation of these systems: <http://www.nucleartourist.com/systems/fw.htm>)

G.2 – 287

Bob Rathie
(831) 424-3672 (home)
info@dcisc.org

From: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Sent: Thursday, February 18, 2021 2:08 PM
To: info@dcisc.org
Cc: 'Peter Lam' <peterlam1@aol.com>; 'Robert J. Budnitz' <budnitz@pacbell.net>; 'Per Peterson' <perfpeterson@me.com>; 'Ferman Wardell' <wardell@bellsouth.net>; rickmcw1@gmail.com
Subject: Re: South Texas Nuclear outage question

We don't need an especially in-depth response to the question - we'd just like a basic understanding of the issue that's playing out there, and maybe a sense of whether it has any bearing on Diablo Canyon. If you could provide a response by sometime tomorrow, that would be great, but please don't go to any great lengths - this is a Texas plant well outside of our jurisdiction; this is more for our own edification than anything else.

And, yes, I was on the meeting, but Judith was the one who was most interested in asking questions so I deferred to her. Thanks for having us.

David Zizmor, Esq.
Public Utilities Regulatory Analyst
California Public Utilities Commission – Energy Division
505 Van Ness Avenue
San Francisco, CA 94102
(415) 703-1575 — DAVID.ZIZMOR@CPUC.CA.GOV

From: Info@DCISC.org <info@dcisc.org>
Sent: Thursday, February 18, 2021 1:21 PM
To: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Cc: 'Peter Lam' <peterlam1@aol.com>; 'Robert J. Budnitz' <budnitz@pacbell.net>; 'Per Peterson' <perfpeterson@me.com>; 'Ferman Wardell' <wardell@bellsouth.net>; rickmcw1@gmail.com <rickmcw1@gmail.com>; info@DCISC.org <info@dcisc.org>
Subject: RE: South Texas Nuclear outage question

David – this will confirm receipt of your message by the DCISC Members and our office. I have included our two Technical Consultants on the inquiry. I expect we should be able to review and provide a response in relatively short order. Is there a certain time by which a response would be most useful?

I saw your name for a time yesterday during the Zoom meeting. Ms. Ikle participated actively and posed a number of questions during the afternoon session on Tuesday.

Thanks for contacting us and have a good weekend.

Bob

G.2 – 286

Putting that all together, my guess is that water flow from the poorly insulated/maintained outside pipes into the pumps was too low, and that insufficient water flowing into the pumps could damage them since it's a high pressure system, therefore the safety mechanism tripped and shutdown the pumps. Since they weren't pumping water, they weren't generating steam to spin the turbines which means they weren't generating electricity which means they shut down the plant.

I'll pass this along to my nuclear contacts to see if they can confirm whether I'm close to being right.

David Zizmor, Esq.
Public Utilities Regulatory Analyst
California Public Utilities Commission – Energy Division
505 Van Ness Avenue
San Francisco, CA 94102
(415) 703-1575 — DAVID.ZIZMOR@CPUC.CA.GOV

From: Dupre, Eric <Eric.Dupre@cpuc.ca.gov>
Sent: Thursday, February 18, 2021 11:36 AM
To: Zizmor, David <David.Zizmor@cpuc.ca.gov>
Cc: Ikle, Judith <judith.ikle@cpuc.ca.gov>
Subject: South Texas Nuclear outage question

David –

As our resident nuclear expert –

why would a feedwater pump fail? And yes, I know this isn't really a nuclear question, but I thought I'd run it past you anyway.

the NRC website has multiple cases, look for the South Texas one, 3 or so down.

Thanks,
Eric

Event Notification Report for February 16, 2021 | NRC.gov

AGREEMENT STATE REPORT - OVEREXPOSURE TO MEMBER OF PUBLIC The following was received from the state of Louisiana via email: "A written notification was received on February 8, 2021 at 09:15 am, which stated that on January 12, 2021, a contract employee was sanding and painting on the 491-V-44 ASO Washer Vessel, near two permitted nuclear level gauges.

www.nrc.gov

G.2 – 288

From: Zizmor, David <David.Zizmor@cpuc.ca.gov>
 Sent: Tuesday, February 23, 2021 2:52 PM
 To: Undisclosed recipients:
 Subject: CPUC Seeks Comment on Diablo Canyon Independent Safety Committee Candidates

CPUC SEEKS COMMENT ON DIABLO CANYON INDEPENDENT SAFETY COMMITTEE CANDIDATES

SAN FRANCISCO, February 23, 2021 - The California Public Utilities Commission (CPUC) today announced it is seeking public comments on candidates for appointment to the Diablo Canyon Independent Safety Committee. There is one vacancy on the Committee for a three-year term that begins on or after July 1, 2021, and ends on June 30, 2024.

The Committee assesses the safety of the operations of Pacific Gas and Electric Company's (PG&E) Diablo Canyon Nuclear Power Plant and has authority to review quarterly reports and conduct on-site inspections. The Committee reports its observations and recommendations annually, first to PG&E and then, along with PG&E's response, to the Governor, the California Attorney General, the California Energy Commission (CEC), and the CPUC.

The Committee consists of three members, one each appointed in turn by the Governor of California, the California Attorney General, and the Chair of the CEC. This year's application is for nomination as a candidate for appointment by the Chair of the CEC.

An application was received from Dr. Michael Quinn in response to the CPUC's December 18, 2020 [announcement](#). The incumbent member whose term is expiring, Dr. Peter Lam, informed the CPUC's Energy Division that he consents to reappointment for a new three-year term beginning July 1, 2021. Information about each candidate can be found at www.cpuc.ca.gov/General.aspx?id=11368 under "Diablo Canyon Independent Safety Committee," as well as by [clicking here](#).

The CPUC welcomes public comments on the qualifications of both candidates. Please submit comments by March 20, 2021 by e-mailing david.zizmor@cpuc.ca.gov (due to the pandemic, we will not be accepting comments by U.S. mail this year).

ENTIRE REPORT AVAILABLE THROUGH THE OFFICE OF THE DCISC LEGAL COUNSEL

G.2 – 289

G.2 – 290

ALJ/RWH/mln/avs

Date of Issuance 3/8/2021

Decision 21-03-020 March 4, 2021

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company for Authorization to Establish the Diablo Canyon Decommissioning Planning Cost Memorandum Account (U39E).

Application 18-07-013

And Related Matter.

Application 18-12-008

ORDER EXTENDING STATUTORY DEADLINE

Summary

This decision extends the statutory deadline in these proceedings until September 13, 2021.

1. Background

Pub. Util. Code § 1701.5(a) provides that ratesetting cases must be resolved within 18 months after initiation unless the Commission makes a written determination that the deadline cannot be met, including findings as to the reason, and issues an order extending that deadline. In these proceedings, the 18-month deadline for resolution was August 15, 2020. The Commission has extended the statutory deadline of these proceedings and the most recent Decision (D.) 20-12-009 issued on December 3, 2020, extended the statutory deadline of these proceedings to March 13, 2021.

On July 16, 2018, Pacific Gas and Electric Company (PG&E) filed Application (A.) 18-07-013 to establish the Diablo Canyon Decommissioning

A.18-07-013, A.18-12-008 ALJ/RWH/mln/avs

Planning Cost Memorandum Account. On August 15, 2018, The Utility Reform Network filed a protest and on August 27, 2018, PG&E filed its reply.

A prehearing conference (PHC) was held on September 7, 2018, to discuss the issues of law and fact, to determine the need for hearing, and to set the schedule to resolve this matter. On October 11, 2018, the assigned Commissioner issued a scoping memo and ruling for this proceeding.

On December 13, 2018, PG&E filed A.18-12-008 in the 2018 Nuclear Decommissioning Cost Triennial Proceeding. On March 7, 2019, PG&E filed a motion to consolidate A.18-07-013 with A.18-12-008. An amended scoping memo was issued on March 7, 2019 consolidating the proceedings, including additional concerns raised by Mothers for Peace and Alex S. Karlin, and modifying the schedule.

Public Participation Hearings were held on August 7-8, 2019. Evidentiary Hearings were held from September 23, 2019 through September 25, 2019.

On January 10, 2020, a Joint Motion for Adoption of a Settlement Agreement (Joint Settlement Agreement) was filed by The Utility Reform Network, Public Advocates Office at the California Public Utilities Commission, Alliance for Nuclear Responsibility, County of San Luis Obispo, Women's Energy Matters, yak tityu tityu yak tilhini Northern Chumash Cultural Preservation Kinship and PG&E.

The assigned Administrative Law Judge (ALJ) is reviewing the terms and conditions of the Joint Settlement Agreement. Therefore, an extension of the statutory deadline until September 13, 2021 is necessary to publish a proposed decision, to review comments on the proposed decision, and to allow the Commission sufficient time to deliberate and to issue its final decision.

G.2 – 291

G.2 – 292

2. Waiver of Comment Period

Under Rule 14.6(c)(4) of the Rules of Practice and Procedure, the Commission may waive the otherwise applicable 30-day period for public review and comment on a decision that extends the 18-month deadline set forth in Pub. Util. Code § 1701.5(a). Under the circumstances of this case, it is appropriate to waive the 30-day period for public review and comment.

3. Assignment of Proceeding

Marybel Batjer is the assigned Commissioner and Robert W. Haga is the assigned ALJ in these proceedings.

Findings of Fact

1. PG&E filed A.18-07-013 on July 16, 2018 and A.18-12-008 on December 13, 2018.
2. A PHC was held on September 7, 2018.
3. On October 11, 2018, the scoping memo and ruling was issued and on March 7, 2019, an amended scoping memo was issued consolidating the proceedings, including additional concerns raised by Mothers for Peace and Alex S. Karlin, and modifying the schedule.
4. Public Participation Hearings were held on August 7-8, 2019.
5. Evidentiary Hearings were held from September 23, 2019 through September 25, 2019.
6. The Commission has extended the statutory deadline of these proceedings and the most recent D.20-12-009 issued on December 3, 2020, extended the statutory deadline of these proceedings to March 13, 2021.
7. An extension of the statutory deadline until September 13, 2021, is necessary to allow sufficient time to publish the proposed decision on the Joint

- 3 -

G.2 – 293

Info@DCISC.org

From: info@dcisc.org
Sent: Saturday, February 27, 2021 4:59 PM
To: Peter Lam; 'Robert J. Budnitz'; 'Per Peterson'; 'Ferman Wardell'; rickmcw1@gmail.com
Cc: info@dcisc.org
Subject: FW: Excerpt from PG&E 10 K - Diablo status
Attachments: 022521 Page from PGE 10-K Report filed with SEC.pdf

Members & Consultants – please see the following communications with Rochelle Becker and the attachment she provided with her email on Thursday,

Best to all for an enjoyable weekend,

Bob R

From: Rochelle Becker <rochellea4nr@gmail.com>
Sent: Friday, February 26, 2021 8:02 PM
To: info@dcisc.org
Subject: Re: Excerpt from PG&E 10 K - Diablo status

Hello Bob,

Thanks for letting me know you received PG&E's 10K. While the DCISC's focus is safety, the ability of the corporation to address growing needs as the nuclear plant's life is coming to an end is the "cost vs risk" foundation on which the Committee was formed. The financial view appeared to raise concerns somewhat glossed over at the last public meeting.

In peace
 Rochelle

On Fri, Feb 26, 2021 at 7:12 PM Info@DCISC.org <info@dcisc.org> wrote:

Rochelle – this will acknowledge and thank you for your email with the attachment with the excerpt from PG&E's 10-K Report filed with the federal Securities and Exchange Commission on February 25, 2021.

I will, of course, provide the attachment and your email to our Members and Consultants for their information

Sorry for my delay in replying, I was out of the home office yesterday and am just catching up on correspondence.

1

G.2 – 295

Settlement Agreement, review comments received on the proposed decision and allow the Commission enough time to deliberate and to issue its final decision.

Conclusion of Law

Pursuant to the authority granted to the Commission under Pub. Util. Code § 1701.5(a), the statutory deadline should be extended to September 13, 2021.

IT IS ORDERED that the statutory deadline for completion of these proceedings is extended until September 13, 2021.

This order is effective today.

Dated March 4, 2021, at San Francisco, California.

MARYBEL BATJER
 President
 MARTHA GUZMAN ACEVES
 CLIFFORD RECHTSCHAFFEN
 GENEVIEVE SHIROMA
 DARCIE HOUCK
 Commissioners

- 4 -

G.2 – 294

Cordially,

Bob Rathle

From: Rochelle Becker <rochellea4nr@gmail.com>
Sent: Thursday, February 25, 2021 12:56 PM
To: DCISC <info@dcisc.org>
Subject: Excerpt from PG&E 10 K - Diablo status

Dear DCISC,

Please see attached to include in your records.

In Peace

Rochelle Becker, Executive Director
 Alliance for Nuclear Responsibility
 PO 1328
 San Luis Obispo, CA 93406
www.a4nr.org

In Peace

Rochelle Becker, Executive Director
 Alliance for Nuclear Responsibility
 PO 1328
 San Luis Obispo, CA 93406
www.a4nr.org

2

G.2 – 296



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

The operation and decommissioning of the Utility's nuclear generation facilities expose it to potentially significant liabilities and the Utility may not be able to fully recover its costs if regulatory requirements or operating conditions change or the facilities cease operations before the licenses expire.

The operation of the Utility's nuclear generation facilities exposes it to potentially significant liabilities from environmental, health and financial risks, such as risks relating to operation of the Diablo Canyon nuclear generation units as well as the storage, handling and disposal of spent nuclear fuel, and the release of radioactive materials caused by a nuclear accident, seismic activity, natural disaster, or terrorist act. If the Utility incurs losses that are either not covered by insurance or exceed the amount of insurance available, such losses could have a material effect on PG&E Corporation's and the Utility's financial condition, results of operations, liquidity, and cash flows. In addition, the Utility may be required under federal law to pay up to \$275 million of liabilities arising out of each nuclear incident occurring not only at the Utility's Diablo Canyon facility but at any other nuclear power plant in the United States.

On January 11, 2018, the CPUC approved the retirement of Diablo Canyon units by 2024 and 2025. However, the Utility continues to face public concern about the safety of nuclear generation and nuclear fuel. Some of these nuclear opposition groups regularly file petitions at the NRC and in other forums challenging the actions of the NRC and urging governmental entities to adopt laws or policies in opposition to nuclear power. Although an action in opposition may ultimately fail, regulatory proceedings may take longer to conclude and be more costly to complete. It is also possible that public pressure could grow leading to adverse changes in legislation, regulations, orders, or their interpretation. As a result, operations at the Utility's two nuclear generation units at Diablo Canyon could cease before their respective licenses expire in 2024 and 2025. In such an instance, the Utility could be required to record a charge for the remaining amount of its unrecovered investment and such charge could have a material effect on PG&E Corporation's and the Utility's financial condition, results of operations, liquidity, and cash flows.

In addition, in order to retain highly skilled personnel necessary to safely operate Diablo Canyon during the remaining years of operations, the Utility will incur costs in connection with (i) an employee retention program to ensure adequate staffing levels at Diablo Canyon, which program has been approved by the CPUC; and (ii) an employee retraining and development program, to facilitate redeployment of a portion of Diablo Canyon personnel in the decommissioning project and elsewhere in the Utility. There can be no assurance that the Utility will be successful in retaining highly skilled personnel under its employee programs.

The Utility has incurred, and may continue to incur, substantial costs to comply with NRC regulations and orders (See "Regulatory Environment" in Item 1, Business above). If the Utility were unable to recover these costs, PG&E Corporation's and the Utility's financial results could be materially affected. The Utility may determine that it cannot comply with the new regulations or orders in a feasible and economic manner and voluntarily cease operations. Alternatively, the NRC may order the Utility to cease operations until the Utility can comply with new regulations, orders, or decisions. The Utility may incur a material charge if it ceases operations at Diablo Canyon's two nuclear generation units before their respective licenses expire in 2024 and 2025. At December 31, 2020, the Utility's unrecovered investment in Diablo Canyon was \$1.4 billion.

The Utility also has an obligation to decommission its electricity generation facilities, including its nuclear facilities, as well as gas transmission system assets, at the end of their useful lives. (See Note 3: Summary of Significant Accounting Policies - "Asset Retirement Obligations" of the Notes to the Consolidated Financial Statements in Item 8.) The CPUC authorizes the Utility to recover its estimated costs to decommission its nuclear facilities through nuclear decommissioning charges that are collected from customers and held in nuclear decommissioning trusts to be used for the eventual decommissioning of each nuclear unit. If the Utility's actual decommissioning costs, including the amounts held in the nuclear decommissioning trusts, exceed estimated costs, PG&E Corporation's and the Utility's financial condition, results of operations, liquidity, and cash flows could be materially affected.

Diablo Canyon Unit 2 has experienced four outages between July 2020 and February 24, 2021, each due to related to malfunctions within the main generator associated with excessive vibrations. If the Utility is unable to adequately address the vibration issues in the Unit 2 generator, it may be required to operate Unit 2 at reduced operating levels or take the unit out of service for additional inspection, maintenance, or replacement of the affected component. Actions that may be necessary in response to the vibrations affecting the generator, or the occurrence or length of future outages, may result in incremental costs or forgone power market revenues. The Utility will also be subject to a review of the reasonableness of its actions before the CPUC. If additional outages occur in the future, or if Unit 2's planned spring 2021 refueling outage is extended due to the inspection and replacement of the affected component, the Utility may incur additional incremental costs or forgo additional power market revenues. Furthermore, the cost of such actions may exceed current estimates, such costs may not be fully recovered from insurance through NEIL, or the costs may not be recovered through regulatory processes or otherwise. These amounts could be material and have a material effect on the Utility's financial condition, results of operations, liquidity and cash flows.

53

G.2 – 297



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

Dr. Justin Cochran
Senior Nuclear Policy Advisor
California Energy Commission
1516 Ninth Street, MS-39
Sacramento, California 95814

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations.

Dear Dr. Cochran:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Chairman Hochschild. The two bound volumes which comprise the Annual Report were sent previously to Chairman Hochschild's office.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. The Thirtieth Annual Report is also now available on the Committee's website at www.dcisc.org in a pdf version and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format.

If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

G.2 – 299



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

The Honorable David Hochschild
Commissioner & Chair
California Energy Commission
1516 Ninth Street, MS-34
Sacramento, California 95814

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations.

Dear Chairman Hochschild:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Dr. Justin Cochran. The two bound volumes which comprise the Annual Report were sent previously to your office.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. The Thirtieth Annual Report is also now available on the Committee's website at www.dcisc.org in a pdf version as are all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format.

If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

G.2 – 298



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

Megan K. Hey, Esq.
Deputy Attorney General
Office of the California Attorney General
300 South Spring Street
Los Angeles, California 90013

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations.

Dear Ms. Hey:

At its October 23, 2019 public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. The two bound volumes which comprise the Annual Report were sent previously to the attention Senior Assistant Attorney General, Natural Resources Section.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. The Thirtieth Annual Report is now available on the Committee's website at www.dcisc.org in a pdf version and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:rr
Enclosure
Cc w/o encl.: DCISC Members

G.2 – 300



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

Ms. Shannon O'Rourke
Chief of Staff
Office of President Baljer
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, California 94102

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Ms. O'Rourke:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. Compact disks are also being sent to David Zizmor, Esq. and Ms. Maria Salinas of the Energy Division. The two bound volumes which comprise the Annual Report were sent previously to the office of the CPUC Executive Director and to Mr. Truman Burns of ORA.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. The Thirtieth Annual Report is now available on the Committee's website at www.dcisc.org in a pdf version and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL • ROBERT R. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY • CA • 93940
TELEPHONE (800) 439-4688 (831) 647-1044 • FACSIMILE (831) 373-7106 • INFO@DCISC.ORG

G.2 – 301



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

Ms. Maria Salinas
California Public Utilities Commission
Energy Division
505 Van Ness Avenue
San Francisco, California 94102

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Ms. Salinas:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. Compact disks are also being sent to Ms. Shannon O'Rourke and David Zizmor, Esq. The two bound volumes which comprise the Annual Report were sent previously to the office of the CPUC Executive Director and to Mr. Truman Burns of ORA.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. The Thirtieth Annual Report is now available on the Committee's website at www.dcisc.org in a pdf version and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL • ROBERT R. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY • CA • 93940
TELEPHONE (800) 439-4688 (831) 647-1044 • FACSIMILE (831) 373-7106 • INFO@DCISC.ORG

G.2 – 303



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

David Zizmor, Esq.
California Public Utilities Commission
Energy Division
505 Van Ness Avenue
San Francisco, California 94102

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Zizmor:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. Compact disks are also being sent to Ms. Maria Salinas and Ms. Shannon O'Rourke. The two bound volumes which comprise the Annual Report were sent previously to the office of the CPUC Executive Director and to Mr. Truman Burns of ORA.

The Members of the Committee welcome and invite any thoughts and comments which you might have concerning the value and usefulness of this and the previous DCISC annual reports. The Thirtieth Annual Report is now available on the Committee's website at www.dcisc.org in a pdf version and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
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G.2 – 302



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

Mr. Joseph Guzzardi
Emergency Services Manager
Office of Emergency Services
County of San Luis Obispo
County Government Center
San Luis Obispo, California 93408

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Guzzardi:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
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G.2 – 304



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

Jennifer K. Post, Esq.
Pacific Gas & Electric Company
Chief Council, DCPD
77 Beale Street, B30A
San Francisco, California 94177

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations.

Dear Ms. Post:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Senior Vice President, Generation and Chief Nuclear Officer Mr. James Welsch, Director of Generation Business Planning Mr. Thomas Baldwin, Chief Nuclear Officer Support Manager Mr. Hector Garcia, Director of Government Relations Mr. Mark Krause, Senior Manager, External Communications Ms. Suzanne Hosn, and Communications Representative Mr. John Lindsay. The two bound volumes which comprise the Annual Report were sent previously to Mr. Welsch.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL - ROBERT R. WELLINGTON - 857 CASS STREET - SUITE D - MONTEREY - CA - 93940
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G.2 - 305



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

Mr. Mark Krause
Director, Government Relations
Pacific Gas & Electric Company
1415 L Street, Suite 280
Sacramento, California 95814

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Krause:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Senior Vice President, Generation and Chief Nuclear Officer James Welsch, Director of Generation Business Planning Mr. Thomas Baldwin, Chief Nuclear Officer Support Manager Mr. Hector Garcia, Senior Manager External Communications Ms. Suzanne Hosn, Communications Representative Mr. John Lindsay, and to DCPD Chief Counsel Jennifer Post, Esq. of PG&E's Law Department. The two bound volumes which comprise the Annual Report were sent previously to Mr. Welsch.

