

DIABLO CANYON
INDEPENDENT SAFETY COMMITTEE (“DCISC”)
(www.dcisc.org)

Committee Members: Robert J. Budnitz
Najmedin Meshkati
Per F. Peterson

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Wednesday & Thursday October 9-10, 2024 Avila Lighthouse Suites	Point San Luis Conference Room First and San Francisco Streets Avila Beach, California
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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 <http://www.dcisc.org>.
This meeting is also being produced as a Zoom webinar by AGP Video Inc. and will be broadcast subsequently
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PARTICIPATION

You may participate in the DCISC’s public meeting in person or in real-time by accessing the Zoom webinar meeting via the weblink and the webinar ID given above or by calling any of the phone numbers 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 <http://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 Noon on Tuesday, October 8, 2024. 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. Subject to the requirements to publish an agenda in advance, the Committee will have the option to modify its actions on items based on comments received.

In accordance with the Bagley-Keene Open Meeting Act (CA Govt. Code §§11120 et seq.) and the Committee’s Policies, for each item on the Agenda the Committee reserves the right, at the discretion of the presiding officer, to limit the total amount of time allocated for public comment on particular issues and/or for each individual public commenter. A time limit for each public commenter will be announced during every session. For any public commenter(s) who previously requested and at the discretion of the presiding officer were granted additional time an announcement will be made at the beginning of the session. Public commenters will not be recognized more than once during public comments on matters not on the agenda or during consideration of an agenda item, but may be called upon subsequently to respond to questions from the Committee. Public commenters may not cede time to other public commenters.

Morning Session - 10/09/2024 – 9:00 A.M.

I CALL TO ORDER - ROLL CALL

II INTRODUCTIONS AND COMMITTEE MEMBER COMMENTS

Introduction of Committee Member Dr. Najmedin Meshkati, the appointee of the Chair of the California Energy Commission to the DCISC.

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. Those persons making public comments are requested and encouraged to provide copies of any prepared written materials or slides they intend to use in their remarks to the Legal Counsel's office prior to addressing remarks to the Committee and in sufficient time such that they may be distributed. 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 morning's Agenda immediately following the time the matter is considered by the Committee.) *There will be a time limit for each topic and/or speaker as designated by the presiding officer as announced at the beginning of this session. 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

A. Informational Presentations Requested by the Committee of PG&E:

- 1) State of the Plant Update including Organizational Changes, Significant Past and Future Plant Activities, Power History, Significant Equipment Issues, Intake Cove Dredging Project, and Other Station Activities since the DCISC's June 2024 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, Status of Cross-Cutting Issues Matrix, Current and Future License Amendment Requests, and Other Significant Regulatory Issues/Requests.
- 3) PG&E Evaluations of Technical Concerns on the Seismic Safety of DCPD Provided by Dr. Peter Bird in His Letter to the DCISC Dated May 16, 2024, and His Presentation to the DCISC on June 21, 2024.

V ADJOURN MORNING MEETING

Afternoon Session – 10/09/2024 – 1:15 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 afternoon's Agenda immediately following the time the matter is considered by the Committee.) *There will be a time limit for each topic and/or speaker as designated by the presiding officer as announced at the beginning of this session. 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 ITEM PRESENTED BY THE INDEPENDENT PEER REVIEW PANEL

- A. Presentation by the Independent Peer Review Panel for Seismic Hazard Studies of DCPD on the Panel's Report on PG&E's Diablo Canyon Updated Seismic Assessment.

X TECHNICAL CONSULTANT REPORT; RECEIVE, APPROVE AND AUTHORIZE TRANSMITTAL OF FACT-FINDING REPORT TO PG&E

- A. Consultant R. Ferman Wardell, PE:
Fact-finding Topics; Report on and approval of
August 27 – September 24-25, 2024, Fact Finding Report.
- B. Consultant R. Ferman Wardell, PE:
Fact-finding Topics; Report on and approval of
July 31-August 1, 2024, Fact Finding Report.
- C. Consultant Richard D. McWhorter Jr.:
Fact-finding Topics; Report on and approval of
August 21-22, 2024, Fact Finding Report.

XI ADJOURN AFTERNOON MEETING

Evening Session – 10/09/2024 – 5:00 P.M.

XII RECONVENE FOR EVENING MEETING

XIII COMMITTEE MEMBER COMMENTS

XIV INFORMATION ITEM PRESENTED BY THE COMMITTEE

- A. Informational Presentation by the Committee:
Report on Evaluations of Public Input on Studies by Dr. Mark T. Kirk
Evaluating Unit 1 Reactor Pressure Vessel Integrity; Committee Consideration of
the Kirk Studies and Including Conclusions and Recommendations in the
DCISC's 34th Annual Report.

XV PUBLIC COMMENTS AND COMMUNICATIONS

The public may comment on the matter listed on the evening's Agenda immediately following the time the matter is considered by the Committee. Anyone wishing to address the Committee on matters not appearing on the Agenda may do so following those comments. *There will be a time limit for each topic and/or speaker as designated by the presiding officer as announced after the presentation by the Committee. 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 ADJOURN EVENING MEETING

Morning Session – 10/10/2024 – 9:00 A.M.

XVII RECONVENE FOR MORNING MEETING

XVIII COMMITTEE MEMBER COMMENTS

XIX 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 matters listed on the morning's Agenda immediately following the time the matter is considered by the Committee.) *There will be a time limit for each topic and/or public as designated by the presiding officer as announced at the beginning of this session. 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.*

XX ACCEPTANCE OF MINUTES

- A. Minutes of June 20-21, 2024, Public Meeting. Review/Accept

XXI ACTION ITEMS

- A Review of Open Items List. Discussion/Action

XXII DISCUSSION, DIRECTION AND ACTION, AS APPROPRIATE, BY THE COMMITTEE, CONSULTANTS & COUNSEL

- A. Public Outreach, Site Visits and Other Committee Activities; Scheduling and Confirmation of Future Fact-Finding Visits and Public Meetings.
B. Documents Provided to the Committee

XXIII INFORMATION ITEM PRESENTED BY THE NUCLEAR REGULATORY COMMISSION SENIOR RESIDENT INSPECTOR FOR DCPD

- A. Presentation by the NRC's Senior Resident Inspector for DCPD Mr. Mahdi Hayes on the NRC's Annual Assessment of DCPD's End-of Cycle Performance during Calendar Year 2023.

XXIV ADJOURN MORNING MEETING

Afternoon Session – 10/10/2024 – 1:30 P.M.

XXV RECONVENE FOR AFTERNOON MEETING

XXVI COMMITTEE MEMBER COMMENTS

XXVII 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 matters listed on the morning's Agenda immediately following the time the matter is considered by the Committee.) *There will be a time limit for each topic and/or speaker as designated by the presiding officer as announced at the beginning of this session. 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.*

XXVIII INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

- B. Informational Presentations Requested by the Committee of PG&E (Cont'd.):
- 4) Quality Verification Organization's Perspective on Plant Performance, Top Issues, and Recent Quality Performance Assessment Reports.
- 5) Update on Recent Campaign to Move Spent Fuel Assemblies from the Spent Fuel Pool to the Independent Spent Fuel Storage Installation.

XXIX DISCUSSION, DIRECTION AND ACTION, AS APPROPRIATE, BY THE COMMITTEE, CONSULTANTS & COUNSEL

- A. Status of Governmental Agency Interactions, Responses to SB846 Directives, Discussion of Regulatory Matters including R.23-01-007 Phase 2 Issues Including Funding for Extended Operations and Consideration of having Term Limits for DCISC Members, Administrative Matters (including ratification of Amendment No. 4 to Consulting Agreement with Dr. Mark Kirk), Consideration of Approval of New and Revised Committee Policies, Financial Matters, and Other Committee Business.
- B. Approval of the DCISC 34th Annual Report on Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2023 – June 30, 2024.

XXX CONCLUDING 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 THE ONE HUNDRED AND 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 state guidelines on communicable disease prevention. Hand sanitizers and face coverings are available in the meeting room. The Avila Lighthouse Suites Point San Luis Conference Room is a wheelchair accessible facility. 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 (in CA 800-439-4688 or (831) 647-1044) or by sending a written request to the DCISC office at P.O. Box 4523, Carmel-by-the-Sea, CA 93921-4523. Providing your request at least five business days before the meeting will help ensure availability of the requested.

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE	
AGENDA TRANSMITTAL FORM	
MEETING DATE:	October 9, 2024
AGENDA ITEM:	II
AGENDA TITLE:	Introduction of Dr. Meshkati
CONSENT [] ACTION [] INFORMATION [X]	
Staff Summary: On July 3, 2024, Najmedin Meshkati, Ph.D., was appointed by the Chair of the California Energy Commission Mr. David Hochschild to a three-year term on the DCISC commencing July 1, 2024 through June 30, 2027. This will be Dr. Meshakti's first public meeting as a Member of the Committee.	
RECOMMENDED COMMITTEE ACTION: None, information item only.	

Professor Najmedin (Najm) Meshkati)

Dr. Najmedin (Najm) Meshkati is a (tenured, full) Professor of Civil/Environmental Engineering, Industrial & Systems Engineering; and International Relations at the University of Southern California (USC); and an Associate (ex-Research Fellow) with the Project on Managing the Atom at Belfer Center for Science and International Affairs at Harvard Kennedy School.

Dr. Meshkati was a Jefferson Science Fellow and a Senior Science and Engineering Advisor, Office of Science and Technology Adviser to the Secretary of State, U.S. State Department, Washington, DC (2009-2010). He is a Commissioner of The Joint Commission and is on the Governance Board of the Patient Safety Movement Foundation. He is a member of the NASEM (National Academies of Sciences, Engineering and Medicine) Gulf Offshore Energy Safety (GOES) Board and served for two consecutive terms on the NASEM Board on Human-Systems Integration (BOHSI, 2016-2022).

In January 2023, Dr. Meshkati was appointed to the FAA Expert Panel to conduct a congressionally-mandated review of Boeing's safety management processes and Boeing's safety culture as a part of the Aircraft Certification, Safety & Accountability Act (ACSAA), Section 103 Organization Designation Authorization (ODA). He was invited and testified at a Hearing before the U.S. Senate Committee on Commerce, Science and Transportation about the Panel's findings on April 17, 2024.

For the past 39 years, he has been teaching and conducting research on risk reduction and reliability enhancement of complex technological systems, including nuclear power, aviation, petrochemical and transportation industries. He has been selected by the National Academy of Sciences (NAS), National Academy of Engineering (NAE) and National Research Council (NRC) for his interdisciplinary expertise concerning human performance and safety culture and served as member and technical advisor on two national panels in the United States investigating two major recent accidents: The NAS/NRC Committee "Lessons Learned from the Fukushima Nuclear Accident for Improving Safety and Security of U.S. Nuclear Plants" (2012-2014); and the NAE/NRC "Committee on the Analysis of Causes of the Deepwater Horizon Explosion, Fire, and Oil Spill to Identify Measures to Prevent Similar Accidents in the Future" (2010-2011).

Dr. Meshkati has inspected many petrochemical and nuclear power plants around the world, including Chernobyl (1997), Fukushima Daiichi and Daini (2012). He has worked with the U.S. Chemical Safety and Hazard Investigation Board, as an expert on human factors and safety culture, on the investigation of the B.P. Refinery explosion in Texas City (2005) and served as a member of the National Research Council (NRC) Committee on Human Performance, Organizational Systems and Maritime Safety.

Dr. Meshkati was recognized by the Human Factors and Ergonomics Society (HFES) in 2022, as an inaugural "Titan of HFES"; he an elected Fellow of the HFES; the 2015 recipient of the HFES highest award, the *Arnold M. Small President's Distinguished Service Award*, for his "career-long contributions that have brought honor to the profession and the Society"; and the 2007 recipient of the HFES *Oliver Keith Hansen Outreach Award* for his "scholarly efforts on human factors of complex, large-scale technological systems.

Dr. Meshkati simultaneously received a B.S. in Industrial Engineering and a B.A. in Political Science in 1976, from Sharif (Arya-Meher) University of Technology and Shahid Beheshti University (National University of Iran), respectively; a M.S. in Engineering Management in 1978; and a Ph.D. in Industrial and Systems Engineering in 1983 from USC. He is a Certified Professional Ergonomist.