The Members of the Committee welcome and invite any thoughts and comments which you might have concerning the value and usefulness of this and the previous DCISC annual reports. The Thirtieth Annual Report is now available on the Committee's website at www.dcisc.org in a pdf version and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL - ROBERT R. WELLINGTON - 857 CASS STREET - SUITE D - MONTEREY - CA - 93940
TELEPHONE (800) 439-6888/(831) 647-1044 - FACSIMILE (831) 373-7106 - INFO@DCISC.ORG

G.2 - 307



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

Mr. Hector Garcia
Chief Nuclear Officer Support Manager
Pacific Gas & Electric Company
Diablo Canyon Power Plant
P.O. Box 56
Mail Code 104/6/641
Avila Beach, California 93424

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Garcia:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Senior Vice President, Generation and Chief Nuclear Officer James Welsch, Director of Generation Business Planning Mr. Thomas Baldwin, Director Government Relations Mr. Mark Krause, Senior Manager External Communications Ms. Suzanne Hosn, Communications Representative Mr. John Lindsay, and to DCPD Chief Counsel Jennifer Post, Esq. of PG&E's Law Department. The two bound volumes which comprise the Annual Report were sent previously to Mr. Welsch.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL - ROBERT R. WELLINGTON - 857 CASS STREET - SUITE D - MONTEREY - CA - 93940

G.2 - 306



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

Mr. James Welsch
Senior Vice President, Generation & Chief Nuclear Officer
Pacific Gas & Electric Company
Diablo Canyon Power Plant
P.O. Box 56
Avila Beach, California 93424

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Welsch:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Director of Generation Business Planning Mr. Thomas Baldwin, Chief Nuclear Officer Support Manager Mr. Hector Garcia, DCPD Chief Counsel Jennifer Post, Esq., Director of Government Relations Mr. Mark Krause, Senior Manager External Communications Mr. Suzanne Hosn, and Communications Representative Mr. John Lindsay. The two bound volumes which comprise the Annual Report were sent previously to your office.

The Members of the Committee welcome and invite any thoughts and comments which you might have concerning the value and usefulness of this and the previous DCISC annual reports. The Thirtieth Annual Report is now available on the Committee's website at www.dcisc.org in a pdf version and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL - ROBERT R. WELLINGTON - 857 CASS STREET - SUITE D - MONTEREY - CA - 93940

G.2 - 308



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

WEBSITE - WWW.DCISC.ORG

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

March 8, 2021

Martin A. Mattes, Esq.
Nossaman, Guthner, Knox & Elliott, LLP
50 California Street
San Francisco, California 94111

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Mattes:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files.

The Members of the Committee welcome and invite any thoughts and comments which you might have concerning the value and usefulness of this and the previous DCISC annual reports. The Thirtieth Annual Report is now available on the Committee's website at www.dcisc.org in a pdf version and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

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G.2 – 309



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

WEBSITE - WWW.DCISC.ORG

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

March 8, 2021

City Library
City of San Luis Obispo
995 Palm Avenue
San Luis Obispo, California 93401

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Librarian:

At its October 23, 2020 public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein. Please make it available to the public. Compact disks are also being sent to the County Public Library Branches at Arroyo Grande and Shell Beach and to the R.E. Kennedy Library at Cal Poly. The two bound volumes which comprise the Annual Report were sent previously to the Reference Department Desk at the Cal Poly Library.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this annual report. The Thirtieth Annual Report is now available on the Committee's website at www.dcisc.org in a pdf version and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RRW:rr
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL • ROBERT R. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY • CA • 93940

G.2 – 311



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

WEBSITE - WWW.DCISC.ORG

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

March 8, 2021

R.E. Kennedy Library
Documents & Maps Department
Attn: Mr. Tim Strawn
Director of Collections Strategy and Discovery
California Polytechnic State University
San Luis Obispo, California 93407

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Strawn:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein. Please make it available to the public. Compact disks are also being sent to the San Luis Obispo, Arroyo Grande and Shell Beach public libraries. The two bound volumes which comprise the Annual Report were sent previously to the Reference Department Desk at Kennedy Library.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. The Thirtieth Annual Report is now available on the Committee's website at www.dcisc.org in a pdf version and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL • ROBERT R. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY • CA • 93940
TELEPHONE (800) 439-4688/(831) 647-1044 • FACSIMILE (831) 373 7106 • INFO@DCISC.ORG

G.2 – 310



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

WEBSITE - WWW.DCISC.ORG

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

March 8, 2021

County Library
County of San Luis Obispo
Arroyo Grande Branch
800 W. Branch
Arroyo Grande, California 93420

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Librarian:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's comments incorporated therein. Please make it available to the public. Compact disks are also being sent to the San Luis Obispo City Library, to the Shell Beach County Branch Library and to the R.E. Kennedy Library at Cal Poly. The two bound volumes which comprise the Annual Report were sent previously to the Reference Department Desk at the Cal Poly Library.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

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G.2 – 312



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

County Library
County of San Luis Obispo
Shell Beach Branch
230 Leeward Avenue
Pismo Beach, California 93449

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Librarian:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein. Please make it available to the public. Compact disks are also being sent to the Arroyo Grande County Branch Library, to the San Luis Obispo City Library and to the R.E. Kennedy Library at Cal Poly. The two bound volumes which comprise the Annual Report were sent previously to the Reference Department Desk at the Cal Poly Library.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

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G.2 – 313



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

Ms. Suzanne Hosn
Senior Manager External Communications
Pacific Gas & Electric Company
406 Higuera
San Luis Obispo, CA 93401

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Ms. Hosn:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Senior Vice President, Generation and Chief Nuclear Officer James Welsch, Director of Generation Business Planning Mr. Thomas Baldwin, Chief Nuclear Officer Support Manager Mr. Hector Garcia, Director of Government Relations Mr. Mark Krause, DCPD Chief Counsel Jennifer Post, Esq., and Communications Representative Mr. John Lindsay. The two bound volumes which comprise the Annual Report were sent previously to Mr. Welsch.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

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G.2 – 315



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

Mr. John Lindsay
Communications Representative
Energy Education Center
6588 Ontario Road
San Luis Obispo, CA 93405-8000

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Lindsay:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Senior Vice President, Generation and Chief Nuclear Officer Mr. James Welsch, Director of Generation Business Planning Mr. Thomas Baldwin, Chief Nuclear Officer Support Manager Mr. Hector Garcia, DCPD Chief Counsel Jennifer Post, Esq., Director of Government Relations Mark Krause, and Senior Manager External Communications Ms. Suzanne Hosn. The two bound volumes which comprise the Annual Report were sent previously to Mr. Welsch.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
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G.2 – 314



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

Alice B. Reynolds, Esq.
Governor's Senior Policy Advisor for Energy
Office of California Governor Gavin Newsom
State Capitol
Sacramento, California 95814

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Ms. Reynolds:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. The two bound volumes which comprise the Annual Report were sent previously to the Governor's office.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
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G.2 – 316



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

Mr. Gregory L. Haas
District Representative
U.S. Representative Hon. Salud Carbajal
24th Congressional District - California
1411 Marsh Street, Suite 205
San Luis Obispo, California 93401

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Haas:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and file.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL - ROBERT R. WELLINGTON - 857 CASS STREET - SUITE D - MONTEREY - CA - 93940
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G.2 - 317



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

Mr. Thomas R. Baldwin
Director, Generation Business Planning
Pacific Gas & Electric Company
Diablo Canyon Power Plant
P.O. Box 56
Avila Beach, California 93424

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Mr. Baldwin:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and files. A compact disk is also being sent to Senior Vice President, Generation and Chief Nuclear Officer Mr. James Welsch, Chief Nuclear Officer Support Manager Mr. Hector Garcia, DCCP Chief Counsel Jennifer Post, Esq., Director of Government Relations Mr. Mark Krause, Senior Manager External Communications Ms. Suzanne Hosh, and Communications Representative Mr. John Lindsay. The two bound volumes which comprise the Annual Report were sent previously to Mr. Welsch.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. The Thirtieth Annual Report is now available on the Committee's website at www.dcisc.org in a pdf version and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL - ROBERT R. WELLINGTON - 857 CASS STREET - SUITE D - MONTEREY - CA - 93940
TELEPHONE (800) 439-6688 (831) 647-1044 - FACSIMILE (831) 373 7106 - INFO@DCISC.ORG

G.2 - 319



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

Hon. John Laird
California State Senator
California Senate District 17
San Luis Obispo District Office
1026 Palm Street, Suite 201
San Luis Obispo, California 93401

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Senator Laird:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and file.

The Members of the Committee welcome and invite any thoughts and comments which you or your staff might have concerning the value and usefulness of this and the previous DCISC annual reports. The Thirtieth Annual Report is now available on the Committee's website at www.dcisc.org in a pdf version and all the Committee's annual reports since the 2010-2011 reporting period remain available through the Committee's website in pdf format. If you have any questions or comments concerning the above, please feel free to contact me.

Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

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TELEPHONE (800) 439-6688 (831) 647-1044 - FACSIMILE (831) 373 7106 - INFO@DCISC.ORG

G.2 - 318



DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

Ms. Shelly Abajian
District Director
U.S. Senator Dianne Feinstein
District Office
2500 Tulare Street, Suite 4290
Fresno, California 93721

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Ms. Abajian:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June 30, 2020. We enclose a compact disk containing the completed report, with PG&E's response incorporated therein, for your information and file.

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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL - ROBERT R. WELLINGTON - 857 CASS STREET - SUITE D - MONTEREY - CA - 93940
TELEPHONE (800) 439-6688 (831) 647-1044 - FACSIMILE (831) 373 7106 - INFO@DCISC.ORG

G.2 - 320

DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS
ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

March 8, 2021

NRC Resident Inspectors
c/o Diablo Canyon Power Plant
Mail Stop 104/5/538
P.O. Box 56
Avila Beach, California 93424-0056

Re: Diablo Canyon Independent Safety Committee; 30th Annual Report on Safety of
Diablo Canyon Nuclear Power Plant Operations.

Dear Inspectors:

At its October 23, 2020, public meeting held by way of Zoom the Diablo Canyon
Independent Safety Committee acted to approve and adopt its Thirtieth Annual Report on Safety
of Diablo Canyon Nuclear Power Plant Operations for the period of July 1, 2019 through June
30, 2020. We enclose a compact disk containing the completed report, with PG&E's response
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Very truly yours,

Robert W. Rathie
Robert W. Rathie
DCISC Assistant Legal Counsel

RWR:ms
Enclosure
Cc w/o encl.: DCISC Members

OFFICE OF LEGAL COUNSEL • ROBERT B. WELLINGTON • 857 CASS STREET • SUITE D • MONTEREY • CA • 93940
TELEPHONE (831) 439-4688/(831) 647-1044 • FACSIMILE (831) 373-7106 • INFO@DCISC.ORG

G.2 - 321

Info@DCISC.org

From: info@dcisc.org
Sent: Monday, March 15, 2021 6:41 AM
To: 'Rochelle Becker'; 'David Weisman'; 'John Geesman'
Cc: info@dcisc.org
Subject: RE: PGE customers pay more than 80% of national average

Rochelle - message with link to the Cal Matters article on electricity prices received and same will be
forwarded to our members & consultants for their information.

Bet,

Bob
(831) 424-3672 (home)
info@dcisc.org

From: Rochelle Becker <rochellea4nr@gmail.com>
Sent: Sunday, March 14, 2021 8:19 AM
To: David Weisman <davidjayweisman@gmail.com>; John Geesman <John@dicksongeesman.com>; DCISC
<info@dcisc.org>
Subject: PGE customers pay more than 80% of national average

<https://calmatters.org/california-divide/debt/2021/03/california-high-electricity-prices/>

In Peace

Rochelle Becker, Executive Director
Alliance for Nuclear Responsibility
PO 1328
San Luis Obispo, CA 93406
www.a4nr.org

G.2 - 322

Info@DCISC.org

From: info@dcisc.org
Sent: Monday, March 15, 2021 6:42 AM
To: 'Peter Lam'; 'Robert J. Budnitz'; 'Per Peterson'; 'Ferman Wardell'; 'Rick McWhorter'
Cc: info@dcisc.org
Subject: FW: PGE customers pay more than 80% of national average

Received yesterday from Rochelle Becker the link below to an article from Cal Matters on high electricity
prices in CA.

Bob R

From: Rochelle Becker <rochellea4nr@gmail.com>
Sent: Sunday, March 14, 2021 8:19 AM
To: David Weisman <davidjayweisman@gmail.com>; John Geesman <John@dicksongeesman.com>; DCISC
<info@dcisc.org>
Subject: PGE customers pay more than 80% of national average

<https://calmatters.org/california-divide/debt/2021/03/california-high-electricity-prices/>

In Peace

Rochelle Becker, Executive Director
Alliance for Nuclear Responsibility
PO 1328
San Luis Obispo, CA 93406
www.a4nr.org

ENTIRE REPORT AVAILABLE THROUGH THE OFFICE OF THE DCISC LEGAL COUNSEL

G.2 - 323

G.2 - 324

Info@DCISC.org

From: Garcia, Hector M <HMG4@pge.com>
Sent: Thursday, March 25, 2021 9:24 AM
To: 'Peter Lam'; 'Per Peterson'; Bob Budnitz; info@dcisc.org
Subject: PG&E Reaches Important Decommissioning Planning Milestone

DCISC,

Please see communication below from Maureen Zawalick on applying for Coastal Development Plan.

Regards,
Hector

From: A Message from Maureen Zawalick <AMessagefromMaureenZawalick@pge.com>
Sent: Wednesday, March 24, 2021 3:42 PM
To: Gen Bus Tech All <GenBusTechAll@pge.com>; DCCP *NPG Nuclear Power Generation Business Unit <DCCPNPG@pge.com>; Power Gen Corporate Communications <PowerGenCorporateCommunications@pge.com>
Subject: PG&E Reaches Important Decommissioning Planning Milestone



Team,

I want to keep you updated on the latest regulatory milestone we have reached in the Diablo Canyon decommissioning planning process.

This afternoon, PG&E will apply for a Coastal Development Permit (CDP) and Conditional Use Permit (CUP) with the County of San Luis Obispo. A separate CDP will be filed with the California Coastal Commission in about a year.

These permits are required by the Coastal Act of California; any demolition, construction, replacement or changes to the size of a structure in a coastal zone requires a permit.

Our application package includes a detailed Project Description, an Environmental Impact Assessment, and several technical reports to support the application and to assist the County and its retained consultant in preparation of an Environmental Impact Report pursuant to the California Environmental Quality Act.

I want to thank our Strategic Initiatives team for working tirelessly alongside our Regulatory, Decommissioning and Environmental Management departments to ensure a thorough and high-quality application submission that reflects input from the community through the Diablo Canyon

G.2 – 325

Info@DCISC.org

From: info@dcisc.org
Sent: Friday, April 2, 2021 8:52 AM
To: 'Lauren Brown'; 'Linda Seeley'
Cc: 'Chuck Anders'; 'Tom Jones'; 'Dena Bellman'; Peter Lam; 'Robert J. Budnitz'; 'Per Peterson'; 'Ferman Wardell'; 'Rick McWhorter'; info@dcisc.org
Subject: RE: Introducing a new liaison between DCISC and DCDEP

Lauren –

This will acknowledge receipt of your message concerning your stepping down from the Diablo Canyon Decommissioning Engagement Panel and from your position as unofficial liaison to the DCISC. On behalf of the DCISC Members, Consultants and Counsel please accept our sincere appreciation and thanks for all your efforts and the great communication and coordination your efforts have facilitated over the past three years. Having the various review and oversight bodies coordinating and cooperating in their respective efforts whenever possible is certainly a benefit for all concerned including the public we all seek to serve.

I know Ms. Seeley will continue to build upon your successful efforts and I know our Members and Consultants appreciate her attendance at our public meetings and the valuable input she has always provided and will continue to provide to the DCISC. We welcome her in her new role as the Engagement Panel's liaison to the DCISC.

I will certainly keep your email on our service list and if you provide me with your home address I can ensure that the notices of the Committee's public meetings are mailed to you in a timely fashion. I hope you are able to attend whether by Zoom webinar or hopefully in person once the DCISC can resume meeting in SLO.

Finally, please do not hesitate to contact me should you have any questions or if there are matters you'd like to discuss or raise with the DCISC.

Again, thank you for all your efforts while serving on the Engagement Panel.

Cordially,

Bob Rathie
(831) 424-3672 (home)
info@dcisc.org

From: Lauren Brown <LAUREN.BROWN@SBCGLOBAL.NET>
Sent: Thursday, April 1, 2021 8:17 AM
To: 'Bob Rathie' <info@dcisc.org>; Linda Seeley <lindaseeley@gmail.com>
Cc: Chuck Anders <canderson@strategicinit.com>; Tom Jones <tpj2@pge.com>; Dena Bellman <denabellman@gmail.com>
Subject: RE: Introducing a new liaison between DCISC and DCDEP

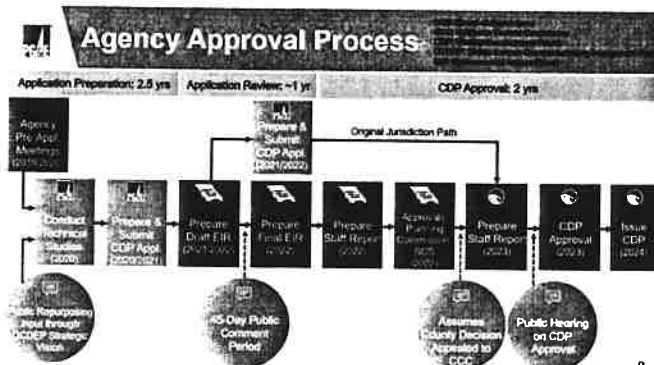
Hello everyone,

G.2 – 327

Decommissioning Engagement Panel's Strategic Vision. This effort supports our intent to swiftly begin decommissioning efforts at the expiration of our operating licenses in 2024 and 2025.

So, what happens next?

After we make our CDP filing to the Coastal Commission next year, the concurrent processes (which include reviews and approvals from both the County and the Coastal Commission) are formal proceedings that will take time and are currently estimated to be complete in 2024. The complete approval process is detailed in the flow chart provided below.



At different stages, the regulatory agencies will open official public comment periods for members of the public to weigh in, allowing the agencies to hear the public's views on the county's draft Environmental Impact Report. Public hearings will again be held at the County and California Coastal Commission's approval hearings.

We will continue to keep you updated on the application process and other decommissioning planning-related milestones. I also encourage you to explore our new decommissioning website, pge.com/diablotdecommissioning.

Thank you all for your hard work, day in and day out, and please continue to work safely.

Maureen

G.2 – 326

My sincere apologies. I had a bad audio connection on our DCDEP Microsoft Teams meeting yesterday and misheard who volunteered to serve as liaison with the DCISC. The correct person is actually Ms. Linda Seeley. I believe she has been a regular attendee at DCISC meetings so all of you at the DCISC probably already know her. I am sure she will serve very effectively in this role.

Best regards,

Lauren

From: Lauren Brown <LAUREN.BROWN@SBCGLOBAL.NET>
Sent: Wednesday, March 31, 2021 9:08 PM
To: 'Bob Rathie' (info@dcisc.org) <info@dcisc.org>; Dena Bellman (denabellman@gmail.com) <denabellman@gmail.com>
Cc: Chuck Anders (canderson@strategicinit.com) <canderson@strategicinit.com>; Tom Jones (tpj2@pge.com) <tpj2@pge.com>
Subject: Introducing a new liaison between DCISC and DCDEP

March 31, 2021

Mr. Bob Rathie, Legal Counsel
Dr. Robert J. Budnitz, Committee Member
Dr. Per F. Peterson, Committee Member
Dr. Peter Lam, Committee Member
Mr. Ferman Wardell, Consultant
Mr. Richard D. McWhorter, Jr., Consultant
Mr. Robert Wellington, Consultant

Diablo Canyon Independent Safety Committee
<http://www.dcisc.org/about/general-information.php>

Dear Bob,

After three years of service as a member of the Diablo Canyon Decommissioning Engagement Panel, I recently announced my retirement. Among other responsibilities, I have served as an unofficial liaison between our Panel and the DCISC, in order to help facilitate communications between our two groups and to help encourage productive utilization of the DCISC's offer to serve as a source of technical information that is relevant to issues we are examining as long as it was understood that the DCISC is not offering comments or guidance on the process of decommissioning itself. I think the relationship has been useful to our Panel and a number of us have periodically attended your Committee meetings.

I am happy to let you know that one of our Panel Members, Ms. Dena Bellman, has offered to step into the role of serving as an unofficial liaison between our two groups. I am confident she will be diligent in helping to keep communications with the DCISC open and productive.

To all of you, I want to thank you for the opportunity to get to know you and benefit from the presentations and discussions at your meetings. It has been very informative and I much appreciate the relationship.

I'm also very glad to know that the DCISC will continue its work until all the spent fuel is transferred to dry casks. I thought that was very important extension. And, by the way, please keep me on your contact as a private, interested citizen.

G.2 – 328

I am also attaching the announcement of re-appointment of two returning members of the DCDEP and appointment of two new members.

Best regards,

Lauren

Lauren R. Brown
Retiring Member DCDEP
lauren.brown@sbcglobal.net
805-550-5686 (cell)



PG&E and the Diablo Canyon Decommissioning Engagement Panel Announce New Members

SAN LUIS OBISPO, Calif. (March 30, 2021) — Pacific Gas and Electric Company (PG&E) and the Diablo Canyon Decommissioning Engagement Panel (DCDEP) today announced the appointment of two new members to the DCDEP, and the reappointment of two members. The panel provides community input to PG&E as the company prepares a site-specific plan for the future decommissioning of Diablo Canyon Power Plant (DCPP).

The two, new appointees - William "Bill" Almas and Mariam Shah - fill roles previously held by Lauren Brown and Alex Karlin. Almas and Shah are set to begin their terms in May of 2021. David M. Baldwin and Dena Bellman have been reappointed.

Background of Mariam Shah

Mariam has served two terms as councilmember on the Grover Beach City Council, served on the executive committees of the Homeless Services Oversight Committee, the Air Pollution Control District and the CA League of Cities. She also sits on the board of the Grover Beach Library, the Five Cities Homeless Coalition and has been active with the Grover Heights PTA for several years, serving 3 years as president.

Background of Bill Almas

Bill retired from Chevron as a Senior Real Estate Manager in 2015. He held various positions with Chevron and Unocal including Environmental and Regulatory Manager, Manager of Government Affairs, Area Manager and Environmental and Regulatory Manager for MolyCorp, a subsidiary of Unocal. He was the lead for Unocal property purchase and settlements associated with the Avila Beach remediation and managed the preparation of the San Luis Obispo Chevron Tank Farm Environmental Impact Report and various property sales.

DCDEP members will now include:

- William Almas, San Luis Obispo (new appointment beginning May 2021)
- Mariam Shah, Arroyo Grande (new appointment beginning May 2021)
- David M. Baldwin, Atascadero (reappointed)
- Dena Bellman, Pismo Beach (reappointed)
- Dr. Timothy Auras, Avila Beach area
- Sherril Danoff, Avila Beach
- Scott Lathrop, San Luis Obispo
- Patrick Lertieux, Morro Bay
- Charlene Rosales, San Luis Obispo
- Linda Seeley, Los Osos
- Kara Woodruff, San Luis Obispo
- Chuck Anders, (Facilitator)
- Trevor Keith, San Luis Obispo County (Ex Officio)
- Maureen Zawalick, San Luis Obispo (PG&E)

As part of a highly competitive process, currently seated panel members and PG&E representatives conducted in-depth reviews of more than 65 applications from community members, who broadly reflect the diverse community viewpoints in proximity to DCPP. The selection committee praised the quality and qualifications of those who applied. "On behalf of the panel, we sincerely appreciate the time and effort put forth by each candidate to apply, and we're thrilled that so many experienced and talented community leaders offered to be a part of this important process. We welcome these new members and feel confident the diverse composition of the panel will enable the group to capture the community's collective vision related to the future decommissioning of Diablo Canyon," panel facilitator Chuck Anders said.

About the Diablo Canyon Decommissioning Engagement Panel

The Diablo Canyon Decommissioning Engagement Panel was created to foster open and frequent dialogue between members of the local community and PG&E on matters related to DCPP decommissioning. Panelists are local community members from across San Luis Obispo County who were selected to broadly represent diverse community viewpoints. The Panel meets periodically on matters related to DCPP decommissioning and the future use of DCPP lands and facilities. Visit the Panel's website at DiabloCanyonPanel.org for information or to submit questions or comments to the Panel.

G.2 – 329

Info@DCISC.org

From: info@dcisc.org
Sent: Monday, April 5, 2021 11:05 AM
To: 'Linda Seeley'
Cc: 'Lauren Brown'; 'Chuck Anders'; 'Tom Jones'; 'Dena Bellman'; 'Peter Lam'; 'Robert J. Budnitz'; 'Per Peterson'; 'Ferman Wardell'; 'Rick McWhorter'; info@dcisc.org
Subject: RE: Introducing a new liaison between DCISC and DCDEP

Dear Linda –

Thank you for your message and on behalf of the DCISC we are very pleased you have accepted and will assume the DCDEP unofficial liaison position to the DCISC. Dr. Brown has certainly done outstanding work in that role and we have every confidence that with you as his successor the Independent Safety Committee and the Decommissioning Engagement Panel will continue to work together to share information and coordinate our respective efforts. We offer our congratulations on your appointment.

Our Members and Technical Consultants will keep the Panel's May 26 meeting on their calendars.

The next meeting of the DCISC is expected to be held as a Zoom webinar and will be convened on Wednesday and Thursday, June 23-24. You are on our email service list for notices and will continue to receive the notice of meeting for the June public meeting, by email.

Please do not hesitate to contact me at any time if I may be of assistance.

Cordially

Bob Rathie
DCISC Asst. Legal Counsel
(831) 424-3672 (home)
info@dcisc.org

From: Linda Seeley <lindaeeley@gmail.com>
Sent: Friday, April 2, 2021 2:04 PM
To: info@dcisc.org
Cc: Lauren Brown <LAUREN.BROWN@sbcglobal.net>; Chuck Anders <canderson@strategicinit.com>; Tom Jones <tpj2@pge.com>; Dena Bellman <denabellman@gmail.com>; Peter Lam <peterlam1@aol.com>; Robert J. Budnitz <budnitz@pacbell.net>; Per Peterson <perpeterson@me.com>; Ferman Wardell <wardell@bellsouth.net>; Rick McWhorter <rickmcw1@gmail.com>
Subject: Re: Introducing a new liaison between DCISC and DCDEP

Dear Bob and Members of the Committee,

I'm very pleased to act as the unofficial liaison between the Committee and the DCDEP during 2021-22. As you know, I am very interested in your work, and I think it's becoming even more important as we approach the critical juncture between active

G.2 – 331

G.2 – 330

operation and decommissioning of the facility. I deeply appreciate Lauren's leadership during the past year, and I hope that I can replace him effectively.

Our next Panel meeting is scheduled for May 26, and we will address the Spent Nuclear Fuel Management Update and Project Application/CEQA Process. Though we won't yet know the details of the negotiations between PG&E and the various vendors of dry cask storage systems, the Panel will discuss the general parameters of the new system.

Best wishes,
Linda Seeley

On Fri, Apr 2, 2021 at 8:52 AM info@DCISC.org <info@dcisc.org> wrote:

Lauren –

This will acknowledge receipt of your message concerning your stepping down from the Diablo Canyon Decommissioning Engagement Panel and from your position as unofficial liaison to the DCISC. On behalf of the DCISC Members, Consultants and Counsel please accept our sincere appreciation and thanks for all your efforts and the great communication and coordination your efforts have facilitated over the past three years. Having the various review and oversight bodies coordinating and cooperating in their respective efforts whenever possible is certainly a benefit for all concerned including the public we all seek to serve.

I know Ms. Seeley will continue to build upon your successful efforts and I know our Members and Consultants appreciate her attendance at our public meetings and the valuable input she has always provided and will continue to provide to the DCISC. We welcome her in her new role as the Engagement Panel's liaison to the DCISC.

I will certainly keep your email on our service list and if you provide me with your home address I can ensure that the notices of the Committee's public meetings are mailed to you in a timely fashion. I hope you are able to attend whether by Zoom webinar or hopefully in person once the DCISC can resume meeting in SLO.

Finally, please do not hesitate to contact me should you have any questions or if there are matters you'd like to discuss or raise with the DCISC.

Again, thank you for all your efforts while serving on the Engagement Panel.

G.2 – 332

Cordially,

Bob Rathie

(831) 424-3672 (home)

info@dcisc.org

From: Lauren Brown <LAUREN.BROWN@SBCGLOBAL.NET>
Sent: Thursday, April 1, 2021 8:17 AM
To: 'Bob Rathie' <info@dcisc.org>; Linda Seeley <lindaseeley@gmail.com>
Cc: Chuck Anders <canders@strategicinit.com>; Tom Jones <tpj2@pge.com>; Dena Bellman <denabellman@gmail.com>
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Sent: Wednesday, March 31, 2021 9:08 PM
To: 'Bob Rathie' <info@dcisc.org>; Dena Bellman <denabellman@gmail.com>
<denabellman@gmail.com>
Cc: Chuck Anders <canders@strategicinit.com>; Tom Jones <tpj2@pge.com>
Subject: Introducing a new liaison between DCISC and DCDEP

G.2 – 333

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I am also attaching the announcement of re-appointment of two returning members of the DCDEP and appointment of two new members.

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Lauren

Lauren R. Brown

Retiring Member DCDEP

lauren.brown@sbcglobal.net

805-550-5686 (cell)



March 31, 2021

Mr. Bob Rathie, Legal Counsel

Dr. Robert J. Budnitz, Committee Member

Dr. Per F. Peterson, Committee Member

Dr. Peter Lam, Committee Member

Mr. Ferman Wardell, Consultant

Mr. Richard D. McWhorter, Jr., Consultant

Mr. Robert Wellington, Consultant

Diablo Canyon Independent Safety Committee

<http://www.dcisc.org/about/general-information.php>

Dear Bob,

After three years of service as a member of the Diablo Canyon Decommissioning Engagement Panel, I recently announced my retirement. Among other responsibilities, I have served as an unofficial liaison between our Panel and the DCISC, in order to help facilitate communications between our two groups and to help encourage productive utilization of the DCISC's offer to serve as a source of technical information that is relevant to issues we are examining as long as it was understood that the DCISC is not offering comments or guidance on the process of decommissioning itself. I think the relationship has been useful to our Panel and a number of us have periodically attended your Committee meetings.

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G.2 – 334

SAN LUIS OBISPO, Calif. (March 30, 2021) — Pacific Gas and Electric Company (PG&E) and the Diablo Canyon Decommissioning Engagement Panel (DCDEP) today announced the appointment of two new members to the DCDEP, and the reappointment of two members. The panel provides community input to PG&E as the company prepares a site-specific plan for the future decommissioning of Diablo Canyon Power Plant (DCPP).

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Background of Mariam Shah

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- Dena Bellman, Pismo Beach (reappointed)

G.2 – 335

G.2 – 336

- Dr. Timothy Auran, Avila Beach area
- Sherri Danoff, Avila Beach
- Scott Lathrop, San Luis Obispo
- Patrick Lemieux, Morro Bay
- Charlene Rosales, San Luis Obispo
- Linda Seeley, Los Osos
- Kara Woodruff, San Luis Obispo
- Chuck Anders, (Facilitator)
- Trevor Keith, San Luis Obispo County (Ex Officio)
- Maureen Zawalick, San Luis Obispo (PG&E)

DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

ROBERT J. BUDNITZ

PETER LAM

PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

By email to: JMW1@pgc.com

April 15, 2021

Mr. James Welsch
Senior Vice President, Generation & Chief Nuclear Officer
Pacific Gas & Electric Company
Diablo Canyon Power Plant
Avila Beach, California 93424

Re: Feedback from PG&E on the DCISC's Thirtieth Annual Report on Safety of Diablo Canyon
Operations for the period July 1, 2019 to June 30, 2020.

Dear Mr. Welsch:

On behalf of the Committee Members, the Technical Consultants and Legal Counsel we appreciate the feedback provided in your letter of March 29, 2021, on the usefulness of the Committee's 30th Annual Report. That in your position as PG&E's Chief Nuclear Officer you find the insights contained in our report to be of value is of the utmost importance to the Committee. The Committee believes its annual reports provide a tool to document and assist in achieving continued safe operation of the power plant but as with any tool its effectiveness can only be accurately evaluated by timely receipt of information from users.

The Committee strives to make its annual reports a comprehensive and accurate record of the Committee's operational review during the report period, including an overall conclusion as to safety of operations, specific conclusions drawn from major review topics examined during the period, together with the Committee's concerns and any recommendations. Integral to receipt of the extensive and detailed information necessary to populate its annual reports is the excellent cooperation you and your capable staff have always extended to the Committee during its fact-finding visits and public meetings. The novel challenges faced by the plant and the Committee during the 30th Annual Report period due to the COVID-19 pandemic required developing new ways to exchange information that DCCP and the DCISC were able to work together to successfully surmount.

I would be remiss if I did not close this letter with particular recognition for the efforts extended by Director of Generation Business Planning Mr. Thomas Baldwin, Chief Nuclear Officer Support Manager Mr. Hector Garcia and DCCP Team Members Ms. Adriana Hartwig and Ms. Lindsey Miller, all of whom regularly and ably assist our Committee with its fact-finding and public meetings.

Very truly yours,

Peter Lam
Peter Lam
DCISC Chair

PL:rwv

Cc: DCISC Members

OFFICE OF LEGAL COUNSEL • ROBERT R. WELLINGTON • 857 CASB STREET • SUITE D • MONTEREY • CA • 93640
TELEPHONE (800) 438-6688/(831) 847-1044 • FACSIMILE (831) 373-7100 • dcisc@dcisc.org

G.2 – 337

G.2 – 338

Info@DCISC.org

From: info@dcisc.org
Sent: Friday, April 23, 2021 2:34 PM
To: 'Zimor, David'
Cc: 'Mattes, Martin'; 'Peter Lam'; 'Robert Budnitz'; 'PER PETERSON'; 'Ferman Wardell'; rickmcw1@gmail.com; info@dcisc.org
Subject: RE: Agenda for DCISC Public Meeting - June 23-24 re Hydrogen Leak/Vibration Issue

David – thank you for your email.

The DCISC is well aware of the issues you raise concerning the Unit 2 main generator cooling system and the vibration experienced by Unit 2 and the Committee plans to assess the efficacy of the measures taken during refueling outage 2R22 during fact-finding visits in April and May and at its next public meeting on June 23-24. At the June public meeting the Committee has requested a presentation by PG&E on the "state of the plant" which will include the reasons, rationale and results of taking Unit 2 offline during the present operational cycle and has requested an informational presentation on the causes and corrective actions for the Unit 2 forced outages.

(As a point of reference, the Committee members and consultants previously reviewed U-2 forced outages at fact findings conducted in August and November 2020 and U-2 main generator issues and root cause analysis at a fact finding in January 2021.)

A fact-finding visit by Dr. Lam and Consultant McWhorter is scheduled for April 27-28 during which they will review events and corrective actions to troubleshoot and repair vibration issues on the Unit 2 main generator, receive an update on 2R22 and on the Root Cause Evaluation for Unit 2 Main Generator vibration issues. Based upon what Dr. Lam and Mr. McWhorter may learn in April, Dr. Peterson and Mr. Wardell will include Unit 2 operational issues on the agenda for their fact finding to be conducted on May 11-12, just a few days following Unit 2's expected return to service on May 5. There will be reports on both those fact-findings (and that held by Dr. Budnitz and Mr. Wardell in March) at the June public meeting.

Regarding the June public meeting I need to let you know that, given the Governor's announced plan to essentially re-open the state's 58 counties on June 15 (provided vaccine supplies are sufficient for anyone 16+ to be vaccinated and hospitalization rates are stable and low), the Committee is tentatively planning on conducting the June 23-24 public meeting as an in-person meeting at the Avila Lighthouse Suites. The Committee continues to believe that an in-person presence in the local community is an important aspect of its public outreach mandate from the Commission. The Committee would certainly welcome your and Ms. Ikle's attendance and participation should it be possible for the Committee to conduct the June public meeting in Avila Beach.

We expect, and are planning to require, that anyone attending must wear a face covering and we intend to make provisions for social distancing in the meeting room. We will also need to see how the Governor's Executive Orders, which have allowed the Committee to conduct meetings entirely remotely during the pandemic, may be modified or otherwise altered between now and the June 15 date.

We have been advised by our audio/visual team that they do not have the capacity to conduct a hybrid in-person/Zoom meeting. However, like all our public meetings the June meeting will be livestreamed and we can make arrangements for you and Ms. Ikle to participate by telephone. This has worked very well in the past.

Should circumstances require the June public meeting be conducted using Zoom, I will ensure that you and Ms. Ikle are both included as panelists as was done for the meeting in February.

G.2 – 339

Good to hear from you and I hope all is well.

Cordially,

Bob
(831) 424-3672 (home)
info@dcisc.org

From: Zimor, David <David.Zimor@cpuc.ca.gov>

Sent: Thursday, April 22, 2021 4:03 PM

To: info@dcisc.org; attys@wellingtonlaw.com

Cc: 'Mattes, Martin' <mmattes@nossaman.com>; 'Peter Lam' <peterlam1@aol.com>; 'Robert Budnitz' <budnitz@pacbell.net>; 'PER PETERSON' <perfpeter@me.com>; 'Ferman Wardell' <wardell@bellsouth.net>; rickmcw1@gmail.com

Subject: Re: Agenda for DCISC Public Meeting - February 16-17, 2021 re Hydrogen Leak/Vibration Issue

Bob,

Since the last DCISC meeting, Diablo Canyon Unit 2 has gone offline for refueling and maintenance, come back online, and as of April 19th, gone back Offline due to cooling system issues. The latest word from PG&E is that Unit 2 will be back online by May 5th, but we don't know how firm that date is.

The CPUC wants to make sure the DCISC is also aware of the current state of Unit 2. Moreover, considering the cooling system has been a recent issue that, if memory serves, was brought up by Mr. Geesman at the last DCISC meeting, we think it bears monitoring and possibly a discussion at the June meeting, in addition to a follow up report on the vibration issues [which are reportedly fixed].

For the June meeting, please make sure that, as with the February meeting, Judith Ikle (judith.ikle@cpuc.ca.gov) and I included in the zoom invitation.

Thanks,

David Zimor, Esq.
Public Utilities Regulatory Analyst
California Public Utilities Commission – Energy Division
505 Van Ness Avenue
San Francisco, CA 94102
(415) 703-1575 — DAVID.ZIMOR@CPUC.CA.GOV

From: Info@DCISC.org <info@dcisc.org>

Sent: Friday, February 12, 2021 7:13 PM

To: Zimor, David <David.Zimor@cpuc.ca.gov>; attys@wellingtonlaw.com <attys@wellingtonlaw.com>

Cc: 'Mattes, Martin' <mmattes@nossaman.com>; 'Peter Lam' <peterlam1@aol.com>; 'Robert Budnitz' <budnitz@pacbell.net>; 'PER PETERSON' <perfpeter@me.com>; 'Ferman Wardell' <wardell@bellsouth.net>;

G.2 – 340

rickmcw1@gmail.com <rickmcw1@gmail.com>

Subject: RE: Agenda for DCISC Public Meeting - February 16-17, 2021re Hydrogen Leak/Vibration Issue

David –

Thank you and I will add you and Ms. Ikle to the panelist list for Tuesday.

We have now arranged with DCPD to make the slight adjustment to the order of the agenda for Tuesday afternoon per the attached "working" agenda (with approximate times) to move Station Director Cary Harbor's presentation, which will include discussion of the U-2 forced outage, to be the last PG&E presentation for the afternoon session on Tuesday afternoon which will be followed in turn by DCISC Consultant Rick McWhorter's fact-finding report on the January fact-finding with Dr. Lam which will include the DCISC's review of the U-2 generator issues and the status of the station's root cause evaluation.

Should be an interesting afternoon.

Have a great Presidents' Day weekend,

Best,

Bob

From: Zizmor, David <David.Zizmor@cpuc.ca.gov>

Sent: Friday, February 12, 2021 3:31 PM

To: attys@wellingtonlaw.com

Cc: 'Mattes, Martin' <mmattes@nossaman.com>; info@dcisc.org <info@dcisc.org>; 'Peter Lam' <peterlam1@aol.com>; 'Robert Budnitz' <budnitz@pacbell.net>; 'PER PETERSON' <perfpeter@me.com>; 'Ferman Wardell' <wardell@bellsouth.net>; rickmcw1@gmail.com

Subject: Re: Agenda for DCISC Public Meeting - February 16-17, 2021re Hydrogen Leak/Vibration Issue

Bob,

Please add me and Judith Ikle (judith.ikle@cpuc.ca.gov) to the zoom list as we may wish to ask some questions.

It's possible I may have some additional attendees to add on Tuesday.

Have a great weekend!

David Zizmor, Esq.

Public Utilities Regulatory Analyst

California Public Utilities Commission – Energy Division

505 Van Ness Avenue

San Francisco, CA 94102

(415) 703-1575 — DAVID.ZIZMOR@CPUC.CA.GOV

From: Attys@WellingtonLaw.com <attys@wellingtonlaw.com>

Sent: Friday, February 12, 2021 2:43 PM

3

G.2 – 341

To: Zizmor, David <David.Zizmor@cpuc.ca.gov>

Cc: 'Mattes, Martin' <mmattes@nossaman.com>; info@dcisc.org <info@dcisc.org>; 'Peter Lam' <peterlam1@aol.com>; 'Robert Budnitz' <budnitz@pacbell.net>; 'PER PETERSON' <perfpeter@me.com>; 'Ferman Wardell' <wardell@bellsouth.net>; rickmcw1@gmail.com <rickmcw1@gmail.com>

Subject: RE: Agenda for DCISC Public Meeting - February 16-17, 2021re Hydrogen Leak/Vibration Issue

David –

Thank you for this information. We are going to try to work with PG&E to slightly rearrange the agenda for Tuesday afternoon in order to be able to present as much information as we can on the Unit-2 main generator issues during the latter part of the afternoon session. I'll keep you informed. Whenever you can provide me a list of who from the Commission may want to attend along with an email address for each that will be fine. I can then have them on the Panelist side of the webinar and bring them in if they want to ask a question or make a comment. Are you planning to be there?

Thanks also for the update on the NDCTP – seems like the AU has taken his time on this but not much we can do but wait and see if he decides to address the DCISC post-shutdown proposal in the Settlement Agreement.

Wishing you a great Presidents' Day weekend,

Cordially,

Bob Rathie

From: Zizmor, David <David.Zizmor@cpuc.ca.gov>

Sent: Thursday, February 11, 2021 5:50 PM

To: attys@wellingtonlaw.com

Cc: 'Mattes, Martin' <mmattes@nossaman.com>; info@dcisc.org <info@dcisc.org>; 'Peter Lam' <peterlam1@aol.com>; 'Robert Budnitz' <budnitz@pacbell.net>; 'PER PETERSON' <perfpeter@me.com>; 'Ferman Wardell' <wardell@bellsouth.net>

Subject: Re: Agenda for DCISC Public Meeting - February 16-17, 2021re Hydrogen Leak/Vibration Issue

Bob,

We will definitely have some people in attendance, though I'm still waiting to hear back from several people so I don't yet have a list to give you for zoom. Given the length of the meeting and that there's a lot going on at the CPUC, we may focus on being there around 4pm Tuesday when you discuss the January fact-finding visit since we'll be most interested in the latest information. Hopefully I'll have a full list for you by COB tomorrow, but I may not have it until Tuesday morning what with people taking advantage of the long weekend.

As for the NDCTP, I'm expecting to get a draft of the proposed decision soon, but as of today I have not received it.

David Zizmor, Esq.

Public Utilities Regulatory Analyst

California Public Utilities Commission – Energy Division

505 Van Ness Avenue

San Francisco, CA 94102

(415) 703-1575 — DAVID.ZIZMOR@CPUC.CA.GOV

4

G.2 – 342

Thanks for the update. Could you let me know in what part of the agenda the hydrogen leak/vibration issues and their related outages will be discussed? Several CPUC members are interested in that subject and want to know when to join the meeting.