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE	
AGENDA TRANSMITTAL FORM	
MEETING DATE:	October 9, 2024
AGENDA ITEM:	IX-A
AGENDA TITLE:	Presentation by the Independent Peer Review Panel for Seismic Hazard Studies of DCPD (IPRP) on the Panel's Report on PG&E's Diablo Canyon Updated Seismic Assessment
CONSENT []	ACTION [] INFORMATION [X]
Staff Summary: In 2006, the California legislature adopted Assembly Bill (AB) 1632 to enact Public Utilities Code Section 712 and establish the Independent Peer Review Panel (IPRP) to review seismic studies of Diablo Canyon. Passage of SB846 in 2022 provides for the CPUC to authorize the PG&E to recover in rates all of the reasonable costs incurred to prepare for, respond to, provide information to, or otherwise participate in or engage with the Independent Peer Review Panel. Public Utilities Code 712.1(e)(1) adopted by SB846 provides "in addition to the duties and responsibilities set forth in commission decisions, the Independent Safety Committee for Diablo Canyon shall . . . Consult with and incorporate into its assessments and recommendations the independent peer review panel established pursuant to Section 712." The IPRP is comprised of technical experts from the CEC, California Geological Survey, California Coastal Commission, California Seismic Safety Commission, and the County of San Luis Obispo. In response to SB846 PG&E led the development of a new "Diablo Canyon Updated Seismic Assessment." That assessment was completed in February 2024 and contains important information in the form of an analysis of extensive new technical information that has arisen in the period since PG&E completed its last comprehensive seismic-safety studies in 2015 and 2018. On August 26, 2024, the IPRP released Report 16 entitled "Initial Review of the PG&E 'Updated Seismic Assessment, February 2024' by the Independent Peer Review Panel for Seismic Hazard Studies of the Diablo Canyon Nuclear Power Plant." It is expected that Members of the IPRP will make a presentation on this Report.	
RECOMMENDED COMMITTEE ACTION: Provide direction as appropriate, receive the presentation by the IPRP representatives.	

Independent Peer Review Panel

*A multi-agency panel of seismic hazard specialists
established by the California Public Utilities Commission*

**CALIFORNIA GEOLOGICAL SURVEY, CALIFORNIA COASTAL COMMISSION, CALIFORNIA
ENERGY COMMISSION, CALIFORNIA SEISMIC SAFETY COMMISSION,
CALIFORNIA PUBLIC UTILITIES COMMISSION, COUNTY OF SAN LUIS OBISPO,
CALIFORNIA OFFICE OF EMERGENCY SERVICES**

IPRP Report No. 16

Initial Review of the PG&E “Updated Seismic Assessment, February 2024” by the Independent Peer Review Panel for Seismic Hazard Studies of the Diablo Canyon Nuclear Power Plant

***Prepared by: Gordon Seitz (California Geological Survey), Philip L. Johnson (California Coastal
Commission), Rui Chen (California Geological Survey), Tim Dawson (California Geological Survey)***

August 26, 2024

Executive Summary

- The Hosgri fault is the primary seismic source for the Diablo Canyon Power Plant (DCPP), and its slip rate has been increased in the hazard model based on several peer-reviewed studies of the Cross-Hosgri slope (CHS) that now provide a high degree of confidence in a 2.6 mm/yr rate. We agree with PG&E that this rate best represents the hazard. However, because other slip rate sites along the Hosgri fault are unrepresentative of current rates of tectonic deformation, it is our opinion that the CHS slip rate should receive full (100%) weight in seismic hazard models.
- Though PG&E reduced the estimated rate of uplift for the Irish Hills, the fault geometry models for the faults that bound the Irish Hills remain uncertain and warrants further geologic investigation to characterize these seismic sources.
- New data that was not addressed in the PG&E Update: A 2021 study concluded that the slip rate for the Casmalia fault, is a magnitude higher than previously assessed in 2015, at 5.6 to 6.7 mm/yr. This has important implications for onshore deformation models as the nearby Casmalia Hills may represent an analog to the Irish Hills in addition to a seismic source and potential kinematic connections with the Hosgri fault and other faults in the vicinity of DCPP. Additionally, a Nuclear Regulatory Commission (NRC)-commissioned study based on offshore seismic data reports Hosgri fault slip rates have increased during the past million years, suggesting that rates older than Holocene are not representative of the current seismic hazard.
- The IPRP requests that PG&E conduct a comprehensive review that includes all fault studies in the region since the previous assessment (PG&E, 2015). That review should address the

implications for the seismic hazard at the DCP, including newly developed slip rates on faults in the region that may inform deformation rates of faults in the vicinity of Diablo Canyon.

- Our review of the methodologies used to estimate ground motions for the DCP site indicates those methods are appropriate. We also find PG&E's evaluation of new data and new ground motion models adequate. However, the results of site-specific ground motion hazard should be recalculated with recommended changes to the seismic source characterization inputs.
- We continue to encourage efforts to improve the characterization of site condition in terms of V_s profile and kappa estimate. We suggest the more traditional approach of site response analysis be carried out to supplement existing analyses. We further encourage PG&E's continuing effort to reduce uncertainty in empirical site factors, including further improving the non-ergodic ground motion modeling approach and data.
- Finally, we would like to see an updated analysis of seismic hazard model inputs ranking sensitivity of ground motion hazards to uncertainties in revised input parameters.
- This report is intended to share the Independent Peer Review Panel's (IPRP) initial findings with the public, PG&E, and the Diablo Canyon Independent Safety Committee. PG&E is expected to submit a written response addressing our findings. The IPRP will subsequently submit a second report addressing PG&E's response along with the IPRP's updated conclusions and recommendations.

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

AGENDA TRANSMITTAL FORM

MEETING DATE:	October 9, 2024
AGENDA ITEMS:	X-A, B and C
AGENDA TITLE:	Consultant Reports; Receive, Approve and Authorize Transmittal of Fact Finding Reports

CONSENT [] ACTION [X] INFORMATION [X]

Staff Summary: It is expected that oral and written reports will be presented at the meeting by Technical Consultants Mr. Wardell and Mr. McWhorter and DCISC Member Dr. Budnitz. These reports may be received by the Committee, approved as to form and content and be authorized for transmittal to PG&E for its consideration and response. The Committee reserves the right to revise any fact finding report prior to its inclusion in an Annual Report. Fact finding reports in their final "as approved form" become a part of the DCISC's next Annual Report.

Fact Finding Reports are posted on the Committee's website at www.dcisc.org prior to a public meeting and made available for public inspection immediately following their approval by the Committee at a public meeting.

RECOMMENDED COMMITTEE ACTION:

Receive and approve reports by Consultants and Members and approve resolutions certifying approval concerning fact-finding conducted on August 27-September 24-25, 2024, [Resolution 2024-10], on July 31-August 1, 2024, [Resolution 2024-11], and August 21-22, 2024 [Resolution 2024-12].

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

AGENDA TRANSMITTAL FORM

MEETING DATE:

October 10, 2024

AGENDA ITEM:

XX-A

AGENDA TITLE:

Minutes of June 20-21, 2024
Public Meeting

CONSENT [X]

ACTION []

INFORMATION []

Staff Summary: Attached are the Minutes which have been prepared from the Committee's one hundred and eighth public meeting held on June 20-21, 2024, in Avila Beach, CA and as a Zoom webinar.

(Each session was also webcast live in real time and is available for subsequent viewing, archived to the meeting agenda, by visiting the links on the Committee's website at www.disc.org or at www.slospan.org. Meetings are videotaped for later broadcast on Channel 21 in the San Luis Obispo, CA area, the governmental access television channel.)

RECOMMENDED COMMITTEE ACTION: Accept the Minutes by motion.

MINUTES
of the
DIABLO CANYON INDEPENDENT SAFETY COMMITTEE'S
JUNE 20-21, 2024, PUBLIC MEETING
[For Approval at the October 9-10, 2024, Public Meeting.]

Wednesday & Thursday
June 20-21, 2024
Avila Beach, California
Also conducted as a Zoom Webinar

Notice of Meeting.

A legal notice of the public meeting was published in the San Luis Obispo Tribune and a display advertisement was published in the New Times, both local newspapers, and mailed and emailed to the media and those persons on the Committee's mailing list. A mailing list verification form was provided previously to those persons on the Committee's mailing list in accordance with California Government Code 14911. The meeting agenda and the complete agenda packet for the meeting and the informational presentations made during the meeting together with the draft fact finding reports to be considered for approval were posted on the Committee's website at prior to the meeting. The meeting agenda contained information on how to access the webinar using a computer, cellphone or a telephone. This in-person meeting was also produced as a Zoom webinar by AGP Video, Inc. and was webcast live on SLO-SPAN at <http://www.slo-span.org> and through <http://www.dcisc.org> and was subsequently broadcast on San Luis Obispo, California, local government access television Channel 21. A supply of hand sanitizers and face coverings was made available in the meeting room.

I CALL TO ORDER - ROLL CALL

The June 20, 2024, public meeting of the Diablo Canyon Independent Safety Committee (DCISC), the one hundred and eighth public meeting of the Committee, was called to order by Committee Chair Dr. Peter Lam at 9:06 a.m. Dr. Lam welcomed everyone and he briefly reviewed the professional backgrounds and appointment to the DCISC for each of his fellow Members, Dr. Per F. Peterson, the appointee of the Governor of California, and Dr. Robert J. Budnitz, the appointee of the California Attorney General. Dr. Burnitz then briefly reviewed Dr. Lam's professional background and reported Dr. Lam serves on the DCISC as the appointee of the Chair of the California Energy Commission.

Present:	Committee Member Robert J. Budnitz Committee Member Peter Lam Committee Member Per F. Peterson
Absent:	None

II INTRODUCTIONS AND COMMITTEE MEMBERS' COMMENTS

Dr. Lam introduced and briefly reviewed the experience and professional backgrounds of the Committee's Technical Consultants and Assistant Legal Counsel: Technical Consultants Mr. R. Ferman Wardell, PE, Mr. Richard D. McWhorter Jr., and Dr. Andrew C. Kadak, and DCISC Assistant Legal Counsel Mr. Robert W. Rathie.

Dr. Lam then introduced Ms. Brandy Lopez, Strategic Initiatives Licensing Principal and Dr. Lam remarked Ms. Lopez play a key role on behalf of PG&E and Diablo Canyon Power Plant (DCPP or the plant) as the principal liaison with the DCISC in coordinating the Committee's 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. Dr. Lam then introduced Mr. Tom Jones, PG&E Senior Director, Regulatory, Environmental and Repurposing present today for this meeting.

III PUBLIC COMMENTS AND COMMUNICATIONS

The Chair invited any members of the public 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, senior legal researcher and President for Californians for Green Nuclear Power was recognized and he stated he would provide an overview of his group's outreach and research activities as a 501(c)(3) educational organization. He reported Californians for Green Nuclear Power operates an information booth at a local farmer's market and solicits support for extending the operation of DCP. He commented on the intermittent nature of wind and solar electrical generation as well as the impact on energy production of the import of coal-fired generation, under what he stated was the euphemism "unspecific imports," from plants operated by PacificCorp, a Berkshire Hathaway company energy subsidiary. Dr. Nelson remarked PacificCorp lobbies the California Legislature extensively, as does the Western States Petroleum Association. Dr. Nelson reported PacificCorp was recently required to amend and correct its legally mandated lobbying disclosure form. He reported Californians for Green Nuclear Power operates the "GreenNUKE substack" to highlight the importance of what he described as DCP's synchronous grid inertia and DCP's contribution to the supply of electricity to the California power grid and the experience of Germany due to the increased penetration of wind and solar to the German power grid. He observed German rates as well as California rates for energy have shown similar increases and he opined that it was the ability to gain tax credits which was driving the increase in wind and solar generation in California. He closed his remarks by observing Californians for Green Nuclear Power will highlight PG&E's load growth forecasts due to the growth of artificial intelligence (AI) and transportation electrification and he will seek information during this public meeting regarding the cost forecasts for DCP extended operation including the claims made by the Alliance for Nuclear Responsibility of \$11.8 billion as being the correct cost estimate for extending operation of DCP and as to how that amount compares to what he stated was PG&E's forecast of \$8.3 billion. He stated both estimates are well below the typical cost to generate a kilowatt hour of electricity and likely below PG&E's costs for its gas-fired plants.

Mr. Robert Sarvey, a resident of Los Osos, California, was recognized. Mr. Sarvey stated that since the passage of Senate Bill 846¹ (SB846) in September 2022 the DCISC has identified several upgrades needed for DCP's safe operation but has not made any formal recommendations to the California Public Utilities Commission (CPUC) that these upgrades are needed. He observed PG&E's Application for rate recovery for extended operations provides for PG&E to request rate recovery for many of the DCISC's recommendations including diesel generator upgrades, feedwater heater replacement, main voltage regulators, the Movable In-Core Detection System and the "Tricon Control System." He commented PG&E has requested \$129 million for some of the systems the DCISC previously identified as necessary and he requested that the DCISC make formal recommendations to the CPUC to support PG&E's requests for these and other safety-related systems. He remarked that if the DCISC were to make such recommendations the upgrades would be funded by the California Department of Water Resources² and eventually be reimbursed by the federal Department of Energy loan instead of by PG&E's ratepayers. Mr. Sarvey reported PG&E is seeking ratepayer recovery for the emergency diesel generator upgrades, the feedwater heater replacements, the main voltage regulators for both units, the Movable In-Core Detection System, the Tricon Control System and the Rod Control and Indication System, all of which have been identified by the DCISC as necessary projects. Mr. Sarvey stated his opinion that if the DCISC were to formally recommend these upgrades they would be made.

Dr. Budnitz responded and commented that prior to the passage of SB846 when the plant was scheduled to cease operation the DCISC was concerned that the staffing in the five years prior to cessation of operation could suffer as plant personnel sought other opportunities and the DCISC publicly urged the Legislature to continue the staff retention program as initially configured and the Committee has continued to monitor the program but has not issued a recommendation. Dr. Budnitz stated the fact that the Committee does not make a recommendation on a safety issue does not mean the Committee does not think that actions need to continue and it is not correct to interpret the absence of a recommendation as silence on the part of the DCISC.

Dr. Lam then requested Mr. Jones introduce the first of the informational presentations by PG&E requested by the DCISC for this public meeting.

IV INFORMATION ITEMS BEFORE THE COMMITTEE

¹ On September 2, 2022, Governor Newsom signed California Senate Bill 846, codified as Public Resources Code Sections 25233, 25233.2 and 25302.7, Public Utilities Code Sections 712.1 and 712.8, and Water Code Section 13193.5 which, together with the approval by the CPUC on December 14, 2023 of Decision 23-12-036, provides for the conditional extension of operations at Diablo Canyon beyond the current retirement date, up to five additional years, that is no later than October 31, 2029 for Unit 1 and October 31, 2030 for Unit 2, under specific conditions as provided by the legislation including approval by the NRC of extending the operating licenses for Diablo Canyon.

² DWR's Department of Statewide Water and Energy oversees programs funded by the Electricity Supply Reliability Reserve Fund and the Diablo Canyon Extension Fund. Both funds were established in 2022 by legislation that directs DWR, with its expertise as one of the largest power producers in California and prior experience with emergency power procurement, to be a backstop to the State's traditional electricity supply planning and procurement.

Mr. Jones then introduced the DCPD Director of Risk and Compliance Mr. Jordan Tyman to make the first presentation on the NRC's assessment of plant performance. Mr. Jones reported Mr. Tyman is responsible for governance and oversight of the Risk Management Program, as well as for Regulatory Services, Nuclear Cyber Security, and Emergency Planning. Mr. Jones reported Mr. Tyman has been employed by PG&E for more than seven years and spent ten years prior to coming to PG&E at Westinghouse Electric Corporation, in support of the development of Westinghouse's AP1000 pressurized water reactor and a number of Westinghouse's subsidiaries. Mr. Jones reported Mr. Tyman holds a Degree in Mechanical Engineering from the University of Massachusetts.

A. Update on the Status of NRC Performance Indicators, Licensee Event Reports, NRC Inspection Reports, Issues Raised by NRC Resident Inspectors, Open Compliance Issues, and Current and Future License Amendment Requests, and Other Significant Regulatory Issues/Request.

Mr. Tyman commented DCPD continues to provide safe, reliable power and in his presentation he would include the status of NRC oversight of DCPD from February 2024 to June 2024. Mr. Tyman stated the period covered by his report includes approximately 2,000 hours of NRC inspection time including by the two on site resident inspectors who live and work in the local community. During this period there were five routine programmatic NRC inspections in addition to the resident inspection program. All violations received since February 2024 were of very low safety significance and DCPD has continued to meet the requirements to remain in Column 1 of the NRC's Reactor Oversight Process (ROPs) Action Matrix. All sixteen NRC Performance Indicators used by the NRC to evaluate plant performance and assessed monthly are within Green³ parameters. In response to Consultant Wardell's inquiry Mr. Tyman reported that none of the NRC Performance Indicators are approaching their margins between Green and White characterization and these are monitored closely and DCPD has a much lower threshold for action than that employed by the NRC.

Mr. Tyman reported all violation received during the report period fit within two themes: the first being procedures and opportunities to have greater level of detail in processes and procedures, and the second enhanced compliance controls. He gave the example of a non-safety related feedwater heater control valve causing a high level in the feedwater heater due to a need to enhance procedure detail and processes for rebuilding the valve.

Mr. Tyman reported DCPD submitted a License Event Report (LER) for an event on March 19, 2024, which resulted in a Unit 2 Auxiliary Building Ventilation System fan trip.⁴ Mr. Tyman reported the redundant fan was available, but as the plant was in a maintenance outage window for the emergency diesel generators the redundant fan did not have its associated backup emergency power source available and accordingly a request was made to and granted by the NRC for enforcement discretion to exceed the ventilation fan repair time and to not require the

³ 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.

⁴ A "trip" results from an automatic or manual safety shutdown of a system or component.

plant to shut down. Mr. Tyman reported this event was of very low safety significance and did not have any risk or impact on plant operation.

Mr. Tyman reviewed upcoming NRC inspection and license renewal inspections as follows:

- Operator License Exam Validation -June 2024
- Age-Related Degradation – June 2024
- License Renewal Audit/Follow-up – June 2024
- Security Equipment and Training – June 2024
- Emergency Planning Evaluated Exercise – July 2024, to be attended by DCISC observers

Mr. Tyman reported License Amendment Requests (LARs) were issued for Unit 1 and Unit 2 in June 2024 for revisions to Technical Specifications⁵ to adopt risk informed completion times. He reported this issue has been implemented routinely by the nuclear industry to avoid unnecessary plant shut downs and the risk-informed approach supports a key risk mitigation for the State of California with respect to peak summer readiness and impact on the power grid.

Dr. Budnitz remarked when nuclear power plants were designed and built many years ago each piece of equipment had a time associated for completion of repairs if the equipment went out of service and the times were generally provided by vendors based upon engineering judgment at that time. Dr. Budnitz reported over time some of these completion times were found to be incorrect or invalid because of experience and the NRC developed regulatory guidance to enable plants to use risk information to appropriately modify completion times and he stated the DCISC is pleased with this sensible advance.

Mr. Tyman reported on other LARs in progress as including:

- Risk Informed Categorization of Structures Systems and Components – submitted and pending NRC review and approval.
- Revision to Pressure and Temperature Limits Report to include additional NRC-approved calculation methodologies – submitted in February 2024.
- Security Early Warning System – submitted in March 2024. In response to Consultant McWhorter's query Mr. Tyman confirmed the Security Early Warning System is unrelated to the Emergency Planning System's use of sirens to warn the public. The Security Early Warning System identifies and warns the security staff of potential intruders.

⁵ As part of an NRC license authorizing operation of a nuclear facility, Technical Specifications establish requirements for items such as safety limits, limiting safety system settings, limiting control settings, limiting conditions for operation, surveillance requirements, design features, and administrative controls.

Mr. Tyman closed his presentation by stating DCPD remains in the highest NRC performance category and all violations received during the period of his report were of very low safety significance.

Mr. Jones then introduced the Director of Outage Management at DCPD Mr. Erik Werner and reported Mr. Werner has more than 24 years' experience in nuclear plant engineering including in the Engineering, Operations, Training, Decommissioning Planning and Outage Management organizations. Mr. Werner has been employed at DCPD for 18 years as a licensed senior reactor operator and holds a Bachelor of Science Degree from the California Polytechnic State University at San Luis Obispo, California (Cal Poly).

Refueling Outage 2R24 Results (Including Initial License Renewal Inspection Results).

Mr. Werner stated during his presentation he would provide a summary DCPD Unit 2's twenty-fourth refueling outage (2R24) which was safely executed during the Spring of 2024. The 50-day planned outage encompassed scope from license renewal required inspections, planned maintenance, and other refueling activities. Approximately 1,000 temporary additional workers supported the safe completion of 2R24. In response to Consultant McWhorter's query Mr. Werner reported there were no issues in finding additional workers to supplement the 2R24 outage and the scope of work was very similar to 1R24, he remarked that many additional outage personnel live in the local area or enjoy returning to the area for work. Mr. Werner acknowledged that DCPD competes with other nuclear power plants for temporary outage workers and in some cases a longer duration outage can cause workers to prefer one outage assignment over another. In response to Dr. Peterson's inquiry Mr. Werner stated that DCPD engages in outage management working group discussions with its Strategic Teaming and Resource Sharing (STARS)⁶ partners issues concerning the overlapping of timing and the scheduling of refueling outages.

He reviewed 2R24 performance as follows:

➤ Safety -No recordable injuries/nuclear safety incidents, with all safety goals met. Consultant Wardell remarked this was a truly impressive performance given the tremendous amount of work that takes place during a refueling outage. Mr. Wardell reported the performance regarding nuclear safety was also impressive and due in large part to the very complete Outage Safety Plan and the need to maintain certain minimum levels of equipment to maintain nuclear safety. Mr. Werner commented each job during an outage has a pre-job briefing conducted which includes review of the safety hazards and all temporary outage workers are held to the same site standards as DCPD's regular employees and are put through pre-outage training in phases as they

⁶ Strategic Teaming and Resource Sharing (STARS) joint utility cooperative consisting of Union Electric Company, with its Callaway plant in Missouri; Arizona Public Service Company, with its Palo Verde plant in Arizona; Luminant Generation Company LLC, with its Comanche Peak plant in Texas; Pacific Gas and Electric Company, with its Diablo Canyon plant in California; Southern California Edison Company, with its San Onofre plant in California; STP Nuclear Operating Company, with its South Texas Project plant in Texas; and Wolf Creek Nuclear Operating Company, with its Wolf Creek plant in Kansas.

are brought onboard, usually three to four weeks prior to the outage and are subject to oversight during the outage.

- Human Performance - worker practices and standards ensured all human performance goals were met.
- Outage Duration - refueling outage activities safely completed ahead of planned schedule. In response to Consultant Kadak's query and a query from Mr. John Geesman, representing the Alliance for Nuclear Responsibility, Mr. Werner reported Unit 2 was parallel to the grid within 43 days and power ascension was performed in slightly more than five days, with a cumulative duration of 49 days from unparallelled to back to full power. Mr. Werner reported as an outage working group leader he also measures duration across ten activity "windows."
- Dose - radiation worker accumulated exposure below planned target. In response to Consultant Kadak's question Mr. Werner reported the dose target was near 29 person rem and performance was just over 25 person rem. Mr. Werner confirmed Dr. Budnitz observation that no specific individual got any excess dose during 2R24.
- Power Ascension -Unit 2 safely returned to full power within planned duration following implementation of the contingency plan.

Mr. Werner commented in most aspects the work during 2R24 was a repeat of the scope of 1R24 and he reported and discussed key scope items completed during 2R24 as having included:

- On the Primary Side:⁷ large motor overhauls.
- On the Secondary Side: valve inspections and maintenance. In response to Consultant McWhorter's question Mr. Werner confirmed the feedwater heaters were inspected in detail as informed by the experience in 1R24 and some feedwater heater tubes were plugged in what Mr. Werner described as a protective and proactive fashion to implement an early mitigation strategy and the heat exchangers continue to safely perform their function and he stated the present margin for the heat exchangers is not challenging full power operation of DCP.

In response to Consultant McWhorter's further inquiry Mr. Werner confirmed the Unit 2 Main Generator was inspected as part of the post root cause evaluation for the previous failures with no significant findings.

- Electrical: 4kV/480V Bus G maintenance.
- License Renewal: 200 inspections including Refueling Water Storage Tank inspection.

⁷ 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.

- Projects: traveling screen frame replacements.