For the 2021 DCISC nominations, the application period closed at the beginning of the week with Peter Lam and Michael Quinn as the only two people to submit themselves as candidates.

As for the NDCTP, I have been told to expect a draft of the proposed decision soon, but I have not yet seen it so I do not expect it to get published by the time of the meeting. In December the statutory deadline was extended to March 13th so I'm hopeful we'll have it out before then.

David Zizmor, Esq.

Public Utilities Regulatory Analyst

California Public Utilities Commission – Energy Division

505 Van Ness Avenue

San Francisco, CA 94102

(415) 703-1575 — DAVID.ZIZMOR@CPUC.CA.GOV

From: Attys@WellingtonLaw.com <attys@wellingtonlaw.com>

Sent: Tuesday, February 2, 2021 7:31 PM

To: Zizmor, David <David.Zizmor@cpuc.ca.gov>

Cc: Mattes, Martin <mmattes@nossaman.com>; info@DCISC.org <info@dcisc.org>

Subject: Agenda for DCISC Public Meeting - February 16-17, 2021 & Inquiry re Appointments and 2018 NDCTP

David –

I hope all continues to be well with you. I have attached a copy of the "working agenda" for the next public meeting of the DCISC to be held on Tuesday and Wednesday, February 16-17, 2021. This is the version which has the estimated times for the various presentations and the Meeting ID, Password, etc. to access the meeting via Zoom. Once again, due to the continuing coronavirus and social distancing precautions, the Committee is conducting the meeting remotely using Zoom. The Committee has continued to conduct all the scheduled fact-findings remotely with DCPD as it has done since March 2020.

I wanted to check in with you to see how many candidates applied for the CEC nomination for the 2021-2024 term and their names if possible as well as whether you've heard anything relative to the pending nomination of a DCISC Member by the Governor for the 2020-2023 term.

I also want to follow up with you on whether there is anything I can report to the DCISC Members relative to circulation of or progress on a proposed decision in the 2018 NDCTP or anything regarding the Settlement Agreement in that proceeding?

As always, thanks for your assistance and counsel and I wish you and your family my best for keeping well in these times.

Bob Rathie

(831) 424-3672 (home)

info@dcisc.org

6

G.2 – 344

From: Zizmor, David <David.Zizmor@cpuc.ca.gov>

Sent: Friday, February 5, 2021 3:54 PM

To: attys@wellingtonlaw.com

Cc: Mattes, Martin <mmattes@nossaman.com>; info@dcisc.org

Subject: Re: Agenda for DCISC Public Meeting - February 16-17, 2021 & Inquiry re Appointments and 2018 NDCTP

5

G.2 – 343

From: dcsafety@dcisc.org
 Sent: Monday, May 10, 2021 8:06 AM
 To: 'tom marre'
 Cc: info@dcisc.org
 Subject: RE: Re DCP/ last meeting / CPUC rep

Mr. Marre:

Good to hear from you and you are correct.

At the DCISC's February 2021 public meeting (conducted as a Zoom webinar) Ms. Judith Iklé, Branch Manager for the CPUC Energy Division's office of Procurement Strategy and Oversight attended and she asked several questions during the presentations by the Committee and by PG&E/DCPP on the Unit-2 Main Generator hydrogen leakage issue.

Thank you for your interest in the DCISC and for contacting us with your inquiry,

Cordially,

Bob Rathle
 Asst. Legal Counsel
 (800) 439-4688
 info@dcisc.org

From: tom marre <tommarre@gmail.com>
 Sent: Sunday, May 9, 2021 5:16 PM
 To: dcsafety@dcisc.org
 Subject: Re DCP/ last meeting / CPUC rep

At the last meeting a CPUC rep. Was there.
 Do any of you remember her name ??

Tom Marre / 805.305.0360

G.2 – 345

Those submitting comments on the Draft Resolution must serve their comments on the entire service list the Draft Resolution was served to, and the Director of the Energy Division on the same date that the comments are submitted to the Energy Division.

Comments shall be limited to fifteen pages in length and should list the recommended changes to the Draft Resolution.

Comments shall focus on factual, legal or technical errors in the proposed Draft Resolution. Comments that merely reargue positions taken in the advice letter or protests will be accorded no weight and are not to be submitted.

Replies to comments will not be accepted.

Sincerely,

s. Franz Cheng
 Franz Cheng
 Supervisor – Electric Costs
 Energy Division

G.2 – 347

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
 SAN FRANCISCO, CA 94102-3228



April 14, 2021

Agenda ID 19402
 RESOLUTION E-5145
 May 20, 2021

TO: Service List: A.18-12-008

Enclosed is Draft Resolution E-5145 of the Energy Division, issued as required by Decision (D.) 07-01-028. It will appear on the agenda at the next Commission meeting, which is at least 30 days after the date of this letter. The Commission may vote on this Resolution at that time or it may postpone a vote until a later meeting. When the Commission votes on a Draft Resolution, it may adopt all or part of it as written, amend, modify or set it aside and prepare a different Resolution. Only when the Commission acts does the Resolution become binding on the parties.

Parties may submit comments on the Draft Resolution. All comments on the Draft Resolution must be received by the Energy Division by May 3, 2021.

An original and two copies of the comments, along with a certificate of service, shall be sent via email: charifunit@cpuc.ca.gov

Copies of the comments shall be submitted in electronic format to:

David Zizmor	Franz Cheng
Analyst	Supervisor – Electric Costs
Energy Division	Energy Division
California Public Utilities Commission	California Public Utilities Commission
505 Van Ness Avenue	505 Van Ness Avenue
San Francisco, CA 94102	San Francisco, CA 94102
David.Zizmor@cpuc.ca.gov	Franz.Cheng@cpuc.ca.gov

G.2 – 346

CERTIFICATE OF SERVICE

I certify that I have served this day via email a true copy of Draft Resolution E-5145 on all parties or their attorneys.

Dated April 14, 2021; at San Francisco, California.

/s/ Muhammad S. Ahmad
 Muhammad S. Ahmad

NOTICE

Parties should notify the Public Utilities Commission Process Office, 505 Van Ness Avenue, San Francisco, CA 94102, of any change of address to ensure that they continue to receive documents. You must indicate the Resolution number on the service list on which your name appears.

G.2 – 348

SERVICE LIST

Parties to E-5145:

Service List(s): A.18-12-008

Rochelle Becker – rochelle4nr@gmail.com
 Franz Cheng – franz.cheng@cpuc.ca.gov
 Justin Cochran – justin.cochran@energy.ca.gov
 Joseph Drago – jdrago@marathoninc.com
 Nora Hawkins – nora.hawkins@cpuc.ca.gov
 Martin Mattes – mmattes@nossaman.com
 Le-Quyen Nguyen – le-quyen.nguyen@energy.ca.gov
 Peter Lam – peterlam1@aol.com
 Bruce O'Brien – bwohrien@marathoninc.com
 Shannon O'Rourke – shannon.o'rourke@cpuc.ca.gov
 Michael Quinn – mdq@scwe.net
 Bob Rathie – info@dcisc.org
 Matt Sunseri – mattsunseri@gmail.com
 Lucy Jane Swanson – janeslo@icloud.com
 David Zizmor – david.zizmor@cpuc.ca.gov

Info@DCISC.org

From: Ahmad, Muhammad <Muhammad.Ahmad@cpuc.ca.gov>
Sent: Friday, May 21, 2021 9:08 AM
To: Zizmor, David; ED Tariff Unit
Cc: rochelle4nr@gmail.com; Cheng, Franz; justin.cochran@energy.ca.gov; jdrago@marathoninc.com; Hawkins, Nora; mmattes@nossaman.com; le-quyen.nguyen@energy.ca.gov; peterlam1@aol.com; bwobrien@marathoninc.com; O'Rourke, Shannon; mdq@scwe.net; info@dcisc.org; mattsunseri@gmail.com; janeslo@icloud.com; Venskus@LawSV.com; Lathrop.A5@gmail.com; Government@CGNP.org; dhkorn@earthlink.net; Yip-Kikugawa, Amy C.; Peleo, Marion; Matthew@TURN.org; JArmstrong@GoodinMacBride.com; MSomogyi@GoodinMacBride.com; Jennifer.Post@pge.com; jnmWEM@gmail.com; John@DicksonGeesman.com; Susannah@VoteSolar.org; JSAdams.4910@yahoo.com; askenvirolaw@gmail.com; Peck, David B.; Ed@VoteSolar.org; I.Kearney@WEALaw.com; Kavya@NewsData.com; MRW@MRWassoc.com; RUmoff@seia.org; BLacy@LacyConsultingGroup.com; Moore, Christopher; Walker.Matthews@sce.com; Douglass@EnergyAttorney.com; case.admin@sce.com; Jose.Perez@sce.com; APak@AlPakLaw.com; ATrial@SemptraUtilities.com; EAPeters@SemptraUtilities.com; Ebeaver@SDGE.com; WDJohnson@SemptraUtilities.com; JaneSLO@Cloud.com; karaslo@charter.net; LathropCo@gmail.com; LindaSeeley@gmail.com; Sherry.Lewis66@Cloud.com; DavidJayWeisman@gmail.com; Rochelle@A4NR.org; meal@cc.slo.ca.us; VioletSageWalker@gmail.com; DJBalsamo@BalsamoLaw.com; Attys@WellingtonLaw.com; Peck, David B.; Zizmor, David; Hawkins, Nora; Haga, Robert; Shek, Selina; Kelsey.Piro@pge.com; MCade@Buchalter.com; V2M4@pge.com; JSqueri@GoodinMacBride.com; MMattes@Nossaman.com; RegRelcpucCases@pge.com; LHowDowning@sbcglobal.net; ATrowbridge@DayCarterMurphy.com; Burns, Truman L.
Subject: E-5145 Final Resolution

To All Parties:

Service List: A.18-12-008

Resolution E-5145, Confirmation of candidates for appointment to the Diablo Canyon Independent Safety Committee (DCISC) for a three-year term beginning July 1, 2021.

Please refresh the link below to view the document:

<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M385/K254/385254844.PDF>

Best,

Muhammad Suhaib Ahmad | Staff Services Analyst CPUC Energy Division- Tariff Unit |

muhammad.ahmad@cpuc.ca.gov

Page 4 of 4

G.2 – 349

Date of Issuance: May 21, 2021

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ENERGY DIVISION

RESOLUTION E-5145
 May 20, 2021

RESOLUTION

Resolution E-5145. Confirmation of candidates for appointment to the Diablo Canyon Independent Safety Committee (DCISC) for a three-year term beginning July 1, 2021.

PROPOSED OUTCOME:

- The California Public Utilities Commission (CPUC) ratifies the President's selection of candidates for consideration by the Chair of the California Energy Commission (CEC) for appointment to the DCISC.

SAFETY CONSIDERATIONS:

- The DCISC reviews operations at Pacific Gas and Electric Company's (PG&E) Diablo Canyon Power Plant (DCPP) for the purpose of assessing the safety of current operations and suggesting recommendations for continued safe operations. The appointed candidate will serve a three-year term on the DCISC.

ESTIMATED COST:

- All ongoing DCISC costs were funded previously. Ratification of the CPUC President's selection of candidates for appointment to the DCISC will not result in any additional costs.

As required by Decision (D.) 07-01-028, dated January 25, 2007.

SUMMARY

The Diablo Canyon Independent Safety Committee (DCISC) consists of three members, each appointed in turn by the California Governor, the California

Resolution E-5145

May 20, 2021

PG&E/Diablo Canyon Independent Safety Committee/DZ1

Attorney General, and the Chair of the California Energy Commission (CEC), serving staggered three-year terms. Section 1.B of the restated charter of the DCISC describes the process for appointment of DCISC members: it requires the CPUC to select and forward to the appointing authority no more than three new candidates plus the incumbent for DCISC membership. The appointing authority for the current cycle is the Chair of the CEC. This Resolution ratifies the California Public Utilities Commission (CPUC) President's selection of Dr. Peter S. Lam as a candidate for reappointment, and Dr. Michael D. Quinn as candidates for appointment to the DCISC, for a three-year term commencing on July 1, 2021.

BACKGROUND

Establishment of the DCISC and Member Selection Process:

The CPUC created the DCISC in Decision (D.)88-12-083 as part of the overall settlement of ratemaking issues for the DCP, which is owned and operated by Pacific Gas and Electric Company (PG&E). The DCISC is an independent, three-member committee responsible for monitoring the safety of PG&E's operation of DCP. The DCISC's budget is paid out of PG&E's revenues and charged to PG&E's ratepayers.¹ D.88-12-083 established the qualifications and procedures for appointment of members to the DCISC and defined the scope of the Committee's operations and responsibilities.² Membership on the DCISC is a compensated position.³

¹ D.88-12-083, Appendix C, Paragraph 16.

² D.88-12-083, Appendix C, Attachment A.

³ In Resolution E-3152, the Commission established that DCISC member compensation be set at levels commensurate with fees paid by PG&E for comparable services. The compensation levels set in E-3152 have since been revised, most recently on May 8, 2020 in PG&E Advice Letter (AL) 5797-E-A. The current compensation levels are as follows: annual retainer of \$10,400; \$260/hour fee for attendance at DCISC meetings; \$260/hour fee for DCISC work performed outside of committee meetings in excess of 40 hours/year; and reimbursement of expenses incurred in performance of DCISC work. PG&E submitted AL 6144-E on April 1, 2021 requesting the same DCISC compensation levels affirmed in AL 5797-E-A. Disposition of PG&E AL 6144-E is still pending.

On October 24, 2006, the DCISC submitted Application (A.) 06-10-024 proposing a restated charter. The CPUC adopted the restated charter in D.07-01-028 on January 25, 2007.

Section 1.8 of the restated charter describes the process for appointment of DCISC members. It requires the CPUC to select no more than three candidates for DCISC membership from among those applicants responding to an open request by the CPUC for applications. The incumbent member whose term is about to expire is to be deemed an additional candidate if he or she consents. The CPUC is charged with the responsibility to provide for public comment on the applicants' qualifications and potential conflicts of interest. The President of the CPUC is to review the applicants' qualifications, experience, and background, including any conflicts of interest,⁴ together with any public comments, and propose as candidates to the appointing authority only persons with knowledge, background, and experience in the field of nuclear power plants and nuclear safety issues. The Energy Division prepares a draft resolution ratifying the President's selection of candidates for the Commission.

Current Applicants:

On December 18, 2020, an open request for applications to fill the July 1, 2021 vacancy on the DCISC was posted on the CPUC's website.⁵

An application was timely received from Dr. Michael Quinn. In addition, Dr. Peter Lam, the incumbent member of the DCISC whose term is set to expire, sent a letter to the Energy Division confirming his willingness to continue serving as a member of the DCISC.

Dr. Lam provided a synopsis of his experience as a consultant to governmental organizations and the nuclear industry on nuclear safety matters, and as an Administrative Judge of the U.S. Nuclear Regulatory Commission (NRC) from

⁴ As conflicts of interest are a legal question, their review was conducted by the CPUC's legal department which the President then approved.

⁵ A link to the announcement posted on the CPUC's website was sent to the service list of A.18-12-008 to ensure that parties interested in issues relating to the DCPD were aware of the announcement. A.18-12-008 is PG&E's 2018 Nuclear Decommissioning Cost Triennial Proceeding.

power plants, corrective action management processes, and safety culture. Mr. Sunseri, a nuclear industry professional, recommends Dr. Quinn based on his nuclear power plant experience, his consulting experience in event and organization analysis, and his service as a board member and chairman of a community board. Mr. O'Brien, President and CEO of Marathon Consulting Group, recommends Dr. Quinn based on his experience in the nuclear industry, safety culture assessment skills, and root cause analysis expertise.

NOTICE

Notice of this Resolution was made by publication in the CPUC's Daily Calendar. A copy of the Draft Resolution was sent to all of the applicants and to those submitting comments on their behalf. A copy of the Draft Resolution was also sent to the Chair of the CEC and to the service list in PG&E's 2018 Nuclear Decommissioning Cost Triennial proceeding (A.18-12-008).

DISCUSSION

The restated charter adopted in D.07-01-028 requires that candidates for appointment to the DCISC be persons with knowledge, background, and experience in the field of nuclear power facilities and nuclear safety issues who demonstrate they have no conflicts of interest.⁶

Summaries of the qualifications of each applicant are included in Appendix A of this Resolution.

Dr. Peter S. Lam is qualified to continue to serve on the Diablo Canyon Independent Safety Committee.

⁶ Conflicts of interest guidelines are set forth in Section 1.C of the restated charter. They establish limits for DCISC members on income and gifts from PG&E or an affiliated company, and investments in PG&E or an affiliate. They also prohibit members of the DCISC from attempting to use their position to influence action of the Committee in which they have a financial interest. DCISC members are required to file a Statement of Economic Interest in the same manner as designated CPUC employees. No person shall serve on the DCISC who has a prior history of supporting or opposing PG&E as a witness or intervenor in nuclear licensing or CPUC proceedings associated with the Diablo Canyon Power Plant.

1990 until 2007. Dr. Lam was originally appointed to the DCISC in 2009 by Karen Douglas, then Chair of the CEC, and again in 2012, 2015, and 2018 by former Chair of the CEC, Dr. Robert Weisenmiller. Dr. Lam's fourth term is set to expire on June 30, 2021.⁶

In Dr. Quinn's application, he describes his experience working in the nuclear power industry, and consulting on nuclear operations and safety for industry clients as well as the U.S. and Canadian governments. Dr. Quinn was previously selected by the Commission as one of the qualified candidates considered for appointment in 2014, 2015, 2017, 2018, 2019, and 2020.⁷

Public Comments on Applicants:

On February 23, 2021, an announcement was posted on the CPUC's website inviting comments on the candidates.⁸ Summaries of their qualifications were included with the announcement. The full text of the public comments is included in Appendix B of this Resolution.

Comments in support of Dr. Quinn's appointment were submitted by Rochelle Becker, Jane Swanson, Joseph Drago, Matthew Sunseri, and Bruce O'Brien. Ms. Becker, Executive Director for the Alliance for Nuclear Responsibility, supports the nomination of Dr. Quinn based on his acknowledgment that the "human performance aspects of nuclear power operations" will be critical for the DCISC as the power plant approaches closure, the fresh eyes he will bring to DCPD oversight, and his technical background. Ms. Swanson, President of San Luis Obispo Mothers for Peace, supports Dr. Quinn in concurrence with Ms. Becker. Mr. Drago, Director at Marathon Consulting Group, recommends Dr. Quinn based on his experience with nuclear

⁶ See CPUC Resolution E-4219 (February 2, 2009), CPUC Resolution E-4499 (June 8, 2012), and CPUC Resolution E-4711 (February 26, 2015), and CPUC Resolution E-4936 (May 31, 2018).

⁷ See CPUC Resolution E-4657 (June 12, 2014), CPUC Resolution E-4711 (February 26, 2015), CPUC Resolution E-4849 (June 16, 2017), CPUC Resolution E-4936 (May 31, 2018), CPUC Resolution E-5001 (June 13, 2019), and CPUC Resolution E-5081 (June 11, 2020).

⁸ A link to the announcement was also sent to the service list in A.18-12-008. See footnote 5 above.

Dr. Lam is an incumbent member of the DCISC, having been appointed to his initial three-year term in 2009 by Karen Douglas, then Chair of the CEC, and reappointed in 2012, 2015, and 2018 by Dr. Robert Weisenmiller, former Chair of the CEC. Dr. Lam previously served as an Administrative Judge of the NRC from 1990 until 2007 where he adjudicated nuclear safety issues in a jurisdiction that included all 104 nuclear power plants, approximately 21,000 medical and material licensees, and nuclear waste storage in the U.S. During this time, Dr. Lam also sat on the Atomic Safety and Licensing Boards from 2002 to 2003 to conduct the public proceedings concerning the application of PG&E to construct and operate the Diablo Canyon independent fuel storage installation. Prior to his judicial appointment at the NRC, Dr. Lam worked in managerial and technical capacities in the nuclear energy business for 20 years. Dr. Lam has published numerous technical papers, reports, and international publications addressing nuclear reactor operations, design, and safety. Dr. Lam has also presented several lectures at international conferences for the International Atomic Energy Agency regarding comprehensive analyses of nuclear reactor operating experience. He earned a B.S. in mechanical engineering from Oregon State University in 1966, and an M.S. and Ph.D. in nuclear engineering from Stanford University in 1968 in 1971 respectively.

Dr. Lam has no conflicts of interest that would preclude his continuing to serve on the DCISC. His qualifications show that he has the requisite knowledge, background, and experience in the field of nuclear power plants and nuclear safety issues.

Dr. Michael Quinn is qualified to serve on the Diablo Canyon Independent Safety Committee.

Dr. Quinn has spent over forty years in the nuclear industry: since 1999 he has facilitated regulatory compliance, reliability assessments, and performance improvement in the commercial nuclear power industry; during the 25 years prior he worked in the power block of a nuclear unit for a large nuclear utility. His experience includes developing and delivering root cause evaluation training to NRC staff, assessing significant issues during refueling operations at nuclear power plants, and leading root cause assessments at nuclear facilities. Dr. Quinn has also managed a team that developed and implemented corrective actions to

address performance resulting in radiation contamination of several hundred workers at the Bruce Nuclear Generating Station in Ontario, Canada. He has led teams in developing, implementing, and evaluating programs to establish a safety culture at nuclear power plants. Dr. Quinn was Manager of Nuclear Planning and Operational Standards for Northeast Nuclear Energy Company, and has held positions as Radio-Chemist, and Manager of Chemistry and Radiochemistry, in addition to other positions at the Connecticut Yankee Haddam Neck Nuclear Station. Dr. Quinn has a Doctorate in Organizational Management Systems and a Masters of Business Administration degree, both from the University of New Haven, and a B.S. degree in Chemistry from Charter Oak College. He previously held a U.S. NRC Senior Reactor Operator License on a Westinghouse pressurized water reactor.

Dr. Quinn has no conflicts of interest that would preclude his serving on the DCISC. His qualifications show that he has knowledge, background, and experience in the field of nuclear power plants and nuclear safety issues.

The candidates nominated by the Commission are the most qualified candidates from the pool of applicants.

The CPUC's President, Marybel Batjer, has reviewed the qualifications, experience, and backgrounds of all the applicants and selected Dr. Peter Lam and Dr. Michael Quinn for submission to the Chair of the CEC as candidates for the three-year DCISC position beginning July 1, 2021.

President Batjer's selection of Dr. Peter Lam and Dr. Michael Quinn as the candidates for the July 1, 2021 vacancy on the Diablo Canyon Independent Safety Committee is ratified.

President Batjer's selection of Dr. Lam as a candidate for reappointment, and Dr. Quinn as a candidate for appointment to the DCISC for a three-year term beginning July 1, 2021 is ratified. As mentioned above, President Batjer recognizes that all of the applicants possess the qualifications to competently serve on the DCISC. The President's selections shall be provided to the Chair of the CEC.

9. Comments supporting the appointment of Dr. Quinn to the DCISC were received in response to the CPUC's February 23, 2021 announcement inviting comments.
10. The CPUC's President, Marybel Batjer, has reviewed the qualifications, experience, and backgrounds of Dr. Lam and Dr. Quinn.
11. Dr. Lam and Dr. Quinn have knowledge, background, and experience in the field of nuclear power plants and nuclear safety issues, and are qualified candidates for appointment to the DCISC.
12. President Batjer has chosen to provide the names of Dr. Lam as a candidate for reappointment, and Dr. Quinn as a candidate for appointment to the DCISC for a three-year term beginning July 1, 2021.
13. President Batjer's selection of Dr. Lam and Dr. Quinn as the candidates for appointment to the DCISC for a three-year term beginning July 1, 2021 should be ratified and provided to the Chair of the CEC.

THEREFORE IT IS ORDERED THAT:

1. President Batjer's selection of Dr. Lam and Dr. Quinn as qualified candidates for consideration by the Chair of the CEC for appointment to the Diablo Canyon Independent Safety Committee for a three-year term beginning July 1, 2021 is hereby ratified.

This Resolution is effective today.

COMMENTS

Public Utilities Code section 311(g)(1) provides that this resolution must be served on all parties and subject to at least 30 days public review. Please note that comments are due 20 days from the mailing date of this resolution. Section 311(g)(2) provides that this 30-day review period and 20-day comment period may be reduced or waived upon the stipulation of all parties in the proceeding.

As no comments were submitted, no substantive changes were made to this Resolution.

FINDINGS

1. D.88-12-083 created the Diablo Canyon Independent Safety Committee (DCISC).
2. The DCISC is an independent, three-member committee responsible for monitoring the safety of PG&E's operation of the Diablo Canyon Power Plant.
3. D.07-01-028 adopted a restated charter for the DCISC including revised procedures for appointments of DCISC members.
4. On December 18, 2020, in accordance with D.07-01-028, an announcement was posted on the CPUC's website seeking applications for the July 1, 2021 vacancy on the DCISC.
5. The Chair of the California Energy Commission (CEC) is the appointing authority for the July 1, 2021 vacancy on the DCISC.
6. Dr. Peter Lam, the incumbent member of the DCISC whose term expires on June 30, 2021, responded to the CPUC's December 18, 2020 announcement and consents to being a candidate for reappointment to the DCISC.
7. Dr. Michael Quinn, a professional nuclear energy consultant, responded to the CPUC's December 18, 2020 announcement, and submitted an application to be considered as a candidate for appointment to the DCISC.
8. The CPUC invited comments on Dr. Lam's and Dr. Quinn's qualifications in an announcement posted on the CPUC's website on February 23, 2021.

I certify that the foregoing resolution was duly introduced, passed and adopted at a conference of the Public Utilities Commission of the State of California held on May 20, 2021; the following Commissioners voting favorably thereon:

/s/ Rachel Peterson
RACHEL PETERSON
Executive Director

MARYBEL BATJER
President
MARTHA GUZMAN ACEVES
CLIFFORD RECHTSCHAFFEN
GENEVIEVE SHIROMA
DARCIE HOUCK
Commissioners

APPENDIX A

The following statements were supplied by the applicants as part of the application process and were available for public review and comment starting on February 23, 2021. The assertions of fact contained within these statements have not been disputed. These statements are provided verbatim.

11

G.2 – 361

Dr. Peter Lam (Incumbent)

Dr. Peter Lam served as an Administrative Judge of the U.S. Nuclear Regulatory Commission for 18 years, from 1990 until his retirement in 2007. Judge Lam's responsibility was to adjudicate safety issues in public proceedings mandated by the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974. These public administrative proceedings were related to the granting, suspending, revoking or amending licenses issued by the U.S. Nuclear Regulatory Commission, especially those involving nuclear power plants. His jurisdiction covered all 104 nuclear power plants, some 21,000 medical and material licensees, and nuclear waste storage in the United States. One of his duties was to encourage fair and reasonable settlements of contested issues consistent with the hearing requirements of the Atomic Energy Act, and to impose requirements, when necessary and appropriate, as part of the adjudicative process to protect public health and safety. He has presided over numerous proceedings to decide technical issues of major safety significance in litigation on nuclear power plants, nuclear waste disposal, and the use of nuclear materials. The ultimate resolution of these significant technical issues has contributed to the enhancement of safety in the use of nuclear technology, particularly in the safe operation of nuclear power plants.

It is relevant to note that, from 2002 to 2003, Judge Lam sat on the Atomic Safety and Licensing Boards to conduct the public proceeding concerning the application of Pacific Gas & Electric Company under 10 CFR Part 72 to construct and operate an independent spent fuel storage installation at the Diablo Canyon Power Plant. The Atomic Safety and Licensing Board issuances for this Diablo Canyon proceeding are LBP-02-15, LBP-02-23, LBP-02-25, and LBP-03-11, cited as 56 NRC 42 (2002), 56 NRC 413 (2002), 56 NRC 467 (2002), and 58 NRC 47 (2003), respectively.

Prior to Dr. Lam's judicial appointment 31 years ago, he had extensive technical and managerial experience in the nuclear energy business over a period of 20 years. His technical expertise is in the areas of nuclear power plants operating experience, nuclear reactor safety and probabilistic risk assessment. Dr. Lam was a nuclear engineer at General Electric Company, participating in the design and analysis of BWR advanced fuels. He served as a program manager at Argonne National Laboratory, managing the research and development of advanced fast reactor metal fuels. He was a manager at Science Applications, Inc., and a consultant at NUS Corporation, both major consulting firms in the nuclear

13

G.2 – 363

12

G.2 – 362

industry. His responsibilities there involved the management of probabilistic risk assessments of operating nuclear reactors. He managed a group of technical specialists in the U.S. Nuclear Regulatory Commission in the analysis and evaluation of nuclear reactor operating experience. He was also a visiting faculty member at California State University at San Jose, and at George Washington University.

Dr. Lam has published 71 technical papers and reports in national and international journals and in proprietary company publications, which focus on major issues in nuclear transport theory, nuclear reactor fuel design, nuclear reactor operating experience, and nuclear reactor safety. He has also issued more than 110 published judicial decisions related to some 50 cases of litigations. These judicial decisions resolved a wide range of technical and legal issues regarding nuclear power plants operation and safety, nuclear waste disposal, and other civilian use of nuclear technology.

Dr. Lam has presented lectures at IAEA international conferences at Austria, Korea, and Spain, on significant results in comprehensive analyses of nuclear reactor operating experience. He has chaired an IAEA working group to develop a technical treatise for the analysis and evaluation of operating experience of the world's nuclear power plants. These activities contribute to the international exchange of important information to improve nuclear reactor safety.

Dr. Lam has earned a Ph.D. in nuclear engineering from Stanford University in 1971; a M.S. in nuclear engineering from Stanford University in 1968; and a B.S. in mechanical engineering from Oregon State University in 1967.

Dr. Lam was appointed by the honorable Dr. Robert B. Weisenmiller, Chair of the CEC on June 6, 2018 to the DCISC for a fourth three-year term beginning on July 1, 2018. He is currently serving as the Chair of the DCISC for a second year.

14

G.2 – 364

Dr. Michael Quinn

Michael Quinn has invested 40-plus years into the public health and safety of the nuclear power industry, entailing 25 years in power block operations at a nuclear power station, and during the past 20 years as an executive operations consultant to the nuclear industry in the U.S. and Canada.

Dr. Quinn's expertise entails, but is not limited to: nuclear safety; nuclear operations; significant operational event assessments; nuclear inspection and evaluation; technical program rigor; high reliability and corrective action program/human performance/safety culture programs.

Throughout his career, Michael has brought the tenets of Compliance, Integrity, Transparency, and Competency to nuclear and high-reliability organizations with whom he has been engaged.

Current Nuclear Operations Experience: Nuclear Regulators, Nuclear Licensees, and Suppliers

Since 1999 Michael has been engaged by executives in the safe operation of nuclear units, as well as in the new build, refurbishment, decommissioning and spent nuclear fuel storage installation sectors of the nuclear industry in the U.S. and Canada. On the regulatory side, during the 2006-2021 period he has trained U.S. NRC resident inspectors and regional office technical staff on evaluating significant nuclear licensee operational events and processes, with a focus on nuclear safety and the three cross-cutting areas of *Human Performance, Problem Identification and Resolution (PI&R), and Safety Culture*.

During the past 20-plus years, Michael has been, and is presently: advising on performance improvement; conducting program and operational assessments of nuclear licensee organizations; leading/performing root cause evaluations on significant nuclear events; and leading recovery project management for nuclear licensees and suppliers. His primary focus is on nuclear safety and the three cross-cutting areas.

In addition, Dr. Quinn continues to evaluate and to remediate licensee and supplier organizational and corrective action programs; providing PI&R, Human Performance, and Safety Culture consulting, coaching, assessment, and training. He provides related consulting services to several nuclear industry sectors,

15

G.2 – 365

From a major nuclear industry 'campaign' perspective, Dr. Quinn has been/is engaged in many industry issue campaigns and challenges that include/ have included:

- Nuclear fuel handling, storage, cask operations;
- Safety culture challenges to nuclear operations;
- Safeguards at operating and decommissioning nuclear units
- Technical program rigor and quality challenges resulting in non-compliances
- Independent Spent Fuel Storage Installations (ISFSI) operations and events;
- Radioactive effluents and radioactive waste treatment; Groundwater tritium;
- Radiological/ trans-uranic worker uptake events;
- Corrective action program and 10CFR50 Appendix B Criteria challenges;
- Post-accident response and subsequent upgrades (NUREG 0737);
- Containment sump screen upgrade (GSI-191);
- And very importantly, the impact that a 'final shutdown decision' (as Diablo Canyon is facing in 3-4 years) has had on nuclear station staffs' performance while attempting to maintain focus on operational excellence. Experience includes maintaining operations 'within the envelope,' key staff retention, addressing increases in event frequency and severity, increased employee concerns, and safety culture/ safety conscious work environment (SCWE) declines, among others.

Starting in 2006 and continuing into 2021, Dr. Quinn has trained U.S. NRC inspectors and technical staff in a concentrated three-day workshop to evaluate significant nuclear licensee events, training over 600 U.S. NRC inspectors and technical staff during 40+ deliveries. He is contracted through 2022. In 2017, Dr. Quinn was requested to present this training to the first cohort from the Japan Nuclear Regulation Authority, and in later 2017, he was requested to present the training to the first cohort of the Canadian Nuclear Safety Commission.

He is the only individual who has taught nuclear event causal analysis evaluation to the US Nuclear Regulatory Commission, the Japan Nuclear Regulation Authority, and the Canadian Nuclear Safety Commission.

Since 2001, Dr. Quinn has presented workshops and seminars on current nuclear industry issues and challenges at industry conferences and forums in the US and Canada, as well as for the International Atomic Energy Agency (IAEA) and

17

G.2 – 367

including: the commercial nuclear power industry in the U.S. and Canada; U.S. Government (e.g., U.S. NRC, U.S. Department of Energy); nuclear supplier organizations - large nuclear steam supply system providers (e.g., Westinghouse and Mitsubishi); as well as smaller nuclear suppliers to the industry.

Selected nuclear industry assessments that Dr. Quinn has led or consulted to include:

- Significant safety issues in a high-level, trans-uranic nuclear waste underground facility;
- Consequential design phase issues on the new build nuclear project for North Anna 3;
- Significant safety issues on the disassembly and reassembly of components on two CANDU reactors under refurbishment;
- Loss of Offsite Power to the Operations power block of a 1200 MWe nuclear unit;
- Nuclear fuel handling project upgrade failures at five separate nuclear sites involving distinctly different failures during a four-month refueling season;
- A nuclear unit cooling tower failure;
- Reliability assessment of Vermont Yankee Nuclear Station operations preceding license extension decision
- Collective Significance assessment on six safety systems' performance challenges at a PWR;
- Investigating safety-related components that did not meet acceptance criteria at each of the four Westinghouse 'new build' nuclear units in SC and GA;
- Radioactive effluents (planned and unplanned airborne and liquid discharges)
- Collective Significance on Spent Fuel Transfer issues at a decommissioning station;
- Significant transuranic (alpha) ingestion/ uptake to over 500 craft workers at a nuclear power station;
- Led an assessment to determine factors contributing to 'engineering rigor' challenges in a large engineering organization responsible for nuclear wastewater management (over 50 million gallons) in underground storage tanks at a US Department of Energy site.

16

G.2 – 366

Argonne National Laboratory. He has also taught 20+ courses in Management Systems, Strategy, Organizational Behavior, and Organizational Management at two Connecticut universities.

Nuclear Operations Experience within the Power Block 1975-1999

While in the power block of a pressurized water reactor unit with a large nuclear utility from 1975 to 1999, Michael earned a U.S. NRC Senior Reactor Operator License on a Westinghouse Pressurized Water Reactor unit, and held leadership positions that included Director of Nuclear Station Services; Nuclear Station Duty Officer; Chair-Nuclear Plant Operations Review Committee [operations oversight including 50.59 Reviews]; Corrective Action Review Board (CARB) Chair; Director of Nuclear Station Emergency Operations (DSEO); Refueling and Maintenance Outage Shift Manager; Manager of Chemistry and Radiochemistry; and Project Manager, reporting to the President, on a three-unit, four-year Nuclear Station Recovery Team.

During this time frame Michael was a member of the senior station leadership team at Haddam Neck Station, a nuclear unit that consistently performed at U.S. NRC SALP-1 and INPO-1 performance levels (presently termed U.S. NRC ROP Column 1 and INPO-1 respectively).

LICENSES/ CERTIFICATIONS CONTRIBUTORY TO A POTENTIAL POSITION ON THE DCISC:

- U.S. NRC Senior Reactor Operator License #10071 on a Westinghouse PWR (Diablo Canyon is a Westinghouse PWR NSSS design)
- Certified Root Cause Investigator (Nuclear Safety Review Concepts Event Evaluation and PII)
- Certified Root Cause Training Instructor
- Certified Radiation Safety Officer

Michael earned a Doctorate in Organizational Management Systems (organizational system dynamics), and preceding that effort he had completed an Executive Master of Business Administration degree and had earned a Bachelor of Science degree in Chemistry.

Michael's collective current and past nuclear power experience is congruent with the Diablo Canyon Independent Safety Committee's (DCISC) mission and

18

G.2 – 368

May 20, 2021

requirements. He can bring current and comprehensive assessment experience in nuclear operations, decommissioning, and *Independent Spent Fuel Storage Installation* (ISFSI) management to complement the depth and breadth of the DCISC team.

Dr. Quinn has a demonstrated history of articulating his evaluations in an objective, empirically-based, and plain language manner to a spectrum of stakeholders (e.g., utility commissions, the public, station staff, utility staff, state and federal regulators, interest groups, and the boardroom).

In summary, Michael offers current and comprehensive nuclear industry assessment and evaluation experience that support consideration of his candidacy for a role on the Diablo Canyon Independent Safety Committee.

On a personal note, Michael is a several decade American Red Cross blood donor, and for the past 18 years has served on the Connecticut Community Care Inc. Board of Directors, a non-profit health care service provider for over 9,000 individuals in need.

LinkedIn: <https://www.linkedin.com/in/quinnmd/>

END OF APPENDIX A

19

G.2 – 369

May 20, 2021

March 9, 2021

1313 Culppepper Drive
Naperville, IL 60540-8231
815-263-3161 cell
jdjngs@att.net

Mr. David Zimor, Esq.
Public Utilities Regulatory Analyst
California Public Utilities Commission - Energy Division
505 Van Ness Avenue
San Francisco, CA 94102

Via email: DAVID.ZIMOR@CPUC.CA.GOV

Regarding:
Recommendation of Dr. Michael D. Quinn for Diablo Canyon Independent Safety Committee

Dear Mr. Zimor,

It is with great honor that I write this letter of recommendation in support of Dr. Michael Quinn's application to be a member of the Diablo Canyon Independent Safety Committee (DCISC).

I recommend him to this position without reservation regarding his technical ability, character, and independence to faithfully perform the important role of this committee.

I met and worked with Dr. Quinn in the 1980s when he was the Chemistry Manager, and I was the Assistant Engineering Supervisor, Senior Reactor Engineer of the Haddam Neck (Connecticut Yankee) Nuclear Power Plant. His knowledge of plant operations, experience in leadership, and understanding of safety culture was evident in those early days before the term safety-conscious were environment entered the nuclear power lexicon.

Following my full-time career with the US Department of Energy, I worked closely with Dr. Quinn on several tasks. Worthy of note are the following: Dr. Quinn led, and I assisted him, on a collective significant analysis of several events involving the handling of spent fuel for loading at an Independent Spent Fuel Storage Installation. I supported Dr. Quinn in enhancing and restructuring the Heat Cause Evaluation Training Course for Reviewers and Assessors for NRC technical personnel. I assisted Dr. Quinn in developing a root cause training course for a nuclear vendor and co-instructed the course with him.

Dr. Quinn's broad nuclear power plant experience including his US NRC Senior Reactor Operator license, his ability to understand complex situations, assessing plant operation performance, and his thoroughness and unbiased process to investigate significant and consequential events are just a few of the reasons that Dr. Quinn is sought to provide technical and leadership consulting assistance to utilities, vendors and regulators.

The work of DCISC has always been important to provide the review and formulation of recommendations concerning the safety of operations at the plant. With the announcement of the plant's premature closure, Dr. Quinn's extensive nuclear power plant experience, cooperative action management processes, and safety culture would provide world-class expert knowledge to fill an essential experience need on the DCISC.

Respectfully submitted,

Joseph P. Diego
Joseph P. Diego, PE
Director, Culture & Change Management
Marshfield Consulting Group

G.2 – 371

May 20, 2021

APPENDIX B

The following are all of the public comments submitted regarding the applicants for the Diablo Canyon Independent Safety Committee. The comments are presented in chronological order and are provided verbatim.

20

G.2 – 370

May 20, 2021

Matthew W. Sunseri
11495 FM 1486 Rd.
Richards, Texas 77873

March 10, 2021

David Zimor, Esq.
Public Utilities Regulatory Analyst
California Public Utilities Commission - Energy Division
505 Van Ness Avenue
San Francisco, CA 94102
(415) 705-1575

Nomination of Dr. Michael D. Quinn, Diablo Canyon Independent Safety Committee (DCISC)

Dear Mr. Zimor,

I am Matthew Sunseri, a nuclear industry professional for over 40 years. I have served as president and chief nuclear officer at a commercial nuclear operating company in the US before retiring. As an industry consultant currently, I serve as chairman of an independent safety board for a facility in Canada, and I also chair a statutory required governmental safety committee in the US. I am writing to you not in those official capacities but as an individual member of the public.

I have known Dr. Quinn for quite a long time. He would be an excellent contributor as a member of the DCISC for the following reasons.

Dr. Quinn has twenty-five years of nuclear power plant experience. I have learned that highly effective safety oversight individuals all possess a common factor. They understand the business and technology that they are reviewing. Dr. Quinn's experience positions him to provide excellent oversight of an operating nuclear power facility such as Diablo Canyon.

Dr. Quinn has twenty years of consulting experience primarily in event and organization analysis. This experience enables Quinn to know how to ask the right questions at the right time in order to make the most effective use of the committee's precious time at the operating facility. The fact that Dr. Quinn also teaches analysis techniques demonstrates his proficiency with these skills.

Dr. Quinn has served as a board member and chairman of a local community not-for-profit board. Having served on such boards myself, I know it takes a special set of interpersonal skills to effectively communicate and work towards common goals when a very diverse group of individuals bring their ideas to the table. I expect that these skills will enable Dr. Quinn to work very effectively with the three member DCISC.

22

G.2 – 372

May 20, 2021

March 11, 2021

California Public Utilities Commission
David Zizmor, Esq. Public Utilities Regulatory Analyst
505 Van Ness Avenue
San Francisco, CA 94102
David.Zizmor@cpuc.ca.gov

Subject: Nominations - Diablo Canyon Independent Safety Committee

Dear Mr. Zizmor,

As a long term nuclear professional, I highly recommend and support appointment of Michael Quinn, SrD to the Diablo Canyon Independent Safety Committee (DCISC). I have known and enjoyed working with Mike over many years. His experience and qualifications as a utility employee, trainer to the Nuclear Regulatory Commission staff, assessor of safety culture, coupled with his cause analysis expertise brings a unique and I believe valuable perspective to the DCISC.

Additionally, his experience in oversight roles as exemplified by board membership for the Connecticut Community Care organization adds to both his credibility and practicality as a member on the independent committee. His understanding of the importance of committee oversight responsibilities and application of questioning and guidance techniques would serve the station and CPUC well.

Best regards,



Bruce C. Marathoni
President and CEO
Marathon Consulting Group
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415-413-3004
www.marathoninc.com

23

G.2 – 373

May 20, 2021

- Will PG&E maintain the required level of capitol improvement and maintenance needed for the remaining years?
- How will workforce morale and diligence be maintained as the PG&E corporation writ large deals with bankruptcy and the legal ramifications of their criminal negligence?
- How and who will monitor the NRC's oversight with regards to waivers that may or may not be issued for repairs and upgrades, given the shortened plant life?

The current DCISC members have been in place for over a decade, and while this may indicate experience and familiarity with the plant and the utility, regrettably collegiality has given way to complacency. Review of the recent public meetings of the DCISC will offer evidence of this. For example, at their fall 2019 meeting, PG&E presented a report on the replacement project of the Unit 2 main generator, whose costs were approved by the CPUC in PG&E's GRC. The DCISC members effusively praised PG&E for their work-in-progress presentation and highlighted the need for this repair because of the dangers leaking hydrogen posed in the presence of high voltage. No critical questions were posed to the utility spokesperson. No discussion raised the possible issues associated with the "bathtub curve" – a well-known engineering phenomenon that acknowledges the increasing likelihood of failures of mechanical systems at both the startup and later end of life.