Dr. Budnitz reported that during 2R24 a DCISC fact finding team visited the site and a favorable report will be presented later during this public meeting. In concluding his presentation Mr. Werner replied to Dr. Kadak that in general Mr. Werner was supportive of Mr. Sarvey's comments earlier in the meeting.

Dr. Gene Nelson, representing Californians for Green Nuclear Power was recognized. Dr. Nelson observed during 1R24 there was a report of problems with a pressure operated relief valve and he inquired what lessons were learned for 2R24 concerning the valve. Mr. Werner responded Unit 2 and Unit 1 do not have the same configuration for certain installed equipment including for this pressure valve and there were no similarities or outcomes during 2R24 compared to 1R24. He reported planning is ongoing for 1R25 to mitigate the event that occurred during 1R24.

A short break followed Mr. Werner's presentation.

Mr. Jones introduced DCPD Station Director Mr. Justin Rogers to make the next presentation and reported Mr. Rogers leads a team of more than 400 nuclear professionals in the Operations, Maintenance, Chemistry Radiation Protection Departments and in other organizations. Mr. Rogers began his career at DCPD in 2013, received a Senior Reactor Operator License in 2016 and worked in increasing positions of responsibility in the Training and Outage Management organizations. Mr. Rogers is a veteran of the U.S. Navy and holds a Bachelor of Science Degree in Nuclear Energy Engineering Technology from Thomas Edison State University.

State of the Plant Update Including Key Events, Highlights, Organizational Changes, Circumstances Around the March Exigent Technical Specification Change from NRC, and Other Station Activities since the DCISC's February 2024 Public Meeting.

Mr. Rogers remarked this was his first time presenting to the Committee and he was honored to be representing PG&E and the DCPD team and he began his presentation by thanking his predecessor former DCPD Senior Director and DCPD Station Director Mr. Dennis Petersen who has now retired after 30 years of service to DCPD for his mentorship in preparing Mr. Rogers for his role.

Mr. Rogers reported Unit 1 and Unit 2 are presently safely and reliably operating at 100% power and all NRC Performance Indicators are Green. He stated as part of the summer reliability period from June to September preventative maintenance is reviewed to ensure any scheduled work with elevated risk to generation is completed prior to June 1 to ensure no risk to generation and a more restrictive review process is implemented to ensure DCPD continues to contribute 9% to California's total electrical generation profile and 20% of its clean energy.

Mr. Rogers then reviewed and discussed recently completed activities as follows:

- February 26-29, 2024 – Nuclear Safety Oversight Committee (NSOC) on site observations. The NSOC is a panel made up of industry experts which provides additional oversight to ensure DCPD maintains nuclear safety. During this visit no nuclear safety concerns were identified.
- April 8-19, 2024 – NRC In-service Inspection with no significant findings.
- April 8-12, 2024 – NRC License Renewal Inspection with no significant findings.
- April 15-19, 2024 – NRC Radiation Protection (RP) Inspection with no significant findings.
- April 15-19, 2024 – World Association of Nuclear Operators (WANO) Unit 2 Maintenance and Radiation Protection outage observations. The initial report was positive with no areas highlighted for concern. In response to Dr. Peterson's request Mr. Rogers reported the Institute of Nuclear Power Operations (INPO) is a part of WANO and the two organizations are similar in that they use the same operating criteria, but WANO conducts its evaluations every four years while INPO uses a continuous monitoring process with continuum visits every two years. Drs. Peterson and Budnitz remarked WANO is quite important for spreading good nuclear safety practices worldwide and although Russia has been recently excluded from certain international organizations Russia continues to cooperate fully in WANO.
- May 13-15, 2024 – WANO Unit 2 Operations Mode Transition observations.
- May 20, 2024 – Unit 2 Refueling Outage (2R24) completed with Unit 2 parallel to the Grid.

Mr. Rogers reported on and reviewed the following organizational changes at DCPD: Mr. Dan McBride has now assumed the position of Director of Nuclear Operations Services with oversight responsibilities as program owner for Operations, Chemistry, Radiation Protection and aspects of the Training Organizations, Mr. Michael Jackson has now assumed the role of Director of Nuclear Engineering with responsibility for the Engineering organization including Design, Systems, and Strategic Engineering.

Mr. Rogers reviewed and discussed upcoming station activities as follows:

- NSOC site visits - June 24-27, 2024
- WANO Peer Review measuring against standards of excellence -
 - Crew Performance Evaluation - July 8-12, 2024
 - Peer Review Evaluation Team Visit - August 5-16, 2024

➤ NRC Inspections -

- License Renewal Inspection - June 17-21, 2024, focusing on aging management.
- Age-Related Degradation Inspection - June 10-28, 2024
- Emergency Preparedness (EP) Evaluated Exercise & Inspection - July 29 August 2, 2024, with San Luis Obispo County and State partners
- Radiation Protection (RP) Inspection - August 12-25, 2024
- License Renewal Inspection - August 19-23, 2024
- Problem Identification & Resolution (PI&R) Inspection - September 9-27, 2024, focusing on self-identification and self-correction aspects of performance and safety culture

In response to Dr. Lam's query Mr. Rogers identified his current priorities as safe and reliable operations and focused on successful planning for refueling outage 1R26 while continuing to move through the license renewal process. **Dr. Budnitz remarked the Committee is particularly interested in review of the License Renewal Application as the Committee has also been reviewing the same issues and will be asked to opine on the results, including regarding seismic safety, in accordance with the direction from SB846.**

Dr. Lam thanked Mr. Rogers for his presentation.

Mr. Jones then introduced Senior Director of Engineering, Projects and Outages Mr. Allen Wilson. Mr. Jones reported Mr. Wilson has 14 years' of experience with PG&E and has served in various responsible roles in the Engineering, Maintenance, Decommissioning and License Renewal organizations. Prior to working for PG&E Mr. Wilson served with the United States Navy and Coast Guard and in various civilian engineering capacities.

Update on Major Project Planning – Projects Completed in Refueling Outages 1R24 and 2R24, Including Intake Cove Dredging; Future Plans for Plant Improvements, Including Projects Planned for Refueling Outages 1R25 and 2R25.

Mr. Wilson observed DCPD continues to make necessary project investments to ensure safe and reliable operations. The NRC continues to assess and reaffirm that Diablo Canyon is operating safely and is among the highest performing plants in the nation. Additionally, the DCISC and other industry experts thoroughly evaluates activities at DCPD on a routine basis.

In response to Consultant McWhorter's inquiry concerning public comment earlier during this meeting concerning project funding, Mr. Wilson replied the PG&E General Rate Case pending before the CPUC has some capital budget entries for work up to 2024-2025, but that budget is relatively small compared to funding from California Department of Water Resources (DWR) and the State on other projects. Mr. Jones commented the General Rate Case is an open case that has not yet been finalized, so funding has not been authorized by the CPUC for some longer-term projects in the period of extended operation. He reported for DWR and State funded projects to receive funding the projects must be found reasonable and prudent as to maintaining or improving safety and reliability. Mr. Wilson reported projects that focus on efficiency are reviewed on a business case basis, that is, are the savings to be realized greater than the cost of the project, but he reported these types of projects are low on the scale of

priority. Mr. Jones reported some of the funds for the current operation of DCPD in the budgets mentioned by Mr. Wilson were in the previous General Rate Case and he stated he thinks of DWR and Department of Energy funding as bridge funding until a rate case is informed for DCPD extended period of operation. **In response to Mr. McWhorter's query as to the Feedwater Heater Project Mr. Jones stated he would need to review the status of funding for the project and get back to the Committee with a response. He remarked PG&E believes it is a prudent project to do as part of the General Rate Case, but funding has not yet been approved and not all parties agree and the rate case is being contested.**

Mr. Wilson displayed and discussed photographs showing plant projects being conducted during 1R24 and 2R24 including:

- Main Generator Inspections – inspections performed as required by the Nuclear Energy Institute (NEI) requirements and measurements were taken for the High Pressure Turbine Replacement Project.
- High Voltage Transformer Reliability Investments – main bank startup and auxiliary transformers made leak tight and power factor testing performed to assess health along with inspection of the internals to inform a long-term reliability or life-cycle management plan.
- Main Condenser Seawater Expansion Joint Replacement – to improve reliability.
- Main Condenser Steam Side Strap Project - to improve reliability.
- Traveling Screen Frame Replacements - due to long-term effects of corrosion and the cost of repair.
- Condensate Booster Pump Pedestal & Motor replacement – to improve reliability and reduce vibration on the motors.
- Control Room Chart Recorder Replacements – upgraded to digital to provide better trending and to require less maintenance, performed as a cost-effective project for efficiency.

During his discussion of the 2R24 projects Mr. Wilson confirmed Dr. Budnitz' observation that the projects he described were also done for Unit 1 in 1R24. Dr. Peterson observed and Mr. Wilson agreed that one reason Unit 2 outages generally go well is due to the lessons learned from prior work done on Unit 1. Mr. Wilson observed there was more work done in 2R24 than in 1R24 because of lessons learned and efficiencies achieved from the experience with Unit 1.

Concerning upcoming 2024 daily and 2025 refueling outage projects Mr. Wilson reported 2024 projects to be performed online are focused on secondary plant reliability and critical spare parts inventory. Projects include Intake Cove dredging, improvements to the high voltage transformer spares, critical motor and pump procurement, Intake Structure upgrades, air compressor replacements, and HVAC studies to reduce the use of CFC gas. He reported 2025

refueling outage projects will continue to focus on secondary plant reliability, obsolescence upgrades, and required in-service inspections. The project list includes digital rod position indication display replacements, fuel transfer cart upgrades, traveling screen replacements, Intake Structure bar rack replacements, chart recorder upgrades, and reactor vessel inspections.

In response to Consultant McWhorter's inquiry concerning the Intake Cove Dredging Project Mr. Wilson reported mobilization has started, including staging tugboats and dredge barges, but the project schedule was deferred due to inclement weather, high swells and high wind. He reported sand will begin to be removed during the next week and will be continuous for a duration expected to take 24 days and to conclude in the middle or the end of July 2024. He reported the dredging spoils, approximately 60,000 cubic yards consisting mainly of sand, will be deposited in a location south of Morro Bay, California, which should assist in regenerating sandy beaches in the vicinity. In response to Mr. McWhorter's comment about any risk to generation Mr. Wilson replied the schedule was extended due to safety concerns and because the project is diver intense, and the 2R24 refueling outage was given priority. He remarked that the initial concept of having one unit offline when the work was performed did not necessarily reduce the intake flow significantly. He reported the technique to be used will have little to no effect on the turbidity of the water, which is a concern as to buildup in the condensers and it was believed the schedule change would have little effect on the outcome. In response to Dr. Peterson's question Mr. Wilson reported the permit is for 70,000 cubic yards which he described as a relatively small dredging project, to be conducted in a narrow footprint inside the Intake Cove. Mr. Wilson confirmed Dr. Kadak's observation that both units will operate at full power during the dredging activities and Mr. Wilson observed the plant will monitor the condenser differential pressure, which he stated has significant margin, and would commence ramping down power generation if the differential pressure should begin to challenge that margin.

Dr. Budnitz remarked the traveling screen frame replacement project required the use of a large crane, shown in the photograph displayed by Mr. Wilson, and there are intrinsic hazards in this as to accidents to the crane although Dr. Budnitz stated he could not remember a crane accident at DCP, but also due to the need to protect personnel and the crane and associated equipment at all times from a seismic event. Mr. Wilson replied the lift required to remove the traveling screen frame would not be considered to be a heavy rig type lift due to the weight and its removal was done under a detailed rigging plan which met OSHA⁸ and CalOSHA⁸ standards with a restricted drop zone area kept clear of personnel. He reported that previously repairs were made to the frame while it was in place and this required welding in a confined space with hot work permits which he described as a potentially dangerous undertaking. After the frame was pulled it was refurbished in a horizontal position on the Intake Structure deck which eliminated the need for and risk of work in confined spaces.

The Chair thanked Mr. Wilson for his presentation.

Mr. John Geesman representing the Alliance for Nuclear Responsibility was recognized. Mr. Geesman observed that Vice President for Business and Technical Services Ms. Maureen Zawalick in a recent interview reported DCP was planning for operations through 2029 and

⁸ Occupational Safety and Health Administration (OSHA).

2030, but was also looking at further long-term reliability projects so as to be prepared if called upon by the State to continue to provide generation. Mr. Geesman inquired as to the planning process for those projects including when they enter PG&E's gateway approval process and when are decisions made as to whether the projects will go forward. Mr. Wilson replied major projects at PG&E are those where the cost is in excess of \$25 million and these projects require corporate approval. He reported at DCPD a similar process on a smaller scale is followed with the system engineer or a team member identifying a potential project based on trending or industry operating experience and the project is then presented to the Plant Health Committee where the leadership team makes a decision whether further investigation should be undertaken. At which point the potential project is referred to a committee to define the scope and conduct feasibility studies, including on alternatives to replace, add features, and to assess the order of magnitude of the effort. At that point, if a decision is made to move forward, what he described an application for Gate 2 funding would be considered and a definitive project plan would be developed. Gate 3 and Gate 4 funding is considered as the project date moves closer to implementation and the amount of risk narrows as the project is better designed and planned. Mr. Wilson remarked it takes approximately 18 months for a proposed project to move through the engineering phase and there are also lead times for the acquisition of materials to be considered. Mr. Wilson commented the projects being undertaken and moving forward now are the projects found to be most important to continue operations through 2030. He reported there is an additional list of projects which would be considered if operations were to continue under a longer-term plan and dates are developed for when resources would be expended with the assumption of an 18-month engineering timeframe. He remarked a path has been laid out if the plant needs to stay open longer as to what would need to be done. In response to Dr. Kadak's inquiry Mr. Wilson confirmed DCPD has an in-house engineering team to perform project design and on occasion the plant will use an engineer of choice⁹ to support projects.

V ADJOURN MORNING MEETING

The Chair adjourned the morning meeting of the DCISC at 11:15 a.m.

VI RECONVENE FOR AFTERNOON MEETING

The afternoon meeting of the DCISC was convened by the Chair at 1:02 p.m.

VII COMMITTEE MEMBER COMMENTS

There were no comments by any member 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. There were no comments from any member of the public in response to his invitation.

⁹ An engineer of choice is a company or professional that partners with a utility to provide services.

Assistant Legal Counsel Rathie recognized and thanked Messrs. Cory Barnes, James McRoberts and Cree Putney all of whom are arranging the audio and video feed of this public meeting under the auspices of AGP Video of Morro Bay, California.

IX INFORMATION ITEMS BEFORE THE COMMITTEE (Cont'd.)

Dr. Lam requested Senior Director Mr. Tom Jones to introduce the next presentation. Mr. Jones introduced DCPN Nuclear Fuel and Decommissioning Director Mr. Al Bates to make that presentation. Mr. Jones reported Mr. Bates recently rejoined the DCPN leadership team in 2023 after having previously served as Director of Engineering at DCPN. Mr. Bates has responsibilities for fuel procurement for extended operation, spent fuel storage and decommissioning planning for engineering and budgeting. Prior to his return to DCPN Mr. Bates was Senior Manager of Regulatory Affairs and Technical Advisor to the Chief Nuclear Officer for Southern California Edison Company and was a primary participant in the decommissioning oversight of the San Onofre Nuclear Generating Station (SONGS). Mr. Jones reported Mr. Bates has 45 years' of experience in the nuclear industry including as a project manager and has worked to advocate for digital control integration and the use of robotics at nuclear facilities. Mr. Bates holds a Bachelor of Science Degree in Nuclear Engineering from Purdue University and previously held a Senior Reactor Operator License at DCPN.

B. Update on Spent Fuel Management – Planning and Scheduling for Upcoming Movements of Spent Fuel from Wet to Dry Storage; Update on License Renewal for the Independent Spent Fuel Storage Installation; and Update on the Procurement of New Spent Fuel Storage System from the Orano firm.

Mr. Bates stated in his presentation he would discuss the plans and scheduling for the upcoming movement of spent fuel from wet to dry storage, provide a brief update on the license renewal activities for the Independent Spent Fuel Storage Installation (ISFSI), and review the future of the spent fuel storage system manufactured by the Orano firm.

Mr. Bates displayed a photo of the ISFSI which is located at on a hillside at an elevation higher than the power plant. He reported the ISFSI is designed to hold the entire inventory of spent fuel produced during 40 years of operation with an additional 20 years' of capacity provided within the two spent fuel pools. The ISFSI presently accommodates 1,856 fuel assemblies placed within multipurpose canisters (MPC) with each MPC stored in one of a total of 58 storage casks, DCPN has completed seven spent fuel loading campaigns with the last having taken place in 2009. DCPN now plans to load 12 more casks, 6 for each unit containing a total of 192 assemblies from each unit, to support continued operation and thereby ensure that each spent fuel pool has the capacity for a full core offload and will have additional new fuel in the pool to support a refueling outage.

Mr. Bates reported the fuel loading campaign is scheduled to begin on June 22, 2024, and to conclude on October 18, 2024, with work going on 24-hours a day for thirteen weeks with one week off over the Labor Day holiday at the half-way point. In order to support safe and successful execution of the campaign Mr. Bates discussed and described the following:

- Robust procedures govern all work activities – to ensure all activities are governed by same.
- PG&E management oversight of all work activities – including by the Quality Verification (QV) organization and by senior management and the manager and director levels.
- Contract partners (the Holtec and Bragg firms) – providing experienced crew members. Mr. Bates reported many of the same people who worked on the 2018 campaign will be returning. The Bragg firm will act as the heavy lifts contractor and has extensive experience with DCPD's systems.
- Pre-campaign training and dry runs – including table top exercises to review procedures and refresh knowledge, as well as dry runs at the site to include the use of the vertical cask transporter to simulate the downloading and uploading of the HI STORM Holtec system using a dummy MPC on the transfer pad at the ISFSI. Mr. Bates explained that DCPD has considerable immediate experience in moving fuel assemblies from the spent fuel pools into the MPCs and recent and relevant experience in handling the HI TRAC shielding container which shields the MPC, including operation of the HI TRAC in the Fuel Handling Building together with the crane to be used. Mr. Bates observed DCPD is able to simulate almost all the actions required outside of the spent fuel pools.
- External subject matter expert readiness reviews - relative to performance, equipment readiness and procedure adherence. Mr. Bates reported while at SONGS he had experience with loading 73 Holtec MPCs and two subject matter experts with immediate and relevant experience from SONGS will perform an outside review of procedures, training and regulatory aspects such as the Final Safety Analysis Report and the site-specific 10 CFR 72.212 regulations.
- DCPD readiness challenge boards – with the entire DCPD leadership team's involvement to challenge every aspect of the campaign.
- As Low As Reasonably Achievable (ALARA) reviews- to monitor and reduce the dose rate received by workers.

In response to Consultant McWhorter's query Mr. Bates reported the last spent fuel loading campaign at DCPD was conducted in 2018.

Mr. Bates displayed and described a series of photos showing: loading fuel from a spent fuel pool into a Holtec MPC, post-fuel loading showing installing the 9-inch thick lid on the MPC, removal of the HI TRAC transfer cask with a loaded MPC from a spent fuel pool, a loaded HI TRAC transfer cask in seismic restraint for welding, removal of all water and dehydration and helium backfill, automated MPC closure welding, transporting a loaded MPC in the HI TRAC transfer cask using the vertical cask transporter to the ISFSI, transferring the MPC from the HI TRAC transfer cask to the storage cask at the cask transfer facility, removal of the loaded storage

cask by the vertical cask transporter from the cask transfer facility, and installing and anchoring the loaded storage cask on the ISFSI pad.

Mr. Bates reviewed and discussed the current status of the 2024 Spent Fuel Loading Campaign as follows:

- All HI-STORM casks have been received and are ready to be filled with dense concrete with hematite additive to ensure there are no voids.
- All MPCs have been received together with their lids.
- Equipment including the vertical cask transporter and the HI TRAC have been refurbished and tested.
- A total of 192 fuel assemblies in Unit 1 and 192 in Unit 2 identified and inspected to ensure correct heat load and mix of radiation levels in terms of how recently these assemblies were discharged from the reactor core.
- Procedures updated to latest standards. In response to Dr. Budnitz' query Mr. Bates reported standards for procedures have not changed but some standards for performing certain tasks associated with spent fuel storage have and these, as well as industry lessons learned have been embodied in DCP's new standards.
- ALARA goals established.
- Schedule established and crews identified.
- Training and dry runs in progress or scheduled.
- External subject matter experts are performing a readiness review.
- DCP readiness challenge boards scheduled for July 2, 2024.

In response to Consultant McWhorter's question concerning management observation and peer checking Mr. Bates replied the Holtec firm has a management observation program as does DCP and all DCP management personnel will be provided with the procedure and activities to occur on a particular day and observations will be targeted and structured to ensure all activities are included. Observations will be reviewed every day to identify trends and these will be communicated to management. Mr. Bates reported the Performance Improvement and Corrective Action organizations at DCP are responsible for observing activities during the spent fuel loading campaign as they are for work performed elsewhere on the site.

Dr. Peterson remarked there is an excellent video showing how spent fuel is moved and transported which is available on the DCISC's website at www.dcisc.org.

Mr. Bates then provided an update on the ISFSI license renewal efforts and reported PG&E submitted the License Renewal Application for the ISFSI on March 9, 2022 and the NRC formally accepted the Application on September 8, 2022. Revision 1 to the Application was submitted on August 10, 2023, to remove statements within the Application related to DCPD ceasing operations by the end of its current operating licenses. Mr. Bates and Ms. Lopez reported a single contention submitted was subsequently withdrawn and then dismissed which contention concerned the statements concerning the date of cessation of operations by 2025. DCPD has responded to two sets of request for additional information from the NRC and expects to complete the technical review process for relicensing the ISFSI in November 2024.

Mr. Bates turned his presentation to information on the Orano firm's spent fuel storage system and displayed a photo of the Orano horizontal storage module with a dummy MPC cask loaded without the shield door in place. Mr. Bates reported DCPD has placed a pause on its installation of the Orano system as circumstances have changed since the decision was made to procure and install the system in anticipation of permanent plant shutdown in 2025, which was to be followed by a single large spent fuel loading campaign involving 70 or more MPCs. With the current plans to conduct incremental loading campaigns approximately every three years, with another campaign with 8 casks planned for 2027 it has proven more efficient to continue to use the Holtec firm's system to meet DCPD's continued operational dry storage needs. Mr. Bates observed this has allowed the plant's focus to remain on ISFSI and plant license renewals and to keep options open for the future.

Mr. Bates confirmed that the ISFSI provides storage for spent fuel from 40 years of operation and the spent fuel pools can accommodate another 20 years of spent fuel inventory. He reported one available option is to stay the course and plan to implement the Orano system in the future, while another option is to consider other available technologies which may provide for higher density and higher heat load. He observed depending on the timeline to final plant shutdown there may be an option for consolidated interim storage off the site and he reported the federal Department of Energy is moving forward with a demonstration of the Atlas railcar with its ability to transport spent fuel by rail. He reported that DCPD plans to choose the best option to provide safe storage while meeting its operational and decommissioning needs.

Consultant McWhorter observed the DCISC technical review of the Orano system did not include the review of its site-specific seismic qualifications and Mr. Bates replied that this is still an open issue and work remains to be done on this aspect of the Orano system. Dr. Kadak remarked that he was not too optimistic about the prospect of consolidated interim storage becoming available as voluntary consensus building in local communities has not to his knowledge been working very well. Mr. Bates replied that consent-based siting of consolidated interim storage facilities is now viewed differently than in the past and it is now a very inclusive process which allows communities to learn and understand what is being asked and the technology involved. Mr. Bates remarked that specific windows of opportunity may open when politics, government and regulations all align. Dr. Kadak remarked on his view that the procurement of the Orano system should not necessarily be paused as DCPD may need it to offload fuel to decommission the plant. Mr. Bates agreed that it is important in decommissioning context to be able to place all spent fuel into dry storage and he stated DCPD is aware of the

nominal durations necessary for permitting more space at the ISFSI if that should be needed but DCPD is not within that window at this time.

The Chair then thanked Mr. Bates for his presentation and recognized Mr. John Geesman representing the Alliance for Nuclear Responsibility.

Mr. Geesman stated he was stunned to learn of the potential pause in the Orano project and he shares Dr. Kadak's skepticism that this is necessarily a good idea, given what he described as a vituperative exchange of email from the Holtec and Orano firms when Orano was selected by PG&E for the new system and he encouraged the DCISC to review that correspondence.