Within a year the situation would be entirely reversed: The "replaced" Unit 2 main generator would fail several times – including unexpected reactor trips – which can be a safety concern. Ultimately, this led to week-long and eventually month-long outages. At the winter 2021 DCISC meeting, PG&E made a subsequent presentation on their examination of the failures, in which PG&E downplayed the threat of hydrogen leaks, and the DCISC members again agreed with the utility – in contravention to their prior concerns and statements. "Independence" that vacillates with the utility's preferred outcomes is not the independent oversight that ratepayers pay for and deserve.

That is why the Alliance welcomes the candidacy of Dr. Quinn to the DCISC. With all due respect to the long-term tenure of the current candidate, it is

25

G.2 – 375

May 20, 2021



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ALLIANCE FOR NUCLEAR RESPONSIBILITY

March 17, 2021

David Zizmor
California Public Utilities Commission
505 Van Ness Avenue
Energy Division, Fourth Floor
San Francisco, CA 94102

Via email: david.zizmor@cpuc.ca.gov

Re: Diablo Canyon Independent Safety Committee
Appointment of Dr. Michael Quinn – SUPPORT

Dear Mr. Zizmor:

The Alliance for Nuclear Responsibility would like to support the nomination of Dr. Michael Quinn to the Diablo Canyon Independent Safety Committee (DCISC) as the appointee of the California Energy Commissioner.

The Alliance's mission includes monitoring ratepayer investments to improve safety and mitigate environmental damage from the operation of the state's last aging reactor. The DCISC is charged with monitoring safety oversight at Diablo Canyon. However, as their charter is a creation of the CPUC, no less an obligation should be their consideration of ratepayer impacts, for safety comes at a price.

These oversight concerns grow more pressing as Diablo Canyon enters its final years, and much of the infrastructure nears the end of its life expectancy. Among the issues would be:

24

G.2 – 374

May 20, 2021

far past due to have fresh eyes examining an increasingly geriatric and frail patient.

While it is true that all the candidates show strong backgrounds and work experience with nuclear science and regulation, Dr. Quinn's resume stands out. In addition numerous technical positions (including "NRC senior reactor operator license") his career features additional areas of concentration (as was the focus of his Ph.D) in the *management and human relations aspects* of operating complex, technical systems. As such, *only his* curriculum vitae acknowledges this changed situation for Diablo Canyon:

"And very importantly, the impact that a 'final shutdown decision' (as Diablo Canyon is facing in 3-4 years) has had on nuclear station staffs' performance while attempting to maintain focus on operational excellence. Experience includes maintaining operations 'within the envelope,' key staff retention, addressing increases in event frequency and severity, increased employee concerns, and safety culture/ safety conscious work environment (SCWE) declines, among others."

Of the current candidates, Dr. Quinn's recognition of Diablo's changed status is unique, and we believe a valuable insight into his thought process and expertise. Continuing with the example of the failed Unit 2 main generator replacement, Dr. Quinn's expertise would be appropriate as PG&E's efforts have now include multiple "root cause evaluations." And it is only Dr. Quinn's resume that notes his competency as a

- Certified Root Cause Investigator (Nuclear Safety Review Concepts Event Evaluation and PII) - Certified Root Cause Training Instructor
Review of subject areas covered by the DCISC during the past two years will demonstrate the increasing number of "root cause analyses" that are being undertaken at Diablo. One example of both a workplace procedure and equipment failure root cause evaluation generated last year stemmed from the unnoticed leak of water from piping corrosion in the AFW system.

The human performance aspects of nuclear power operations are likely to be looming as large as the technical considerations in these final

26

G.2 – 376

May 20, 2021

countdown years to closure. The experiences of a candidate such as Dr. Quinn in identifying and working to mitigate any shortcomings that could impact reactor operations and public safety would be welcomed by ratepayers and stakeholders alike.

The Alliance for Nuclear Responsibility endorses Dr. Michael Quinn for appointment to the Diablo Canyon Independent Safety Committee.

Yours truly,

/s/

Rochelle Becker
Executive Director
Alliance for Nuclear Responsibility

27

G.2 -- 377

DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

COMMITTEE MEMBERS

ROBERT J. BUDNITZ
PETER LAM
PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

VIA FEDERAL EXPRESS

June 18, 2021

California Polytechnic State University San Luis Obispo
R.E. Kennedy Library
Reference Department
San Luis Obispo, California 93407

Attention: Mr. Tim Strawn, Director of Collections, Strategy & Discovery;
Information Resources and Sharing Department.
Re: Diablo Canyon Independent Safety Committee Agenda Packet

Dear Mr. Strawn:

Enclosed please find a copy of the Agenda Packet for the next meeting of the Diablo Canyon Independent Safety Committee which will be held in Avila Beach, California and as a Zoom webinar on June 23-24, 2021. Would you please file this packet in the Library's Reference Department and make it available to the public.

Thank you for your cooperation and assistance in this matter.

Very truly yours,
Robert W. Rathie
Robert W. Rathie
DCISC Asst. Legal Counsel

RWR:rr

Enclosure

cc: w/encl to:

Dr. Robert J. Budnitz
Dr. Peter Lam (w/o encl.)
Dr. Per F. Peterson, P.E.
Mr. R. Ferman Wardell, P.E.
Mr. Richard D. McWhorter, Jr.
California Energy Commission
(c/o Dr. Justin Cochran)
Attorney General
(c/o Megan K. Hey, Esq.)
The Governor's Office
(c/o Alice Reynolds, Esq.)
Senior Advisor for Energy)

Mr. James M. Welsh - PG&E/DCPP (w/o encl.)
Mr. Thomas Baldwin - P.E. PG&E/DCPP (w/o encl.)
Mr. Hector Garcia - PG&E/DCPP (w/o encl.)
Jennifer K. Post, Esq. - PG&E/SF
Mr. Mark Kruse - PG&E/Sacramento
Truman Burns, Esq. - CPUC/DRA
Ms. Judith Ikeda - CPUC/ENERGY (w/o encl.)
David Zimor, Esq. - CPUC/ENERGY (w/o encl.)
Ms. Maria Salinas - CPUC/ENERGY
Martin Mattes, Esq. - Nossaman LLP

OFFICE OF LEGAL COUNSEL - ROBERT W. RATHIE
857 CAS STREET, SUITE D - MONTEREY, CA 93940
TELEPHONE (831) 439-4688 (831) 647-1041 • FACSIMILE (831) 373-7108 • DPO@DCISC.ORG

G.2 -- 379

May 20, 2021

Diablo Canyon Independent Safety Committee appointment

Lucy J Swanson <janeslo@icloud.com>
Fri 3/19/2021 3:31 PM
To: Zimor, David <David.Zimor@cpuc.ca.gov>
Cc: Swanson Jane <janeslo@icloud.com>

San Luis Obispo Mothers for Peace

P.O. Box 3608

San Luis Obispo, CA 93403

(805) 440-1359

<https://mothersforpeace.org/>

March 19, 2021

David Zimor
California Public Utilities Commission 505 Van Ness Avenue
Energy Division, Fourth Floor
San Francisco, CA 94102

Via email: david.zimor@cpuc.ca.gov

Re: Diablo Canyon Independent Safety Committee

Appointment of Dr. Michael Quinn—SUPPORT

Dear Mr. Zimor:

San Luis Obispo Mothers for Peace supports the nomination of Dr. Michael Quinn to the Diablo Canyon Independent Safety Committee as the appointee of the California Energy Commission.

Our organization concurs with the reasoning of the Alliance for Nuclear Responsibility in this matter, and request that you refer to the letter that organization sent to you on March 17.

Respectfully,

Jane Swanson, President

San Luis Obispo Mothers for Peace

28

G.2 -- 378



PRESS RELEASE:

PUBLIC MEETING
OF THE
DIABLO CANYON
INDEPENDENT SAFETY COMMITTEE ("DCISC")

WITH:

The Members of the Independent Safety Committee:

Dr. Robert J. Budnitz
Dr. Peter Lam
Dr. Per F. Peterson

WHAT:

An opportunity for the public to observe and receive information concerning the activities of the Independent Safety Committee including recent fact-finding and informational presentations concerning safety-related issues at Diablo Canyon Nuclear Power Plant ("DCPP"):

FACE COVERINGS REQUIRED OF ALL ATTENDEES

- Wednesday Morning - Committee Business Session.
- Review of the Open Items List and Fact Finding Reports.
- Update on the Status of NRC Performance Indicators, Licensee Event Reports, NRC Inspection Reports, Notices of Violation, Issues Raised by NRC Resident Inspectors, Open Compliance Issues, Cross-Cutting Aspects of Performance, and Current and Future License Amendment Requests and Other Significant Regulatory Issues/Requests.
- Update on Emergency Preparedness During Decommissioning.
- Update on Unit 2 Main Generator Outages and Repairs.
- Presentation on the "State of the Plant" including Station Performance, Key Events, Activities, Operational Highlights, Organizational Changes, the COVID-19 Pandemic and other Station Activities since February 2021.
- Thursday Morning - Remarks by the NRC Senior Resident Inspector for Diablo Canyon.
- Update on the Efforts to Retain Qualified Staff Including Those with Critical Skills.
- Update on the Performance Improvement Programs.
- Report on the Station Excellence Plan and Station Oversight Committee.
- Performance during Unit-2's Twenty-second Refueling Outage (2R22) Including Key Activities, Main Generator Repairs and Modifications, Performance Indicators, Results Achieved, Unexpected Equipment Issues and Open Items.
- The DCPP Quality Verification Organization's Perspective on Plant Performance Including Top Issues and the Latest Quality Performance Assessment Report.

WHERE:

Avila Lighthouse Suites - Point San Luis Conference Facility

WHEN:

First & San Francisco Streets, Avila Beach, CA.
Wednesday and Thursday - June 23-24, 2021.

ALSO AVAILABLE AS A ZOOM WEBINAR - SEE INFORMATION ON THE REVERSE

TIMES:

9:00 a.m. to approximately Noon (Wednesday, June 23rd)
1:30 p.m. to approx. 5:00 p.m. (Wednesday, June 23rd)
5:30 p.m. to approx. 7:15 p.m. (Wednesday, June 23rd)
8:30 a.m. to approx. Noon (Thursday, June 24th)
1:00 p.m. to approx. 3:00 p.m. (Thursday, June 24th)

FOR FURTHER INFORMATION:

Including on these and other topics reviewed by the Independent Safety Committee or the specific days and times for particular presentations

Contact 1-800-439-4688

or review the meeting agenda online at www.dcisc.org

The Committee's policy is to schedule its public meetings in locations that are accessible to people with disabilities. The Point San Luis Conference Facility is an accessible facility and hearing assistance devices are available. The meeting will be live streamed in real time at: <http://www.slo-soan.org/local/webcast/DCISC/stream/index.htm> or <http://www.dcisc.org>.

G.2 -- 380

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE (DCISC) - PUBLIC MEETING -

Where: Wednesday Morning, June 23rd 9:00 A.M.

Introductions, public comments and communications to the Committee; informational presentations by PG&E officials on plant safety and operations, including an update on NRC performance indicators, recent licensee event reports, NRC notices of violation and issues raised by NRC Resident Inspectors; open compliance issues license, attachments requests, cross-cutting aspects of performance and other regulatory matters, an update on emergency preparedness during decommissioning and future, review and update on the March 2021 fact-finding report to PG&E for the March 2021 fact-finding by a DCISC member and a technical consultant; and review of administrative, regulatory and legal matters.

Wednesday Afternoon, June 23rd 1:30 P.M.

Introductions, public comments and communications to the Committee; informational presentations by PG&E officials on plant safety and operations, including an update on NRC performance indicators, recent licensee event reports, NRC notices of violation and issues raised by NRC Resident Inspectors; open compliance issues license, attachments requests, cross-cutting aspects of performance and other regulatory matters, an update on emergency preparedness during decommissioning and future, review and update on the March 2021 fact-finding report to PG&E for the March 2021 fact-finding by a DCISC member and a technical consultant; and review of administrative, regulatory and legal matters.

Wednesday Evening, June 23rd 6:30 P.M.

Public comments and communications to the Committee; informational presentations by PG&E officials on plant safety and operations, including an update on NRC performance indicators, recent licensee event reports, NRC notices of violation and issues raised by NRC Resident Inspectors; open compliance issues license, attachments requests, cross-cutting aspects of performance and other regulatory matters, an update on emergency preparedness during decommissioning and future, review and update on the March 2021 fact-finding report to PG&E for the March 2021 fact-finding by a DCISC member and a technical consultant; and review of administrative, regulatory and legal matters.

Thursday Morning, June 24th 9:00 A.M.

Introductions, public comments and communications to the Committee; informational presentations by PG&E officials on plant safety and operations, including an update on NRC performance indicators, recent licensee event reports, NRC notices of violation and issues raised by NRC Resident Inspectors; open compliance issues license, attachments requests, cross-cutting aspects of performance and other regulatory matters, an update on emergency preparedness during decommissioning and future, review and update on the March 2021 fact-finding report to PG&E for the March 2021 fact-finding by a DCISC member and a technical consultant; and review of administrative, regulatory and legal matters.

Thursday Afternoon, June 24th 1:30 P.M.

Introductions, public comments and communications to the Committee; informational presentations by PG&E officials on plant safety and operations, including an update on NRC performance indicators, recent licensee event reports, NRC notices of violation and issues raised by NRC Resident Inspectors; open compliance issues license, attachments requests, cross-cutting aspects of performance and other regulatory matters, an update on emergency preparedness during decommissioning and future, review and update on the March 2021 fact-finding report to PG&E for the March 2021 fact-finding by a DCISC member and a technical consultant; and review of administrative, regulatory and legal matters.

Where: Avila Lighthouse Suites
Point San Luis Conference Center
P.O. Box 10000
San Francisco, California 94133

FACE COVERINGS ARE REQUIRED FOR ALL ATTENDEES

You may also participate in the DCISC's public meeting in real-time by accessing a Zoom webinar meeting via the website or by calling the phone numbers provided for that purpose. Instructions on how to access, view and participate in remote meetings are provided by visiting the DCISC's home page at www.dciisc.org.

Please plan to attend!

For further information, call 1-800-439-4688 or visit the Committee's website at www.dciisc.org.

A copy of the meeting agenda packet may be reviewed at the Cal Poly Library's Reference Department and the agenda packet is available on the DCISC's website. Each session of a public meeting of the DCISC is live-streamed and online during the meeting by visiting www.slo-span.org and after a meeting in archived format, indexed to the meeting's agenda, www.slo-span.org by following links on the Committee's website.

WATCH THE SESSIONS LIVE, OR SUBSEQUENTLY IN ARCHIVE, INDEXED TO THE MEETING'S AGENDA, BY FOLLOWING THE LINK ON THE COMMITTEE'S WEBSITE.

G.2 - 381

Diablo Canyon

INDEPENDENT SAFETY COMMITTEE (DCISC) Public Meeting:

Wednesday Morning, June 23 • 9:00 a.m.

Introductions, public comments and communications to the Committee; informational presentations by PG&E officials on plant safety and operations, including an update on NRC performance indicators, recent licensee event reports, NRC notices of violation and issues raised by NRC Resident Inspectors; open compliance issues license, attachments requests, cross-cutting aspects of performance and other regulatory matters, an update on emergency preparedness during decommissioning and future, review and update on the March 2021 fact-finding report to PG&E for the March 2021 fact-finding by a DCISC member and a technical consultant; and review of administrative, regulatory and legal matters.

Wednesday Afternoon, June 23 • 1:30 p.m.

Introductions, public comments and communications to the Committee; informational presentations by PG&E officials on plant safety and operations, including an update on NRC performance indicators, recent licensee event reports, NRC notices of violation and issues raised by NRC Resident Inspectors; open compliance issues license, attachments requests, cross-cutting aspects of performance and other regulatory matters, an update on emergency preparedness during decommissioning and future, review and update on the March 2021 fact-finding report to PG&E for the March 2021 fact-finding by a DCISC member and a technical consultant; and review of administrative, regulatory and legal matters.

Wednesday Evening, June 23 • 6:30 p.m.

Public comments and communications to the Committee; informational presentations by PG&E officials on plant safety and operations, including an update on Unit 2 Main Generator outages and repairs, and a report on the "State of the Plant" concerning key events, outages, highlights, organizational changes, response to the COVID-19 pandemic, and other station activities since February 2021.

Thursday Morning, June 24 • 9:00 a.m.

Introductions, public comments and communications to the Committee; informational presentations by PG&E officials on plant safety and operations, including an update on NRC performance indicators, recent licensee event reports, NRC notices of violation and issues raised by NRC Resident Inspectors; open compliance issues license, attachments requests, cross-cutting aspects of performance and other regulatory matters, an update on emergency preparedness during decommissioning and future, review and update on the March 2021 fact-finding report to PG&E for the March 2021 fact-finding by a DCISC member and a technical consultant; and review of administrative, regulatory and legal matters.

Thursday Afternoon, June 24 • 1:00 p.m.

Introductions, public comments and communications to the Committee; informational presentations by PG&E officials on plant safety and operations, including an update on NRC performance indicators, recent licensee event reports, NRC notices of violation and issues raised by NRC Resident Inspectors; open compliance issues license, attachments requests, cross-cutting aspects of performance and other regulatory matters, an update on emergency preparedness during decommissioning and future, review and update on the March 2021 fact-finding report to PG&E for the March 2021 fact-finding by a DCISC member and a technical consultant; and review of administrative, regulatory and legal matters.

FACE COVERINGS ARE REQUIRED FOR ALL ATTENDEES

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Where: Avila Lighthouse Suites

Point San Luis Conference Center

First & San Francisco Streets
Avila Beach, California

Please plan to attend!

For further information call 1-800-439-4688 or visit the Committee's website at www.dciisc.org.

A copy of the meeting agenda packet may be reviewed at the Cal Poly Library's Reference Department, and the agenda packet is available on the DCISC's website. Each session of a public meeting of the DCISC is live-streamed and online during the meeting by visiting www.slo-span.org and after a meeting in archived format, indexed to the meeting's agenda, www.slo-span.org by following links on the Committee's website.

WATCH THE SESSIONS LIVE, OR SUBSEQUENTLY IN ARCHIVE, INDEXED TO THE MEETING'S AGENDA, BY FOLLOWING THE LINK ON THE COMMITTEE'S WEBSITE TO WWW.SLO-SPAN.ORG OR AFTER THE MEETING ON GOVERNMENT ACCESS TELEVISION, CHANNEL 31.

G.2 - 382

Info@DCISC.org

From: info@dcisc.org
Sent: Thursday, June 17, 2021 8:14 AM
To: 'Cochran, Justin@Energy'; 'Dr. Peter Lam'; 'Robert Budnitz'; 'PER PETERSON'; 'Rick McWhorter'; 'Ferman Wardell'; info@dcisc.org
Cc: RE: DCISC June 23-24 Public Meeting & Receipt of Article on Fuel failure confirmation at Taishan 1
Subject: DCISC Agenda - Timed Version - June 23-24 2021 - Times (REV 8) doc

Dr. Cochran -

I hope everything has been going well for you in your important work for the state and in the other aspects of life. Thank you for your email with the link to the article on the fuel failure at the Taishan 1 plant. By copy of this email, I will provide the article to Drs. Peterson and Budnitz as well as to our technical consultants. I expect there may be some questions and discussion from members of the public during the DCISC's public meeting next week in Avila Beach (given the progress with COVID-19 in the state, the Committee made the decision to resume meeting in person.)

You should receive on Monday the agenda packet for the public meeting to be held on Wednesday and Thursday, June 23-24, but in any case, here's a link to the packet which is now posted on our website: https://www.dciisc.org/download/events/6_1-f-diablo-canyon-independent-safety-committee-20210623-agenda-packet.pdf.

I've attached to this email a copy of our "working agenda" which gives the estimated times for each of the items on the agenda for the June public meeting. The PowerPoints for the DCPD and DCISC presentations should be available on www.dciisc.org beginning Tuesday, June 22.

The Committee will be receiving information from DCPD on the Unit 2 Main Generator repairs on Wednesday evening and again on Thursday afternoon (during the presentation on the 22nd refueling outage for Unit 2). However, as the root cause evaluation is ongoing we've been advised the Station Director and Outage Manager won't be speculating on the technical issues which have caused the problems with the generator.

I want to extend an invitation to you for to join the DCISC's upcoming meeting in person or by Zoom. We are conducting the public meeting as a hybrid, with a Zoom component, and information on the Zoom webinar meeting ID and passcode is provided on the attached agenda.

As always, it is good to hear from you and we would welcome your presence and participation in the meeting next week.

Cordially,

Bob Rathie
(831) 424-3572 (home)
info@dcisc.com

G.2 - 383

From: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Sent: Wednesday, June 16, 2021 7:05 PM
To: Dr. Peter Lam <peterlam1@aol.com>; Bob Rathie@DCISC <info@dcisc.org>
Subject: Fuel failure confirmed at Taishan 1

All,

This may come up at the next DCISC meeting as it is in the news... <https://www.world-nuclear-news.org/Articles/Fuel-damage-confirmed-at-Taishan-1?feed=feed>

Best Regards,

Justin Cochran, Ph.D.
Emergency Coordinator & Nuclear Advisor to
Chair David Hochschild
California Energy Commission
1516 Ninth Street, MS-39
Sacramento, CA 95814

Work/Cell: 916-698-2549
Fax: 916-651-3767
justin.cochran@energy.ca.gov

G.2 - 384

Info@DCISC.org

From: info@dcisc.org
 Sent: Friday, June 18, 2021 2:18 PM
 To: judith.ikle@cpuc.ca.gov; 'Zizmor, David'
 Cc: info@dcisc.org
 Subject: DCISC Public Meeting Next Week on Wednesday/Thursday June 23-24
 Attachments: DCISC Agenda - Timed Version - June 23-24 2021 - Times (REV 8).doc

Ms. Ikle and Mr. Zizmor -

I hope everything has been going well for you in your important work for the state and in the other aspects of life. Given the state's progress with COVID-19, the Committee made a decision to resume meeting in person and the next public meeting is scheduled for next week on Wednesday and Thursday, June 23-24. However, this meeting will be conducted in a hybrid format and will also have a Zoom webinar component.