Mr. Geesman commended PG&E for re-starting the cask loading process and for bringing Mr. Bates back as the experience of SONGS will benefit PG&E. He remarked the Alliance for Nuclear Responsibility challenged approximately \$49 million in costs for SONGS as a result of delays caused by the incident which occurred during cask loading and Southern California Edison has settled the dispute and agreed to make a \$30 million contribution to the SONGS Nuclear Decommissioning Trust.

Mr. Geesman stated he made extensive comments at the DCISC February 2024 public meeting regarding the role the density of spent fuel in the spent fuel pools plays in the offloading program which he commented is the result of a policy recommendation by the California Energy Commission which he stated Dr. Lam has pursued vigorously with the Energy Commission. He stated the Energy Commission policy recommendation has been reflected in several CPUC decisions. Mr. Geesman remarked it is not clear to him whether the density in the spent fuel pools remains any longer a metric by which PG&E's spent fuel storage program is to be measured and he opined that it would be a very bad idea to lose that metric. Mr. Geesman stated if the DCISC implicitly accepts this [the loss of the metric he described] as a policy change it is incumbent upon the Committee to make that very clear in its Annual Report that there has been a change in policy.

Dr. Gene Nelson of Californians for Green Nuclear Power was recognized. Dr. Nelson inquired if the configuration of the subterranean Orano storage canisters at SONGS is different from those proposed for DCPD. Mr. Bates replied that the design of the two systems is completely different, SONGS uses a below deck vault to hold the MPCs and by design the interface between the MPCs and the surrounding metal is tight, less than one inch, to keep the dose to workers low when the lid is installed. He reported that is not the system proposed for use at DCPD and the DCPD horizontal storage modules have much more generous dimensions, measured in inches as there is no need for shielding as the top of the MPC is never exposed during loading into the storage module.

Dr. Budnitz commented the Committee has been watching the spent fuel issue for a long time including during the Holtec loading campaigns in 2008-2009 and later, and generally Dr. Budnitz stated the DCISC identified no serious safety concerns. When the decision was made, after approval of the Joint Proposal in 2018, to close Unit 1 in 2024 and Unit 2 in 2025, DCPDs' plans for spent fuel storage changed and the DCISC reviewed the changed plans and later when

Orano was selected to be the new vendor the DCISC reviewed in depth the plans to use the Orano system. He remarked that following the selection of Orano, SB846 was approved and the plans for loading campaigns changed yet again. But Dr. Budnitz remarked that the DCISC has been reviewing the plans and activities under each scenario and he cannot remember any case where a serious safety concern was identified. He remarked the Committee's review efforts are not done as both of the existing systems still have issue to be worked out, the ISFSI does not yet have its license renewal in hand, and there is a new loading campaign coming up soon. Dr. Budnitz remarked that accordingly the Committee is not in a position now to judge the present situation to be adequate as there is still more technical review required.

Mr. Geesman remarked that the operative deficiencies found in both Southern California Edison and Holtec's conduct during the event that occurred during cask loading at SONGS were inadequate training and inadequate supervision and he suggested those items should be of concern whatever cask technology is employed. Mr. Geesman observe the larger point is that the nuclear industry doctrine is that safety is adequate for both wet and dry storage, but California state agencies have previously taken the position that there is an incremental benefit to safety from dry storage and the DCISC has reviewed a study performed by the B. John Garrick Institute for the Risk Sciences which corroborated that position. Mr. Geesman observed the Committee's responsibility under SB846 is not to simply determine whether safety is adequate but to make recommendations to enhance safety and he suggested the density issue in the spent fuel pools should be viewed from that perspective and he inquired if there is any recommendation the DCISC can or should make to PG&E concerning offloading fuel into dry casks that would enhance safety. Dr. Budnitz stated he completed agrees with Mr. Geesman's statement but the Committee's review is still pending because some information has not yet been developed including, but not limited to, the seismic specifications of the Orano system. Dr. Budnitz observed that to him there is a distinction between a small increase to safety that is extremely expensive which is dumb and a large increase to safety that comes without additional cost which is smart. He observe these opposites are rarely presented as distinct alternatives and accordingly judgments can be complex.

Dr. Lam requested Ms. Lopez to introduce the next speaker. Ms. Lopez introduced Mr. Tom Jones, Senior Director for Regulatory, Environmental and Repurposing, and reported Mr. Jones is responsible for overseeing regulatory and external strategies for PG&E for both DCP and the Humboldt Bay Power Plant ISFSI. Mr. Jones is working on the permitting and licensing approvals needed for extended operations and he has worked on federal, state and local approvals required for same. Mr. Jones oversees the stewardship of more than 12,000 acres and 14 miles of coastline of the Diablo properties as well as the work of the Diablo Canyon Decommissioning Engagement Panel. Mr. Jones has 23 years' experience with PG&E and prior to joining PG&E Mr. Jones worked for the California State Legislature for 7 years. Mr. Jones received a Bachelor's Degree from the University of California at Santa Barbara.

Update on Obtaining State and Local Approvals and Permits Necessary to Support Extended Operations.

Mr. Jones reported the License Renewal Application (LRA) for DCP was submitted to the NRC in November 2023 and the LRA was determined to be complete on December 19, 2023,

which determination will allow the plant to continue to operate into the period of extended operation while the application is under review. On May 22, 2024, the NRC held public hearings on contentions which may or not be admitted for consideration in the relicensing proceeding. He remarked that should contentions be admitted this would probably extend the relicensing process as there would likely be factual hearings held on any admitted contention.

Mr. Jones stated the NRC action in deeming the LRA complete triggers subsequent action with several federal and state agencies including the U.S. Fish and Wildlife Service, Army Corps of Engineers and the California Coastal Commission. Fish and Wildlife and Corps of Engineers will be involved in what he termed a Section 7 consultation under the Endangered Species Act (ESA)¹⁰ for which Mr. Jones stated an application was submitted on May 29, 2024. In response to Dr. Budnitz query Mr. Jones stated the Section 7 consultation was a routine update and not unique to DCP. He reported some conditions have changed, such as the presence of the California red-legged frog near the plant, but as DCP does not draw water from the creek north of the powerplant this is a static issue, but any changes in conditions need to be addressed. He remarked surveys done for decommissioning have proven useful in context of the LRA and he confirmed Dr. Budnitz observation that the new species issue would have triggered a consultation under the ESA but it was automatically triggered by the LRA. Mr. Jones observed any environmental information prepared for the National Environmental Protection Act (NEPA) is considered invalid if not prepared within the past five years.

Mr. Jones stated the California Coastal Commission and the State Lands Commission will review an amendment to the DCP lease to have structures and appurtenances in the public rights of way and waters for the extended five year period, as specified in SB846. Mr. Jones reported the CPUC has adjusted the retirement dates for DCP under the Joint Proposal¹¹ in accordance with SB846. Mr. Jones remarked the permit issued by the California Water Quality Control Board permitting discharge is issued for a five-year term and DCP has been on an extension, in expectation of the plant closing sooner and within the next six months DCP will work with the Water Quality Control Board on an application for the extended licensing period. Mr. Jones reported the permit needs to be in hand in order to close out the NRC relicensing process. In response to Consultant McWhorter's query as to 316(b) compliance¹², Mr. Jones stated the Water Quality Control Board made findings independent of SB846 that DCP was in compliance regarding monitoring with state policies, albeit still a once through cooling plant. He

¹⁰ Section 7 of the Endangered Species Act requires federal agencies to consult with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service (NMFS) before taking actions that may impact endangered or threatened species or their critical habitats. This process is also known as "Interagency Cooperation."

¹¹ 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 DCP 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 2018 in Decision (D) 18-01-022. D.23-12-036 abrogated those provisions of D.18-01-022 that would have required the plant to cease operations at the end of its current operating licenses in November 2, 2024 (Unit 1) and August 26, 2025 (Unit 2).

¹² Section 316(b) of the federal Clean Water Act requires power plants and other businesses that intake more than 2 million gallons of water daily to utilize a cooling water intake structure design that minimizes the adverse impacts upon local marine life.

confirmed Dr. Peterson's observation that PG&E pays an impact mitigation fee of \$11-\$12 million each year to the state.

Mr. Jones stated concurrent with the LRA, the plant filed an application with the California Coastal Commission for a Coastal Zone Management Act Consistency Determination for the dry spent fuel storages facility. He reported the application was deemed incomplete but the issues are narrowing and it appears the plant is close to closing out any outstanding items. He observed that, as required by SB846, DCPD has filed a report with the California's Secretary of Natural Resources and the Legislature regarding the permits required and any gaps between DCPD and the understanding of the state agencies are being addressed.

He reported concerning air pollution requirements DCPD remains in compliance with any generator or compressor over 50 horsepower requiring a separate permit, but he observed some of those permits will need to be extended as had the plant been retired in 2024-2025 some of that equipment would not have been needed. Mr. Jones remarked PG&E is not changing the way in which DCPD is run, only the duration and this is reflected in the permits required.

The Chair thanked Mr. Jones for his presentation. Dr. Lam remarked in the past only the Atomic Energy Act of 1954 governed nuclear power plant operation but today there are many more agencies including state agencies involved. Mr. Jones agreed and observed when the plant was constructed only a lease from the State Lands Commission was required on the state level.

Mr. John Geesman representing the Alliance for Nuclear Responsibility was recognized. Mr. Geesman observed the comment by Mr. Jones on the freshness of environmental documents is the issue being contended in a lawsuit by Friends of the Earth in federal court against the federal Department of Energy (DOE) associated with the \$1.1 billion grant as he remarked DOE chose to reply on 1970s environmental documents associated with initial licensing.

Mr. Geesman remarked with regard to 316 b) compliance the California Coastal Commission is of the opinion that in order to make a confirmative finding under the Coastal Zone Management Act, notwithstanding the Waters Resources Control Board's determination on 316(b), that PG&E will have to mitigate the environmental damage associated with once through cooling and this mitigation is likely to be calibrated as 1,000 acres of offshore reef habitat for each year of DCPD operation. As PG&E has applied for a 20-year license extension he opined the denominator should be multiplied by 20 to properly mitigate the effect of once through cooling and enable the Coastal Commission to make a finding of conformity with the Coastal Plan adopted under the Coastal Zone Management Act. Mr. Geesman encouraged the DCISC members to review PG&E's May 2024 response as it is likely to be a pacing item to the licensing process for extended operation and the issue is extraordinarily significant.

Dr. Gene Nelson for Californians for Green Nuclear Power was recognized. Dr. Nelson remarked his organization has been involved with the State Water Resources Control Board on the issue of the economic value of the entrained biota which he stated is actually quite small. He read from a letter Californians for Green Nuclear Power to the Water Resources Control Board encouraging the Board to weigh the benefits of DCPD as a powerful force in generating clean energy benefitting everyone which the letter maintains far outweigh its minimal burdens. The

letter maintains the long-term benefit to the state's eco-system, including those within the Board's purview, far outweigh any short-term issues and those are the principles that must guide the Board's decision concerning DCP.

X CONSULTANT REPORT & RECEIVE, APPROVE, AND AUTHORIZE
TRANSMITTAL OF A FACT FINDING REPORT TO PG&E

A. The Chair requested Mr. McWhorter to provide a report on the March 18-20, 2024, fact-finding visit with Dr. Budnitz. Mr. McWhorter reviewed the topics discussed with PG&E during the March 2024 visit as follows:

➤ Review of the Updated Seismic Assessment Required by SB846 – Consultant McWhorter stated the PG&E Updated Seismic Assessment was in final form in February 2024 prior to its public release and the DCISC Fact Finding Team (FFT) reviewed the technical topics in furtherance of the DCISC's comprehensive seismic update which was prepared in late May 2023. The FF did not draw any conclusions from the PG&E Updated Assessment and the conclusion of the review was that the DCISC would continue its work toward an independent review of the Updated Seismic Assessment, which was done in the form of the May 30, 2024 Fact Finding Report on which a report will be presented later in this public meeting,

➤ Radioactive Waste Management - Mr. McWhorter stated the focus of the FFT review was on the health of the Liquid Radioactive Waste Processing System which processes approximately 1.5 million gallons per year of filtered and treated water that is stripped of ions through an exchange process. Following treatment the water is discharged to the Pacific Ocean and any solids are retained and disposed of as solid waste. The total activity is very low, less than 17mCi¹³ excluding tritium in 2023. The activity in the volume is reported every year in the Annual Radioactive Effluent Release Report which the DCISC reviews. Consultant McWhorter reported the system, which is a Tier 2 system, is in good health and is being maintained and the DCISC FFT reviewed a list of all recent problems and their resolution. Mr. McWhorter stated much of the system management focus is on the sump pumps and sump water, not all of which is radioactive, out of Containment and from the Auxiliary Building. The FFT also reviewed plans for solid radioactive waste disposal, which is primarily sent for disposal in Texas except for very low level radioactive waste which is sent to Tennessee for burial. The FFT concluded the liquid and solid radiation management processing systems were effective in minimizing the volume and impact of substances released from DCP operation.

➤ Observe Outage Management Team Meeting – Consultant McWhorter reported the Outage Management Team is a forum to review outage preparations. He reported the meeting focused mainly on a work item to repair a leak in the anion retention tank which will be labor and dose intensive. To manage the leak a temporary modification was made in plant design. As a temporary modification it was targeted for removal at the next refueling outage. Mr. McWhorter reported the decision to approve leaving a temporary modification in place rests with the Site

¹³ A millicurie (mCi) is a unit of radioactivity that measures the amount of radioactive material that decays at a rate of 3.7×10^7 disintegrations per second (dps): 1 mCi = 0.001 curie (Ci) and 1 mCi = 1000 microcuries (μ Ci).

Vice President. As the anion retention tank was scheduled for a major drain and relining effort it was concluded this was the appropriate time to resolve the temporary modification. The FFT also reviewed plans to refurbish the main condenser, primarily by removing and recoating the tube sheets on the condenser inside the water boxes. The Outage Management Team reviewed multiple aspects of this job to ensure they were coordinated. The FFT concluded the Outage Management Team meeting was conducted efficiently and effectively.

➤ Auxiliary Feedwater System Health – Consultant McWhorter reported this was a regular review of an important, risk-significant system. Dr. Budnitz observed this is a crucial system in many of the most important accident scenarios. The system's function is to remove decay heat any time the reactor is not at power when the main feedpumps are unavailable, both in accident situations and in hot shut down situations and the residual heat removal pumps are not available. Consultant McWhorter reported the system has diverse water sources including the Condensate Storage Tank, backed up by the Fire Water System and the Raw Water Reservoirs. He reported the system is in Green¹⁴ health with no major issues. A minor issue involving testing methods for a turbine-driven feedwater pump was being addressed and there was a previous leak on a main feedwater line where it connects to the Auxiliary Feedwater System which was repaired in outage 1X25, a forced outage to repair the pressurizer safety valve.

➤ Cyber Security Program – Consultant McWhorter reported this was a routine review by the FFT of the program that protects critical digital assets from intrusion or failure, that is, digital systems with safety, security, emergency planning and other aspects. There are approximately 4,000 critical digital assets in the program across 66 different systems. Mr. McWhorter described the Cyber Security Program as a mature program focused on and managed to protect assets from external threats through the use of isolating air gaps, data diodes and other techniques. The program staff of eight individuals consists of five full time employees, two contractors and one supervisor. The latest NRC inspection resulted in one non-cited violation related to how the system logged activities in various areas. The FFT concluded the Cyber Security Program was effectively managed and implemented. In response to Consultant Wardell's inquiry Mr. McWhorter stated the program has an automatic monitoring function whereby when a potential intrusion is sensed, program staff are immediately alerted to investigate. He reported there are a number of external organizations, national and worldwide, that track and assess the severity of cyber-attacks and this information shared among nuclear power plants including DCP. Dr. Budnitz and Mr. McWhorter reported that in general most cyber attacks are directed to business systems from which the plant's critical digital assets are separated and isolated.

➤ Plant Tour – Mr. McWhorter reported the FFT visit was just prior to the 2R24 refueling outage and focused on touring areas where outage preparations were in progress. The FFT toured the Unit 2 Turbine Building, the Unit 2 Control Room, and observed Emergency Diesel

¹⁴ A probabilistic risk assessment of Green means there is no equipment out of service or some other compromise to safety that would make the relative risk higher than the probabilistic risk assessment baseline for normal operation and maintenance activity and accordingly trigger a classification, in descending order, of White, Yellow or Red.

Generator (EDG) 2-2 testing. The FFT concluded that the maintenance areas were being managed properly, were clean, orderly with equipment in good order. Mr. McWhorter reported the outage preparations were conducted such that there was no interference with normal operation.

➤ Seismically Induced Systems Interaction Program Update – Consultant McWhorter reported this was a routine review of a program unique to DCPD that ensures safe shutdown and accident mitigation systems will properly function during a seismic event. Safe zones are designated around equipment such that temporary equipment or other items not seismically qualified are not placed near defined, targeted, safe shutdown or accident mitigation equipment such that this equipment could be damaged during a seismic event. The FFT found the program was effective in protecting systems important to safety and was being well managed with no significant issues. A non-cited violation was received under another program for a barrel which was used to drain a system was left in an unapproved location instead of being removed prior to the next evolution.

➤ Cause Evaluation for Auxiliary Saltwater Pump 2-2 Failure – Consultant McWhorter reported this was a follow up from the December 2023 fact finding visit when the motor radial bearing from Auxiliary Saltwater Pump 2-2 was found degraded in fall 2023. An exigent change was required to the Technical Specification (TS)¹⁵ to allow 144 hours versus 72 hours to change the pump motor. The motor failure was found to be very similar to a failure that occurred on the adjacent pump in 2018, such that the 2018 corrective action had not prevented recurrence. Mr. McWhorter reported the failure was related to the process to pre-load the axial loading of the pump bearings, that is, the process by which the actual load on the shaft of the motor is pre-loaded such that the pump bearings are loaded correctly in the thrust direction. The process was cumbersome and tedious and involved using a dial indicator set on the motor in a particular manner on a plate such that the plate could flex if the dial were not set correctly. Mr. McWhorter reported after the previous 2018 event procedures were changed to be more prescriptive and ensure the procedure was done correctly, but the procedure change failed to correct the issue. The FFT was informed the root cause would not be complete until April 2024 and it was to be discussed during May 2024 fact finding, but has now been deferred to mid-summer for completion. **Mr. McWhorter reported the DCISC should continue to follow completion of the root cause evaluation for the Auxiliary Saltwater Pump 2-2- failure. Dr. Budnitz observed the design appeared to lack flexibility and the procedure was difficult to develop in a way to proscribe making an error. Consultant McWhorter observed the DCISC should review procedure changes that are being proposed for the pump motor overhaul process and see how the procedures work before the root cause evaluation is finalized.**

➤ Maintenance Department – Consultant McWhorter reported the Maintenance department is currently staffed by 250 personnel and is recruiting to add 60 additional employees. He reported DCPD is planning for a Maintenance staff of 286 by the end of 2024, with

¹⁵ As part of an NRC license authorizing operation of a nuclear facility, Technical Specifications establish requirements for items such as safety limits, limiting safety system settings, limiting control settings, limiting conditions for operation, surveillance requirements, design features, and administrative controls.

approximately 270 persons needed long-term. These goals include planning for retirements and other attrition in 2024 and 2025. Mr. McWhorter reported the Maintenance Department typically is supplemented by approximately 40 contractor personnel and this number increases to around 1,100 during refueling outages. Mr. McWhorter reported a significant issue with an ongoing turnover of employees is having to manage, track and put in place qualifications, he estimated that amongst 280 employees there may be around 1,000 distinct qualifications which cover the ability to repair everything at the station. The FFT reviewed the Qualifications Tracking Program and found it effective over the twelve-month period that is generally necessary to complete all necessary qualifications. He reported the Maintenance Department has enjoyed very good human performance and the past two outages have been well conducted.

➤ Meet with DCPD Officer – the DCISC representatives met with Site Vice President Mr. Adam Peck for a productive discussion.

➤ Refueling Outage 2R24 Preparations and Outage safety Plan - Consultant McWhorter reported the FFT reviewed the goals and major milestones with the focus being on the Outage Safety Plan and the risk-informed but deterministic review used to ensure defense in depth is maintained for certain safety functions. Mr. McWhorter described the need to have one more than the minimum number of systems or components (N+1) available at any time and if that N+1 level is not achieved a Yellow window opens in the outage schedule. He reported the 2R24 Outage Safety Plan had three Yellow windows related to certain cooling water systems being out of service at the same time. There were no or Orange or Red conditions planned. Mr. McWhorter reported during 1R24 there were six Yellow windows and the reduction was due in part to the draining down of the steam generators in 1R24 for internal inspection. The FFT concluded the preparations for the refueling outages were proceeding satisfactorily.

➤ Meet with NRC Senior Resident – during this meeting Mr. McWhorter reported the FFT discussed the items on the fact finding agenda, the maintenance performed on EDG 2-2, the failure of an auxiliary fan which left a short time under TS due to two trains¹⁶ of Auxiliary Building fans being out of service at the same time, thereby creating a need for NRC enforcement discretion. The FFT also discussed with the Senior Resident the License Amendment Request which would permit risk-informed outage times to allow the station to deal with matters, such as the Auxiliary Building fan issue, in a risk-informed rather than a strict deterministic basis per the TS.

On a motion made by Dr. Budnitz, seconded by Dr. Peterson, the March 18-20, 2024 fact Finding Report and Resolution 2024-04 was unanimously approved and its transmittal to PG&E authorized. The March 18-20, 2024 Fact Finding Report will become a part of the DCISC's 34th Annual Report.

A short break followed.

¹⁶ Train in this context means a series of parts or elements that together constitute a system or produce a result.

XI DISCUSSION, DIRECTION AND ACTION, AS APPROPRIATE, BY THE COMMITTEE, CONSULTANTS AND COUNSEL

A. Status of Governmental Agency Interactions, Responses to SB846 Directives, Administrative Matters (including ratification of Amendment No. 3 to Consulting Agreement with Dr. Mark Kirk), Financial and Future Funding and Other Committee Discussions.

Dr Lam requested Mr. Rathie to lead the discussion on this item. Mr. Rathie reported under SB846 the Committee has been tasked with some additional responsibilities in its reviews and in meeting these responsibilities the Committee technical consultants and members on an individual basis, have been in contact with the CPUC personnel through its Energy Division, as well as with representatives of the California Department of Water Resources and the Committee has been monitoring the activities and the plans of the Independent Peer Review Panel (IPRP) seismic study of the DCPD site. He reported that two members of the IPRP, Drs. Gordon Seitz and Tim Dawson representing the California Geological Survey, were present in the meeting room and Mr. Rathie welcomed them on behalf of the DCISC.

Mr. Rathie reported on the CPUC rulemaking proceeding that opened almost immediately following the passage of SB846 in September 2022 and stated that Phase One of that proceeding has now concluded. The scope of Phase One Track One of the proceeding was developed specifically to address issues of DCISC funding during the period of DCPD relicensing and transition to extended operation through 2025. He reported Phase One Track One concluded successfully and the Committee is now receiving additional funding under the CPUC decision. Phase One Track Two has now also concluded with the issuance of a decision by the CPUC conditionally approving the extension of operations for DCPD. The applicable conditions being that the CPUC continues to find the investment in continued operation is prudent and also that the operating licenses for DCPD are extended by the NRC. Mr. Rathie reported Phase Two of the rulemaking proceeding is now pending. Mr. Rathie then introduced his colleague, Mr. Willis Hon, a partner with the Nossaman law firm of San Francisco, California, who serves as DCISC Special Counsel for Regulatory Affairs.

Mr. Hon reported Phase One Track Two concluded in December 2023 and the CPUC has begun work on Phase Two with the assigned Administrative Law Judge having issued a ruling on February 7, 2024, soliciting party input on potential issues. Parties filed opening comments on February 28 and reply comments on March 8, 2024. Mr. Hon reported the DCISC is not a party and has been directed to provide its input through the CPUC Energy Division and has been periodically doing so during the proceeding. Phase Two issues relevant to the Committee may potentially include funding for the Committee's operation during the period of extended operations for DCPD and the imposition of term limits for Committee members, which latter item was raised previously in Phase One by the Alliance for Nuclear Responsibility. Mr. Hon reported the issuance of the scoping memo will determine the issues to be considered and this is expected to occur any time now.

Mr. Rathie reported on an administrative matter, that being the ratification of Amendment No. 3 to the Consultant Agreement between the DCISC and Dr. Mark T. Kirk for Dr. Kirk to conduct a review of Unit 1 reactor pressure vessel integrity. He reported Amendment No. 3 increases the compensation to be furnished to Dr. Kirk from an amount not to exceed \$61,000 to an amount not to exceed \$81,000. On a motion made by Dr. Budnitz, seconded by Dr. Peterson, the Committee members then unanimously ratified the Amendment No. 3 to the Consulting Agreement with Dr. Mark T. Kirk.