I did not send either of you an agenda packet for the meeting but here's a link to the packet which is now posted on our website:

https://www.dcisc.org/download/events/6_1-f-diablo-canyon-independent-safety-committee-20210623-agenda-packet.pdf.

I've attached to this email a copy of our "working agenda" which gives the estimated times for each of the items on the agenda for the June public meeting. The PowerPoints for the DCPD and DCISC presentations should be available on www.dcisc.org beginning Tuesday, June 22. The Committee will be receiving information from DCPD on the Unit 2 Main Generator repairs on Wednesday evening and again on Thursday afternoon (during the presentation on the 22nd refueling outage for Unit 2). However, as the root cause evaluation is ongoing we've been advised the Station Director and Outage Manager won't be speculating on the technical issues which caused the problems with the generator.

I want to extend an invitation to you for to join the DCISC's upcoming meeting in person or by Zoom. Information on the Zoom webinar meeting ID and passcode is provided on the attached agenda. I will provide your emails to the folks hosting our webinar so that if you cannot attend in person you can join the meeting as a panelist to make comments or ask questions of the Committee or of PG&E via Zoom.

On behalf of the Committee, we would welcome your presence and participation in the meeting next week. Please let me know if you have any questions or required additional information.

Cordially,

Bob Rathie
 (831) 424-3672 (home)
info@dcisc.com

1

G.2 – 385

radioactive materials with most tendency to leak through a cladding breach into the reactor coolant are fission product gases and volatile elements, notably krypton, xenon, iodine and caesium.

Fuel leaks do not present a significant risk to plant safety, though they have a big impact on reactor operators and (potentially) on plant economics. For this reason, primary coolant water is monitored continuously for these species so that any leak is quickly detected. The permissible level of released radioactivity is strictly regulated against specifications which take into account the continuing safe operation of the fuel.

The nuclear industry has made significant performance improvements reducing fuel failure rates by about 60% in the 20 years to 2005 to an average of some 14 leaks per million rods loaded, according to International Atomic Energy Agency (IAEA) figures.

No radiation leak at Taishan:

Referring to reports of a leak at Taishan, the NNSA spokesman said the increase in the level of radioactivity in the primary circuit is completely different from a radiological leakage accident. The primary circuit is inside the reactor containment. As long as the pressure boundary of the reactor coolant system as a radioactive containment barrier and the containment tightness meet the requirements, there is no possibility of radioactivity leaking to the environment.

He also dismissed claims the NNSA had approved an increase in the acceptable limit of radiation detection outside the Taishan plant in order for the plant to continue operating. He said the NNSA reviewed and approved the relevant limits for the specific activity of the noble gas of the reactor coolant in the technical specifications of the primary circuit chemistry and radioactivity of the plant. This limit is used for operation management and has nothing to do with the external radiation detection of the nuclear power plant.

NNSA said it will continue to closely monitor the radioactivity level of the primary circuit of Taishan 1, strengthen on-site supervision and environmental monitoring, guide and supervise the operating units to take measures to strictly control the radioactivity level of the primary circuit, and strictly abide by the operation technical specifications to ensure that unit 1 runs safely. It will also maintain communication with the IAEA and the French nuclear safety regulatory authority.

Taishan 1 and 2 are the first two reactors based on the EPR design to begin operating anywhere in the world so far. The 1750-megawatt reactor entered commercial operation in December 2018 and September 2019, respectively. The Taishan project - 140 kilometres west of Hong Kong - is owned by TNPVC, a joint venture between CGN (51%), EDF (30%) and the Chinese utility Guangdong Energy Group (VPP).

Reviewed and written by World Nuclear News

Related topics

China | Nuclear fuel | Operation and maintenance | Regulation

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https://www.world-nuclear-news.org/INS-210618-11300001 Fuel failure confirmed at Taishan 1

f t in

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Fuel failure confirmed at Taishan 1

16 June 2021

Share

An increase in the concentration of noble gases in the primary circuit of the Taishan 1 EPR is related to a few damaged fuel rods, China's National Nuclear Safety Administration (NNSA) confirmed today. It said the increase is "a common phenomenon" and is still in accordance with the requirements of the plant's operating technical specifications. Earlier this week, France's Framatome - which designed the EPR - said the unit was experiencing a "performance issue".



Core with fuel 2 (near EPR)

Responding to media reports of a leak at the plant in China's Guangdong province, China General Nuclear (CGN) announced on 13 June that Taishan 1 was operating at full power and there had been no release of radiation.

France's EDF, which holds a 30% stake in the two-unit plant, announced the following day it had been informed of an increase in the concentration of certain noble gases in the EPR reactor's primary circuit. However, it noted this is "a known phenomenon, studied and provided for in the reactor operating procedures".

The NNSA has now said the increase in the specific activity of the coolant in the reactor's primary loop is "mainly related to damaged fuel rods".

Due to the influence of uncontrollable factors such as fuel manufacturing, transportation, loading, etc., a small amount of fuel rod damage during the operation of nuclear power plants is unavoidable, which is a common phenomenon, an NNSA spokesman said. "According to relevant data, many nuclear power plants around the world have experienced fuel rod damage and have continued operating."

"Within the scope of allowing stable operation and meeting the requirements of technical specifications, the operational safety of nuclear power plants is guaranteed," he said.

The NNSA estimates that of more than 60,000 fuel rods in the core of Taishan 1, about five probably have damage to their cladding. The proportion of damaged fuel rods is less than 0.01% of the total, which is much lower than the maximum damage of the fuel assembly assumed in the design (proportion 0.025%), it noted.

Nuclear fuel operates in a harsh environment in which high temperature, chemical corrosion, radiation damage and physical stresses may attack the integrity of a fuel assembly. The life of a fuel assembly in a reactor core is therefore regulated to a burn-up level at which the risk of its failure is still low. Fuel failure refers to a situation when the cladding has been breached and radioactive material leaks from the fuel element (pellet) into the reactor coolant water. The

Most read

Operator to decide on Taishan 1 outage, says IAEA
 CGN raises Taishan 1 outage following fuel failure
 IAEA aims for easier transport of radioactive materials
 US NRC also continues work on reactor regulation
 Fuel failure confirmed at Taishan 1
 Framatome advanced fuel technology reaches regulatory milestone
 Canadian regulator issues order on plant outage
 IAEA reviews 100-year safety of Sweden's fuel rods
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 First EPR enters commercial operation

Related Information

Taishan 1

Info@DCISC.org

From: info@dcisc.org
 Sent: Friday, June 18, 2021 10:03 PM
 To: 'Haas, Greg'
 Cc: info@dcisc.org
 Subject: RE: DCISC Public Meeting - June 23-24, 2021

Greg-

In that case, please feel free to pose your question at any time. We always reserve the beginning of each session for questions or comments on matters not on the agenda but don't bar questions at other times. For a question as to engineering standards and practices, I believe Dr. Budnitz would be most knowledgeable. As you're likely aware there are numerous standards applicable in the nuclear industry and Dr. Budnitz has chaired and been a member of a number of the committees establishing and maintaining some of those standards. (I presume your reference to the UBC is to the Uniform Building Code?)

Would you like me to forward your question in the form posed below to the Members and Consultants before the meeting? I expect they could provide a response with some specifics as to applicable standards probably before but certainly at the meeting which would give you a chance for follow up if necessary.

Sorry if I'm late getting back to you, time got away from me on Friday night!

Best for a good weekend,

Bob

From: Haas, Greg <Greg.Haas@mail.house.gov>
 Sent: Friday, June 18, 2021 3:14 PM
 To: info@dcisc.org
 Subject: RE: DCISC Public Meeting - June 23-24, 2021

Thanks Bob,
 I will try to be there.
 However, I think my question is more geared toward the committee in that I'm asking if they are aware of engineering standards and practices that qualify what is acceptable for waiver? The NRC grants waivers based on their decisions. I'm wondering if the committee knows of specifics, for example, the UBC?

Greg

From: info@DCISC.org <info@dcisc.org>
 Sent: Friday, June 18, 2021 3:08 PM
 To: Haas, Greg <Greg.Haas@mail.house.gov>
 Cc: info@DCISC.org
 Subject: RE: DCISC Public Meeting - June 23-24, 2021

1

G.2 – 387

G.2 – 388

Greg – I believe the best time/person to address this question would be around 9:30 a.m. on Thursday morning when the NRC Senior Resident Inspector for DCP, Donald Krause, is expected to conclude his remarks and take questions and comments. If that's not convenient for you, I could pose the question to Mr. Krause on your behalf and get his response on the record. Otherwise you welcome to ask the Committee and/or DCP at any time during the meeting.

I'm attaching here for your information a copy of our "Working Agenda" that has the estimated times for the presentations, etc., for the public meeting.

We try (but don't always succeed) to keep to a timed schedule in these public meeting!

Best,

Bob

From: Haas, Greg <Greg.Haas@mail.house.gov>
Sent: Friday, June 18, 2021 2:12 PM
To: info@dcisc.org
Subject: RE: DCISC Public Meeting - June 23-24, 2021

Thank you Bob.
I have several meetings over those two days, but I will try to stick my head in.

I may have a question for the Committee about aging equipment and whether alternative standards exists already for what might qualify for a waiver from the NRC on replacement since the plant is near closure.

When would be the best time to ask this question?

Greg

From: info@DCISC.org <info@dcisc.org>
Sent: Friday, June 18, 2021 1:25 PM
To: Haas, Greg <Greg.Haas@mail.house.gov>
Cc: info@DCISC.org
Subject: DCISC Public Meeting - June 23-24, 2021

Greg:

I want to let you know that the Diablo Canyon Independent Safety Committee will be conducting its next public meeting in person at the Avila Lighthouse Suites in Avila Beach, CA (and also via Zoom) next week on Wednesday and Thursday, June 23-24. A copy of the meeting agenda is attached and instructions on how to access the Zoom webinar are provided in the agenda.

The Committee will receive informational presentations from DCP on the Unit 2 Main Generator repairs on Wednesday evening and again on Thursday afternoon (during the presentation on the 22nd refueling outage for Unit 2).

A copy of the full agenda packet for the meeting is available on our website at <http://www.dcisc.org>.

G.2 – 389

Info@DCISC.org

From: dcsafety@dcisc.org
Sent: Monday, June 21, 2021 11:37 AM
To: 'Jill ZamEk'
Cc: info@dcisc.org
Subject: RE: date error on upcoming meeting agenda

Ms. ZamEk –

Thank you for calling this error to my attention. It will be fixed "post haste" and the correct information, that is, the public meeting dates of June 23-24, 2021 at Avila Lighthouse Suites, will be inserted instead. As you probably noticed, the dates given elsewhere in the agenda are correct.

Again, thank you,

Bob Rathie
DCISC Asst. Legal Counsel
info@dcisc.org

From: Jill ZamEk <jzamek@gmail.com>
Sent: Monday, June 21, 2021 10:43 AM
To: dcsafety@dcisc.org
Subject: date error on upcoming meeting agenda

Hi. There is an error in dates that caused me some confusion. The top portion shows June 23-24, but further down states October 23-24, 2019. You may want to repair that mistake.

Thanks, Jill ZamEk

I hope that things are going well for you and that you may be able to attend at least some part of the meetings. I will provide your email to the folks hosting our webinar so that you can join the meeting as a panelist in case you want to make comments or ask questions via Zoom.

Best Regards,

Bob Rathie
DCISC Asst. Legal Counsel
(831)424-3672 (Home)
mailto: info@dcisc.org

G.2 – 390

DCSafety@DCISC.org

From: tom marre <tommarre@gmail.com>
Sent: Monday, June 21, 2021 2:18 PM
To: dcsafety@dcisc.org
Subject: Re: meeting/ Avila/ this week/ multi colored detail of the agenda

Bob, thank you for your quick attention to me.
I hope to be in Avila weds-thurs / tom marre'

On Mon, Jun 21, 2021 at 7:52 AM DCSafety@DCISC.org <dcsafety@dcisc.org> wrote:

Mr. Marré – the agenda packet for the DCISC meeting being held later this week at the Avila Lighthouse Suites in Avila Beach is available on the Committee's homepage and can be accessed at:

<https://www.dcisc.org/download/events/6-1-f-diablo-canyon-independent-safety-committee-20210623-agenda-packet.pdf>.

This is the same packet that we distribute in a multi-colored format at the public meeting – it just scans better in black and white.

Hope to see you at the meeting later this week and thank you for your interest in the DCISC and its activities.

Cordially,

Bob Rathie
DCISC Asst. Legal Counsel
info@dcisc.org

From: tom marre <tommarre@gmail.com>
Sent: Sunday, June 20, 2021 11:22 PM
To: dcsafety@dcisc.org
Subject: meeting/ Avila/ this week/ multi colored detail of the agenda

G.2 – 391

G.2 – 392

Dear All,

The multi-colored accompanying pages[AGENDA PACKET] for the agenda are not on the DCISC site.... How does one get it??

Thank you for your direction,

Thomas Marré

Special Projects
Cell:1.805.305.0360

tommarre@gmail.com



Thomas Marré
Special Projects
Off: 1.800.800.9779
Cell:1.805.305.0360
tom@800stone.com
www.800stone.com
tommarre@gmail.com

G.2 – 393

Info@DCISC.org

From: government@cgnp.org
Sent: Tuesday, June 22, 2021 7:52 PM
To: Info@DCISC.org
Subject: Some of CGNP's Recent Filings for DCISC Review
Attachments: R2005003 - CGNP's Reply Comments Final - 06 15 21 .pdf; R2005003 Parties Not Mentioning Coal and Unspecified to 06 10 21.pdf; R2005003 CGNP Opening Comments Stamped in 06 10 21.PDF; R2011003 CGNP Opening Brief 02 05 21.PDF; R2011003 CGNP Opening Brief Appendix 1 - 02 05 21.PDF; R2011003 CGNP Opening Brief Appendix 2 - 02 05 21.PDF; Appendix B - EL21-13 CTBG 'AstroTurfing'.pdf; CGNP EL21-13 Proposed Answer to the Motions to Dismiss - 01 08 21.pdf; EL21-13 CGNP Amended Complaint and Appendix 11 25 20.pdf; DCPD Compared to Weighted Average California Thermal Heat Rate 2011 - 2014.pdf

Robert Wellington
DCISC Legal Counsel
857 Cass Street, Suite D
Monterey, California, 93940
telephone: 1-800-439-4688
Info@dcisc.org

June 22, 2021

Dear Robert R. Wellington, Esq., Dr. Budnitz, Dr. Peterson, Dr. Lam, Mr. R. Ferman Wardell, Mr. Richard D. McWhorter, Jr., and Robert Rathie, Esq.:

Attached find some of Californians for Green Nuclear Power, Inc.'s (CGNP's) recent filings before California County, State, and Federal regulatory bodies for your review.

I will be attending some of the DCISC sessions in person and via ZOOM on Wednesday and Thursday the 23rd and 24th. I have received a pair of COVID-19 immunizations well over two months ago.

I look forward to meeting with you again.

Gene Nelson, Ph.D. CGNP Legal Assistant Californians for Green Nuclear Power, Inc. (CGNP)
1375 East Grand Ave Ste 103 #523
Arroyo Grande, CA 93420-2421
(805) 363 - 4697 cell
Government@CGNP.org email
<http://CGNP.org> website

G.2 – 394

Info@DCISC.org

From: Robert Rathie <bob@wellingtonlaw.com>
Sent: Wednesday, June 23, 2021 5:59 AM
To: 'Peter Lam'; 'PER PETERSON'; Robert Budnitz; 'Ferman Wardell'; 'Rick McWhorter'
Cc: info@dcisc.org
Subject: FW: Some of CGNP's Recent Filings for DCISC Review
Attachments: R2005003 - CGNP's Reply Comments Final - 06 15 21 .pdf; R2005003 Parties Not Mentioning Coal and Unspecified to 06 10 21.pdf; R2005003 CGNP Opening Comments Stamped in 06 10 21.PDF; R2011003 CGNP Opening Brief 02 05 21.PDF; R2011003 CGNP Opening Brief Appendix 1 - 02 05 21.PDF; R2011003 CGNP Opening Brief Appendix 2 - 02 05 21.PDF; Appendix B - EL21-13 CTBG 'AstroTurfing'.pdf; CGNP EL21-13 Proposed Answer to the Motions to Dismiss - 01 08 21.pdf; EL21-13 CGNP Amended Complaint and Appendix 11 25 20.pdf; DCPD Compared to Weighted Average California Thermal Heat Rate 2011 - 2014.pdf

ENTIRE REPORT AVAILABLE THROUGH THE OFFICE OF THE DCISC LEGAL COUNSEL

FYI - Email received last evening from Dr. Nelson.

—Original Message—

From: government@cgnp.org [mailto:government@cgnp.org]
Sent: Tuesday, June 22, 2021 7:52 PM
To: Info@DCISC.org
Subject: Some of CGNP's Recent Filings for DCISC Review

Robert Wellington
DCISC Legal Counsel
857 Cass Street, Suite D
Monterey, California, 93940
telephone: 1-800-439-4688
info@dcisc.org

June 22, 2021

Dear Robert R. Wellington, Esq., Dr. Budnitz, Dr. Peterson, Dr. Lam, Mr. R. Ferman Wardell, Mr. Richard D. McWhorter, Jr., and Robert Rathie, Esq.:

Attached find some of Californians for Green Nuclear Power, Inc.'s (CGNP's) recent filings before California County, State, and Federal regulatory bodies for your review.

I will be attending some of the DCISC sessions in person and via ZOOM on Wednesday and Thursday the 23rd and 24th. I have received a pair of COVID-19 immunizations well over two months ago.

I look forward to meeting with you again.

Gene Nelson, Ph.D. CGNP Legal Assistant Californians for Green Nuclear Power, Inc. (CGNP)

G.2 – 395

G.2 – 396

CGNP Comments for the DCISC 06 23 21. Gene Nelson, Ph.D.

CGNP would like to provide the Committee with an overview of the many documents we emailed to you last night.

1. CGNP continues to fight for the continued safe operation of DCPD beyond 2025 at the county, state, and federal level.
 2. CGNP uncovered the recently-announced CPUC plan to partially replace DCPD after 2025 with up to 5,000 MW (2 1/2 Hoover Dams) of highly-polluting Wyoming coal-fired generation in the mid-range IRP proceeding R2005003. The CPUC plan employs the California legal euphemism "unspecified imports" for out-of-state coal-fired power. There are many other misdirections in the CPUC Plan. CGNP was sharply critical of the environmental harms of this plan in its recent CPUC filings. This coal-fired plan is backed by Berkshire Hathaway Energy via its PacifiCorp and NV Energy subsidiaries. CGNP identified the environmental harms of PacifiCorp's Wyoming coal-fired generation as a likely substitute for DCPD's clean power in our initial filing in January, 2017 before the CPUC in A1608006 regarding the plan to shut down DCPD in 2025.
 3. With questionable legal reasoning, the CPUC censored CGNP providing an alphabetic list of all the other more than 50 parties filing opening comments in R2005003 that failed to make the connection between coal and unspecified imports. (Three parties mentioned one of these terms more than once, but did not mention the other term.) CGNP wonders about the political pressure required to produce such a lopsided outcome.
 4. On May 12, 2021, CGNP contacted Susan Stracher, the SLO County Planner who is managing the project to shut down and decommission DCPD. We raised our initial objection to the improperly scoped EIR, per PG&E's initial filings with the county dated March 30, 2021. In the section focusing on GHG emissions, PG&E correctly notes on page 11 that DCPD is operating. This condition distinguishes it from SONGS, which ceased operations in January, 2012 as the consequence of SCE's mis-management of Mitsubishi Heavy Industries fabrication of the RSGs. There never were any adverse health consequences from the tiny leaks in the SONGS RSGs. However, there have been massive but delocalized harms from the increased coal combustion in the west via unspecified sources. CGNP's legal team is now drafting a stronger objection to SLO County which will also raise the issue of unspecified imports.
 5. CGNP's initial FERC complaint in EL21-13-000 was rejected. However, FERC provided guidance in their issuance regarding the points that CGNP must cover in our follow-on complaint, which will focus on the lethal Texas power system inadequacies uncovered during the mid-February Polar Vortex. Nuclear power performed best, natural gas lost of up about 6,000 MW of generation due mostly to lack of fuel, and renewable performance was inadequate with very low capacity factors documented. ERCOT provided a very helpful set of spreadsheets regarding individual generator failures.
- CGNP looks forward to your questions and feedback.

G.2 – 397

Info@DCISC.org

From: dcsafety@dcisc.org
Sent: Wednesday, June 23, 2021 2:16 PM
To: 'Peter Lam'; 'PER PETERSON'; 'Robert Budnitz'; 'Rick McWhorter'; 'Ferman Wardell'
Cc: info@dcisc.org
Subject: FW: DCPD/ vibration ? / your report today

Email received afternoon – if the Committee agrees, I can read Mr. Marré's into the record under public comment this evening before Cary Harbor's presentations.

Bob R

From: tom marre <tommarre@gmail.com>
Sent: Wednesday, June 23, 2021 1:25 PM
To: dcsafety@dcisc.org
Subject: DCPD/ vibration ? / your report today

Dear All,
In the last 24 months there has been a few issues at DCPD

- 1 At control rod cluster/ electric-control-circuit-board/ fail (shorted-out) /unit 1
- 2 leak [rust hole] at aux cooling sys/ at power generator/ unit 1
- 3 leak:liquid hydrogen at power generator/ unit-2
- 4 leak above persists/ unit-2
- 5 un-scheduled outage to fix and repair above/ unit 2
- 6 weld cracked next to hydrogen leak source/ unit 2
- 7 vibration detected in power generator / slowed to run at 80%/ unit 2
- 8 unable fix vibration so jerry-rig counter weights/ unit 2
- 9 they will fix at next outage/ unit 2
- 10) unit- 2 / temporary shut-down/ unit 2

I think unit 2 is at full power now....

Can we have a little more detail now on how this "phantom vibration" and the "hydrogen leak" were rectified?
This new vibration monitoring system was installed where ?

Tom Marré
Cell:1.805.305.0360
tommarre@gmail.com

G.2 – 398

Info@DCISC.org

From: dcsafety@dcisc.org
Sent: Wednesday, June 23, 2021 2:20 PM
To: 'tom marre'
Cc: info@dcisc.org
Subject: RE: DCPD/ vibration ? / your report today

Mr. Marré – this will acknowledge receipt of your email. I will read your email into the record of the Committee during the beginning of the evening session tonight, at around 5:30 p.m. Presentations by PG&E on the Main Generator repairs and the State of the Plant will follow and may address the matters raised in your email.

Robert Rathie
DCISC

From: tom marre <tommarre@gmail.com>
Sent: Wednesday, June 23, 2021 1:25 PM
To: dcsafety@dcisc.org
Subject: DCPD/ vibration ? / your report today

Dear All,
In the last 24 months there has been a few issues at DCPD

- 1 At control rod cluster/ electric-control-circuit-board/ fail (shorted-out) /unit 1
- 2 leak [rust hole] at aux cooling sys/ at power generator/ unit 1
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- 4 leak above persists/ unit-2
- 5 un-scheduled outage to fix and repair above/ unit 2
- 6 weld cracked next to hydrogen leak source/ unit 2
- 7 vibration detected in power generator / slowed to run at 80%/ unit 2
- 8 unable fix vibration so jerry-rig counter weights/ unit 2
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- 10) unit- 2 / temporary shut-down/ unit 2

I think unit 2 is at full power now....

Can we have a little more detail now on how this "phantom vibration" and the "hydrogen leak" were rectified?
This new vibration monitoring system was installed where ?

Tom Marré
Cell:1.805.305.0360
tommarre@gmail.com

G.2 – 399

Info@DCISC.org

From: info@dcisc.org
Sent: Thursday, June 24, 2021 1:38 PM
To: 'Cochran, Justin@Energy'
Cc: info@dcisc.org
Subject: RE: DCISC Meeting

Justin – thank you for your message. I noted your review in the meeting a couple of minute ago. Whole Committee sends its regards with the hope that you can join us in person in October, meanwhile please keep well,

Bob

From: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
Sent: Thursday, June 24, 2021 12:17 PM
To: Bob.Rathie@DCISC <info@dcisc.org>
Subject: DCISC Meeting

Good day Bob.

It has been a good meeting. I have been reviewing the presentation slides and running the SLO stream on one of my personal computers, I was unable to run multiple streams on my work laptop.

I have not logged into the zoom as it is too much of a bandwidth hit while I am in meetings and running other online meeting platforms on my work laptop.

It is good seeing that everyone looks healthy and enjoying the coastal summer.

Best Regards,

Justin Cochran, Ph.D.
Emergency Coordinator & Nuclear Advisor to
Chair David Hochschild
California Energy Commission
1516 Ninth Street, MS-39
Sacramento, CA 95814

Work/Cell: 916-698-2549
Fax: 916-651-3767
justin.cochran@energy.ca.gov

G.2 – 400

From: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>
 Sent: Wednesday, June 30, 2021 10:15 PM
 To: Dr. Peter Lam
 Cc: Nguyen, Le-Quyen@Energy; Bohan, Drew@Energy; Bob Rathie@DCISC
 Subject: DCISC Reappointment
 Attachments: Chair Hochschild Letter to CPUC President on DCISC Appointment 23-June-2021.pdf;
 Chair Hochschild Letter to Dr Lam on DCISC Appointment 23-June-2021.pdf

Good day Dr. Lam.

I hope all is well. I am writing to inform you of California Energy Commission Chair David Hochschild's reappointment of Dr. Peter Lam to the Diablo Canyon Independent Safety Committee for a term of three years, from July 1, 2021 through June 30, 2024.

For your records, I have attached the letter that was sent to the California Public Utilities Commission regarding the reappointment of Dr. Lam. I have also attached a personal letter from Chair Hochschild to Dr. Lam.

We wanted to express our gratitude for your continued service on the Diablo Canyon Independent Safety Committee. We appreciate your professionalism and diligence and value the experience and technical knowledge you provide on issues of nuclear safety.

We look forward to speaking with you the next time you are in California.

Best Regards,

Justin Cochran, Ph.D.
 Emergency Coordinator & Nuclear Advisor to
 Chair David Hochschild
 California Energy Commission
 1516 Ninth Street, MS-39
 Sacramento, CA 95814

Work/Cell: 916-698-2549
 Fax: 916-651-3767
justin.cochran@energy.ca.gov

From: Nguyen, Le-Quyen@Energy <Le-Quyen.Nguyen@energy.ca.gov>
 Sent: Wednesday, June 30, 2021 12:35 AM
 To: O'Rourke, Shannon <Shannon.O'Rourke@cpuc.ca.gov>
 Cc: Cochran, Justin@Energy <Justin.Cochran@energy.ca.gov>; Zismor, David <David.Zismor@cpuc.ca.gov>
 Subject: Letter to President Batjer on DCISC Appointment

Hi Shannon,

I hope you're doing well! Please find attached to this email, a letter from Chair Hochschild to President Batjer reappointing Dr. Peter Lam to the Diablo Canyon Independent Safety Committee for a term of three years, from July 1, 2021 through June 30, 2024. Please let me know if there's anything else you need from us.

1

G.2 - 401



CALIFORNIA
ENERGY COMMISSION



June 25, 2021

Marybel Batjer, President
 California Public Utilities Commission
 505 Van Ness Avenue
 San Francisco, California 94102

RE: Energy Commission Reappointment of Peter Lam, Ph.D. to the Diablo Canyon Independent Safety Committee

Dear President Batjer:

Thank you for providing the qualified candidates for consideration to a three-year term on the Diablo Canyon Independent Safety Committee (DCISC) beginning July 1, 2021. As the Chair of the California Energy Commission, I am fulfilling my responsibility in appointing one of the Safety Committee members. I have reviewed the information provided and closely considered the well-qualified candidates. After comparing their work with the previous body of work Dr. Peter Lam has contributed not only as Chair of the DCISC but also as an unbiased member of the Committee over his multiple terms, I have chosen to reappoint Dr. Lam. His proven expertise, experience, and familiarity with relevant topics will benefit the Committee, PG&E, and the public as the nuclear plant begins a critical transition.

I hereby reappoint Dr. Peter Lam to the Diablo Canyon Independent Safety Committee for a term of three years from July 1, 2021 through June 30, 2024. I am grateful for Dr. Lam's invaluable contribution as a member of the Safety Committee over his successive terms and look forward to working with him again as he serves another three-year term.

If you have any questions regarding my reappointment, please contact Justin Cochran, Ph.D., Senior Nuclear Policy Advisor, California Energy Commission, MS-39, 1516 Ninth Street, Sacramento, CA, 95814-5512, or via e-mail at Justin.Cochran@energy.ca.gov.

Sincerely,

David Hochschild
 Chair
 California Energy Commission

energy.ca.gov
 1516 9th Street, Sacramento, CA 95814



CALIFORNIA
ENERGY COMMISSION



DCISC

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

June 25, 2021

Dr. Peter Lam
 Diablo Canyon Independent Safety Committee
 Office of the Legal Counsel
 857 Cass Street, Suite D
 Monterey, California 93940

RE: Energy Commission Reappointment of Peter Lam, Ph.D. to the Diablo Canyon Independent Safety Committee

Dear Dr. Lam:

I am pleased to inform you that I have reappointed you to the Diablo Canyon Independent Safety Committee for a three-year term beginning on July 1, 2021, and to share our gratitude for your service over these multiple terms.

The extensive depth of knowledge you bring to the Committee coupled with your academic and professional background, experience in nuclear power plant operations, safety, and regulation has made a significant contribution toward the Committee's safety review of Diablo Canyon. I appreciate your persistence in addressing the most pressing safety concerns that impact operations. Furthermore, the thorough and unbiased technical reviews that you have provided on Diablo Canyon and various nuclear power related issues have been extremely beneficial.

I look forward to seeing you again when you are next in Sacramento. If you have any questions regarding this appointment, please contact my advisor, Justin Cochran, at 916-698-2549 or via e-mail at Justin.Cochran@energy.ca.gov.

Sincerely,

David Hochschild
 Chair
 California Energy Commission

COMMITTEE MEMBERS

ROBERT J. RUENITZ
 PETER LAM
 PER F. PETERSON

WEBSITE - WWW.DCISC.ORG

By USPS &
 by email to
david.hochschild@energy.ca.gov

July 2, 2021

The Honorable David Hochschild
 Chair
 California Energy Commission
 1516 Ninth Street, MS-32
 Sacramento, California 95814

Dear Chair Hochschild:

I am honored and humbled by your reappointing me to the Diablo Canyon Independent Safety Committee for another three-year term beginning July 1, 2021.

I greatly appreciate the trust and confidence you have placed in me to conduct safety review of the Diablo Canyon Nuclear Power Plant. I will certainly strive to continue the Independent Safety Committee's charter of safety review as mandated by your high office.

I look forward to seeing you again in Sacramento in the near future.

Sincerely yours,

 Peter Lam

PL:rw

cc: Mr. Drew Bohan, Executive Director
 Justin Cochran, Ph.D., Senior Nuclear Policy Advisor & Emergency Coordinator
 Ms. Le-Quyen Nguyen, Chief of Staff
 Robert Rathie, Esq., DCISC Asst. Legal Counsel

energy.ca.gov
 1516 9th Street, Sacramento, CA 95814

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE • 857 CASS STREET • SUITE D • MONTEREY • CA • 93940
 TELEPHONE (800) 439-6688/(831) 647-1044 • FACSIMILE (831) 373-7106 • INFO@DCISC.ORG

G.2 - 403

G.2 - 404

[31st Annual Report by the Diablo Canyon Independent Safety Committee, July 1, 2020—June 30, 2021](#)

[Preface](#) | [Executive Summary](#)

[Volume I TOC](#) | [Volume II TOC](#) | [PG&E Response](#) | [Contact the DCISC](#)

[31st Annual Report, Volume II](#), Exhibit G3, Comments Received at Public Meetings

Comments from members of the public made during the DCISC's public meetings are included in the Minutes for each meeting.

See Exhibit [B.3](#), [B.6](#) and [B.9](#).

[31st Annual Report](#), [Volume I](#), Section 1.2.1, Appointment of Committee Member Robert J. Budnitz

On October 10, 2007, Robert J. Budnitz, Ph.D. was appointed by California Attorney General Edmund G. Brown Jr. to a term on the Committee expiring June 30, 2010. On April 15, 2010, Attorney General Brown announced the reappointment of Dr. Budnitz to a second three-year term on the Committee commencing July 1, 2010 through June 30, 2013. On June 27, 2013, the CPUC ratified its President's selection of Dr. Budnitz as one of two candidates for appointment by Attorney General Kamala Harris to serve a three-year term on the DCISC for the period July 1, 2013 to June 30, 2016. During that period, in accordance with California Government Code §1302, Dr. Budnitz continued to serve as a member of the Committee pending his reappointment or replacement.

On July 7, 2016, Attorney General Harris announced the reappointment of Dr. Budnitz to serve a three-year term on the Committee commencing July 1, 2016 through June 30, 2019. On August 14, 2019, California Attorney General Xavier Becerra announced his reappointment of Dr. Robert J. Budnitz to a three-year term on the DCISC beginning on July 1, 2019 and ending on June 30, 2022.

Dr. Robert J. Budnitz has been involved with nuclear-reactor safety and radioactive-waste safety for many years. In February 2017 he was elected to the National Academy of Engineering. In March 2017 he retired from the scientific staff at the University of California's Lawrence Berkeley National Laboratory, where he worked on nuclear power safety and security and radioactive-waste management. Since his formal retirement, he has continued to work on these same subjects through a one-person private consulting service. From 2002 to 2007 he was at the University of California's Lawrence Livermore National Laboratory (LLNL), during which period he worked on a two-year special assignment (late 2002 to late 2004) in Washington to assist the Director of the Department of Energy's (DOE's) Office of Civilian Radioactive Waste Management to develop a new Science & Technology Program. Prior to joining LLNL in 2002, he ran a one-person consulting practice in Berkeley CA for over two decades. In 1978-1980, he was a senior officer on the staff of the U.S. Nuclear Regulatory Commission, serving as Deputy Director and then Director of the NRC Office of Nuclear Regulatory Research. In this two-year period, Dr. Budnitz was responsible for formulating and guiding the large NRC research program that constituted over \$200 million/year at that time. His responsibilities included assuring that all major areas of reactor-safety research, waste-management research, and fuel-cycle-safety research necessary to serve the mission of NRC were adequately supported. From 1967-1978, he was on the

staff of the Lawrence Berkeley National Laboratory (LBNL), serving in 1975-1978 as Associate Director of LBNL and Head of LBNL's Energy & Environment Division. During this period, the programs under his direction were in a large mix of diverse areas relevant to DOE, including energy-efficiency, deep-geologic radioactive waste disposal, solar energy, geothermal energy, fusion energy, transportation technology, chemical-engineering for alternate fuels, environmental instrumentation, air-pollution phenomena, and energy policy analysis. He earned a Ph.D. in experimental physics from Harvard in 1968.

Dr. Budnitz served as DCISC Vice-Chair during this report period, July 1, 2020 through June 30, 2021

[31st Annual Report, Volume I, Section 1.2.2, Appointment of Committee Member Peter Lam](#)

In June 3, 2009, Peter Lam, Ph.D., was appointed by Chair Karen Douglas, J.D., of the California Energy Commission (CEC) to a three-year term on the Committee commencing July 1, 2009 through June 30, 2012. On July 12, 2012, CEC Chair Robert B. Weisenmiller, Ph.D., announced his reappointment of Dr. Lam to a second three-year term on the Committee commencing July 1, 2012 through June 30, 2015. Dr. Lam was reappointed by Dr. Weisenmiller to third three-year term on the Committee commencing July 1, 2015 and ending on June 30, 2018, and subsequently on June 6, 2018, Dr. Weisenmiller announced Dr. Lam's appointment to a fourth three-year term on the Committee beginning on July 1, 2018 and ending on June 30, 2021. On June 25, 2021, CEC Chair David Hochschild announced his reappointment of Dr. Lam to a fifth three-year term on the Committee beginning on July 1, 2021 and ending on June 30, 2024.

Dr. Peter Lam, Administrative Judge Emeritus of the U.S. Nuclear Regulatory Commission, is an international authority of nuclear reactor operating experience, and a leading expert on nuclear reactor safety and risk assessment. Dr. Lam is now the principal of EMM International, a consulting company with a group of experts in the nuclear industry. In his 18 years of public service as an Administrative Judge, Dr. Lam has presided over numerous public proceedings to decide technical issues of national and international significance involving the use of nuclear energy and materials. Judge Lam's jurisdiction covered all 104 nuclear power plants, some 21,000 medical and material licensees, and nuclear waste storage in the United States. The ultimate resolution of these significant technical issues has contributed to the enhancement of nuclear reactor safety.

Prior to his judicial appointment in 1990, Dr. Lam had extensive technical and managerial experience in the nuclear energy business over a period of 20 years. He was a nuclear engineer at General Electric Company, participating in the design and analysis of boiling water reactor advanced fuels. Dr. Lam served as a program manager at Argonne National Laboratory, managing the research and development of advanced fast reactor metal fuels. He was a manager at Science Applications, Inc., and a consultant at NUS Corporation, both major consulting firms in the nuclear industry. Dr. Lam's responsibilities there involved the management of probabilistic risk assessments of operating nuclear reactors. He managed a group of technical specialists in the U.S. Nuclear Regulatory Commission in the analysis and evaluation of nuclear reactor operating experience. Dr. Lam was also a visiting faculty member at California State University at San Jose, and at George

Washington University.

Dr. Lam has published 71 technical papers and reports in national and international journals and in proprietary company publications which focus on major issues in nuclear transport theory, nuclear reactor fuel design, nuclear reactor operating experience, and nuclear reactor safety. Judge Lam has also issued over 110 published judicial decisions related to some 50 cases of litigation. These judicial decisions resolve a wide range of technical and legal issues regarding nuclear reactor safety, nuclear waste disposal, and other civilian use of nuclear technology.

Dr. Lam has presented lectures at International Atomic Energy Agency (IAEA) international conferences in Austria, Korea, and Spain on significant results in comprehensive analyses of nuclear reactor operating experience. He has chaired an IAEA working group to develop a technical treatise for the analysis and evaluation of operating experience of the world's nuclear reactors. These activities contribute to the international exchange of important information to improve nuclear reactor safety.

Dr. Lam earned a Ph.D. and a M.S., both in nuclear engineering, from Stanford University in 1971 and 1968, respectively. He earned a B.S., in mechanical engineering, from Oregon State University in 1967. His four-year undergraduate study at Oregon State University and his four-year graduate study at Stanford University were fully funded by eight consecutive scholarships and fellowships.

Dr. Lam served as the DCISC Chair for this report period, July 1, 2020 through June 30, 2021.

[31st Annual Report, Volume I, Section 1.2.3, Appointment of Committee Member Per F. Peterson](#)

On July 9, 2008, California Governor Arnold Schwarzenegger announced the appointment of Per F. Peterson, Ph.D., PE, to a three-year term on the Committee through June 30, 2011. Prof. Peterson previously served as a Committee member from September 2, 2004, through October 9, 2007. Governor Edmund G. Brown Jr. reappointed Professor Peterson to a term on the Committee commencing July 1, 2011 through June 30, 2014. Professor Peterson was subsequently reappointed by Governor Brown to a three-year term on the DCISC commencing July 1, 2014 and expiring on June 30, 2017. On October 11, 2017, Governor Brown reappointed Professor Peterson to a three-year term on the Committee commencing July 1, 2017 and expiring June 30, 2020. In February 2021 Governor Newsom reappointed Dr. Peterson to a sixth three-year term commencing July 1, 2020 through June 30, 2023.

Per F. Peterson is the Floyd Professor of Nuclear Engineering at the University of California, Berkeley. In February 2020 he was elected to the National Academy of Engineering. Since July 2017 he has also served as the Chief Nuclear Officer for Kairos Power, a start-up company developing advanced reactor technology. He previously chaired the Nuclear Engineering department from 2000 to 2005 and from 2009 to 2012 and chaired the Energy and Resources Group at U.C. Berkeley from 1998 to 2000. He received his BS in Mechanical Engineering at the University of Nevada, Reno, in 1982. After working at Bechtel on high-level radioactive waste processing from 1982 to 1985, he received a MS degree in Mechanical Engineering at the University of California, Berkeley in 1986 and a Ph.D. in 1988. He was a JSPS Fellow at the Tokyo Institute of Technology from 1989 to 1990 and a National Science Foundation Presidential Young Investigator from 1990 to 1995.

He is past chairman of the Thermal Hydraulics Division (1996-1997) and a Fellow (2002) of the American Nuclear Society, a recipient of the Fusion Power Associates Excellence in Fusion Engineering Award (1999) and has served as editor for three technical journals.

Prof. Peterson's research in the 1990's contributed to the development of the passive safety systems used in the GE ESBWR and Westinghouse AP-1000 reactor designs. Currently his research group focuses primarily on heat transfer, fluid mechanics, and regulation and licensing for high temperature reactors, principally designs that use liquid fluoride salts as coolants. He is author of over 110 archival journal articles and over 120 conference publications on these topics.

On January 29, 2010, U.S. Department of Energy Secretary Dr. Steven Chu appointed Prof. Peterson as a member of the Blue Ribbon Commission on America's Nuclear Future ("BRC"), established by President Obama to provide recommendations for solutions to manage the Nation's spent fuel and high-level waste. He co-chaired the BRC's Reactor and Fuel Cycle Technology Subcommittee with Senator Pete Domenici. He has served as a member or chair of numerous advisory committees for the national laboratories and National Research Council. He participated in the development of the Generation IV Roadmap in 2002 as a member of the Evaluation Methodology Group, and has co-chaired its Proliferation Resistance and Physical Protection Working Group since 2002.

[31st Annual Report, Volume I, Section 1.2.4, Appointment of Technical Consultants & Legal Counsel](#)

The Restated Charter provides the Committee may contract for services including the services of consultants and experts to assist the Committee in its safety review. The DCISC Members are assisted in their important work by technical consultants and legal counsel. For this report period those persons were:

Technical Consultant: Mr. R. Ferman Wardell, a Registered Professional Engineer, holds both Bachelor and Master of Science degrees in Nuclear Engineering from North Carolina State University. He is a 53-year veteran of the nuclear power industry, having been directly involved in design, quality assurance, operation and nuclear safety oversight activities for Duke Energy Corporation's seven nuclear units. He was formerly Executive Assistant to the Chairman and CEO at Duke Energy. Mr. Wardell has been a Consultant to the DCISC since 1992. In this capacity he participates in technical and programmatic reviews of the safety of Diablo Canyon nuclear operations, DCISC public meetings, and development of the DCISC fact-finding reports and its annual reports. Mr. Wardell also serves as nuclear consultant to the minority owner of the North Anna Power Station, a nuclear plant in Virginia.

Technical Consultant: Mr. Richard D. McWhorter, Jr., holds a Bachelor of Science in Mechanical Engineering from the United States Naval Academy. He is a 35-year veteran of the nuclear power industry. He served for ten years as a division officer and department head in the navy's nuclear submarine program in which he was responsible for the operation of his submarine's nuclear power plant. Mr.

McWhorter then served the U. S. Nuclear Regulatory Commission for ten years, first as an Operator Licensing Examiner and then as Senior Resident Inspector at North Anna Power Station. He then was employed for two years as a Systems Engineering Manager for Dominion Virginia Power at North Anna Power Station.

For ten years, Mr. McWhorter was employed at Old Dominion Electric Cooperative where he served as Vice President of Operations and Asset Management. Mr. McWhorter has been a Consultant to the DCISC since 2016. In this capacity he participates in technical and programmatic reviews of the safety of Diablo Canyon nuclear operations, DCISC public meetings, and development of the DCISC fact-finding reports and annual reports.

Legal Counsel: Robert R. Wellington, Esq. has been Legal Counsel for the DCISC since its organization in 1989. He is a graduate of Stanford University and the University of California (Hastings) Law School. For over 20 years his practice has been limited to representing several cities, community service, regional

wastewater and solid waste districts and other public agencies, including the DCISC. He advises the DCISC with regard to its legal, regulatory and administrative matters.

Assistant Legal Counsel Robert Rathie, Esq. has been associated with the Committee through his work with the Wellington Law Offices since 1993. He obtained a bachelor's degree in Social Science and History from Chico State University in 1972 and served for 15 years in the U.S. Merchant Marine as chief purser on board passenger and freight vessels in foreign trade. He received his Juris Doctor Degree from Monterey College of Law in 1993. He is a member of the State Bar of California and the Monterey County Bar Association. He assists Mr. Wellington in advising the DCISC with regard to its legal, regulatory and administrative matters.