Mr. Rathie then reviewed the current financial position of the Committee through June 2024 and reported that at the present time the Committee is solvent and operating within the amount of the grant provided by the PG&E ratepayers under the initial and continuing funding provisions as established by a 1997 CPUC decision, as augmented by funding provided in accordance with Phase One Track One of the current CPUC rulemaking proceeding provided under the terms of the Diablo Canyon Transitioning and Relicensing Memorandum Account (DCTRMA). Mr. Rathie reported the amount of the funds available to the Committee for additional activities to review relicensing and transition-related matters through the DCTRMA is determined based upon prior year expenditures. For 2023 the Committee exceeded the 2023 DCTRMA funding allocation and in accordance with the funding formula the amount of the 2023 deficit spending was recovered as part of the DCTRMA funding received for 2024, for which an invoice was submitted and funding allocated to the DCISC. He reported the next invoice to be submitted for DCTRMA funding will be submitted at the beginning of 2025. Mr. Rathie reported the DCISC differs from many governmental entities in that it must operate on a cash and carry basis with regard to all expenses and he reported at the present time it appears the Committee will have the ability to meet its expenses during 2024. He commented the Committee expends funds at differing rates in a calendar year and will soon be entering the period of preparation of its 34th Annual Report. He remarked that given the developments in connection with SB846 and the extension of operations by DCPD there may be other activities for which the DCISC is required to undertake review.

Mr. Rathie reported funding received under the 1997 CPUC decision is based upon the funds provided for Committee operation in 1996 with a 1.5% annual increase each year. Any funds from this allocation which remain unspent at the end of a calendar year are returned to PG&E for credit to its ratepayers from whence these funds originate. Mr. Rathie stated that any funds which remain unspent from the DCTRMA will be remitted to PG&E for accounting at the end of calendar year 2025.

Mr. Rathie closed his remarks by observing per the Google analytics reports the DCISC website has been visited by, in order of number of visits, visitors from the United States, China, India, Japan, Brazil and the United Kingdom. The website during 2024 has averaged 345 visitors each month with 867 visits during the month of February 2024 when the DCISC held its last public meeting. Updates have been made to the website. Mr. Rathie reported the DCISC's annual reports are available on the website and Consultant Wardell has provided a schedule for the preparation of the 34th Annual Report which report will subsequently be published on the website, in a two-volume print edition, on a CD and on a USB thumb drive.

B. Consider Request from PG&E and the Decommissioning Engagement Plan for a DCISC Member to Participate as an ex officio Member of the Decommissioning Engagement Panel.

At the Chair's request Mr. Rathie introduced the next agenda item which he stated was prompted by a letter received by the Committee on behalf of PG&E and the Diablo Canyon Decommissioning Engagement Panel (DCDEP or the Panel) requesting participation by a member of the DCISC as an *ex officio*¹⁷ member of the Panel. Mr. Rathie stated at this time it would be appropriate for the Members to discuss the request and identify any issues they perceive with the offer for one of them to participate as a member of the DCDEP.

Dr. Lam inquired whether participation would conflict with the Committee's Charter from the CPUC. Mr. Rathie replied the DCDEP is an organization under PG&E's auspices and PG&E exercise veto power over any recommendation by the Panel. He observed the DCISC Charter provides for the Committee to review DCP operations for the purpose of assessing safety of operation and suggesting any recommendation for safe operation. Under the provisions of the Third Restatement of the DCISC's Charter safety of operations means activities in connection with generation of electricity and the operation of the spent fuel pools, related support systems, the ISFSI and the transport of spent nuclear fuel. He observed there are issues within the Panel's purview such as land use and repurposing of facilities which are clearly outside the Committee's Charter.

Dr. Budnitz remarked the DCISC has frequently advised the DCDEP on safety-related matters and provided technical expertise and presentations during the Panel's public meetings, but only when requested by the Panel to do so. Dr. Budnitz observed the Committee has never turned down a request from the Panel and he commented whether or not the Committee accepts an *ex officio* role for one of its members, he believes the DCISC will firmly and absolutely continue to support the Panel whenever it is asked to do so. He pointed out the letter under consideration stated the public and the Panel have benefited from the DCISC past interaction and he observed that in his opinion they will continue to do so no matter the eventual outcome of the invitation, which also cites the additional opportunities that would be provided through direct participation on the Panel by a DCISC member.

Mr. Chuck Anders, the DCDEP facilitator was recognized. Mr. Anders remarked the interaction between the DCISC and the DCDEP has been very valuable. He commented that the Panel, in addition to its public meetings, also conducts administrative meetings to evaluate issue and discuss and plan for future agenda items. He reported the Panel averages four public meetings each year including such topics, for 2024, as long-term spent fuel storage, the potential for consolidated interim storage, reports on issues identified worldwide, and the Environmental Impact Statement for decommissioning recently completed by San Luis Obispo County. He observed the DCISC and the DCDEP have different audiences and different members of the public participate in their respective meetings. He stated a primary basis for the request for

¹⁷ An ex officio member is a member of a body (notably a board, committee, or council) who is part of it by virtue of holding another office.

DCISC participation *ex officio* was to involve the DCISC in the planning meetings for these and other topics.

Dr. Peterson observed the DCISC's ability to act with and provide input to the DCDEP is clearly quite important. He remarked the ability of all of the DCISC members to at various times interact with the Panel has been very helpful. Dr. Peterson commented participating in the planning of Panel activities would be qualitatively different from the process of providing information and would verge away from alignment with the Committee's Charter. There would also be a significant time commitment to be considered for the single member selected. Dr. Peterson stated his view that it would be better for the DCISC to continue engaging with the Panel as it has in the past.

Dr. Lam remarked that as his term on the Committee will conclude as of June 30, 2024, his view may not be relevant, but Drs. Budnitz and Peterson's statements resonate with him, particularly with the potential for conflict between the Committee's Charter and the Panel's Charter. He also observed that some years ago when the plant was contemplating entering decommissioning a member of the public raised a question as to whether the Committee's inquiries into decommissioning were at that time *ultra vires*¹⁸ acts.

Dr. Budnitz commented on the challenges of having a single member represent the position of the Committee on issues where the full Committee had yet to articulate a position. Dr. Peterson remarked the prior avenues of DCISC engagement with the DCDEP were consistent with the DCISC's obligation and mandate to conduct public outreach in the local community as to items the Committee had discussed and decided. Drs. Budnitz and Peterson observed when technical issues on which the DCISC has not considered or adopted a position come before the DCDEP and are referred to the DCISC the issues would be considered for review at a DCISC public meeting. After which a response would go to the Panel. Dr. Budnitz observe there may be a middle ground in that a DCISC member could be invited to a specific DCDEP administrative planning meeting when the DCISC's input on the process was sought.

Drs. Peterson and Budnitz agreed the DCISC should continue to participate when requested in the activities of the DCDEP and when invited that participation will be contingent on the availability of a member, which will provide opportunities for participation by multiple DCISC members. Dr. Peterson stated he does not recommend that the DCISC designate a single member to participate *ex officio* as a member of the DCDEP, but a single member of the DCISC could participate when requested in the DCDEP administrative planning meetings on matters concerning operational safety. Mr. Rathie remarked the DCDEP Charter provides for Panel members to participate in all meetings and the mission statement of the Panel is to inform regulatory agencies and other stakeholders regarding decommissioning plans and he pointed out that this was also part of the independent role of the DCISC and in his opinion there could be a potential for a conflict or the appearance of a conflict.

¹⁸ Ultra vires plainly means an action by a company or its agent that exceeds the legal scope of its authority.

Dr. Gene Nelson of Californians for Green Nuclear Power was recognized. Dr. Nelson stated it was his opinion there was a tension between participation on the DCISC and the DCDEP, but he observed in his opinion the DCISC providing safety-related information on request to the Panel was within the DCISC's Charter. He remarked Californians for Green Nuclear Power had previously declined an invitation to be part of the DCDEP. He recommended an *ad hoc* arrangement between the two committees is the appropriate way to handle this request.

Mr. Anders was again recognized and he stated that an *ex officio* position on the DCDEP is advisory only and the *ex officio* member would not be expected to take a position or participate in the development of a consensus on any recommendation by the Panel.

Mr. David Weisman, Executive Director of the Alliance for Nuclear Responsibility, was recognized and he suggested that as Dr. Lam was retiring from service on the DCISC he could volunteer to participate on the panel in some capacity as a civilian.

The Members discussed making a motion to respond to PG&E and the Panel's request and on a motion made by Dr. Peterson that the DCISC would continue to support the DCDEP when invited and when available to do so and this support would include the administrative DCDEP meetings on the planning for DCDEP public meetings; but a single DCISC member would not be designated to serve on the DCDEP in an *ex officio* capacity. Dr. Budnitz then offered a friendly amendment that the DCISC reject the request but pledge to continue to support the Diablo Canyon Decommissioning Engagement Panel which was accepted by the maker, and with Drs. Budnitz and Peterson in favor and Dr. Lam abstaining the motion carried. Dr. Budnitz observed after the vote that the position taken was stronger than any position the Committee has adopted previously relative to the Panel. Mr. Anders thanked the Members for considering the Panel's request and expressed the Panel's appreciation for the DCISC's ongoing support. He stated the two committees are very complementary of each other and mutually supportive toward the goal of community engagement, public outreach and consistent with the DCISC's role as guardians of safety for the community. He closed his remarks by confirming that for planning meetings wherein safety-related issues were addressed an invitation would be forthcoming to the DCISC for participation.

XII ADJOURN AFTERNOON MEETING

The Chair adjourned the afternoon session of the DCISC at 4:15 p.m.

XIII RECONVENE FOR EVENING MEETING

Dr. Lam reconvened the evening meeting of the DCISC at 5:15 p.m.

XIV COMMITTEE MEMBER COMMENTS

There were no comments by Committee Members at this time.

The Chair recognized the presence of several state officials including CPUC Commissioner Darcie L. Houck, Esq., Governor Newsom's Senior Advisor for Offshore Wind Ms. Jana Ganion, and California Department of Water Resources (DWR) Deputy Director Statewide Water and Energy Ms. Delphine Hou. Ms. Hou accepted Dr. Lam's invitation to address the

DCISC and reported she has the goal and task of administering the Diablo Canyon Loan from the State of California for the relicensing of DCP. Ms. Hou remarked that much is learned each time DWR and the DCISC have interacted and she appreciates the expertise and ability of the Committee to understand and to explain to a lay audience very technical topics. Ms. Hou stated she appreciates the work of the DCISC and she congratulated Dr. Lam on his official retirement from the Committee. She closed her remarks by stating she hopes to attend many more DCISC public meetings and to follow the great work of the Committee. Dr. Lam thanked Ms. Hou for her comments.

XV INFORMATION ITEMS PRESENTED BY THE COMMITTEE

Dr. Lam called upon DCISC Consultant Dr. Andrew Kadak to introduce and lead the next presentation.

A. Report on Evaluation of Public Concerns on Studies by Dr. Mark T. Kirk Evaluating Unit 1 Reactor Pressure Vessel Integrity; Committee Consideration of Endorsing the Kirk Studies and Their Conclusions in the DCISC 34th Annual Report.

Dr. Lam stated that DCISC Consultant Dr. Mark Kirk was retained by the Committee to complete a reactor pressure vessel embrittlement study of Unit 1 and Dr. Kadak has been heavily involved in that work with Dr. Kirk. Dr. Kirk was unable to attend this meeting due to a prior commitment.

Dr. Kadak stated he would review activities since the last meeting of the DCISC in February 2024 and then ask Dr. Digby Macdonald, who has been retained as a technical expert by the San Luis Obispo Mothers for Peace, to make a presentation. Discussion by the Committee and the public will follow. Mr. Rathie remarked the Committee previously received a request from Dr. Macdonald and committed to allow him extended time during this public meeting for his presentation. For other public comments, given the great interest expressed in this topic, Mr. Rathie suggested each member of the public be given four minutes, with no ceding of time to another speaker, to address the Committee. The Chair concurred with Mr. Rathie's suggestion.

Dr. Kadak briefly reviewed the activities of the DCISC on the issue of embrittlement of the Unit 1 reactor pressure vessel (RPV) including:

- At the request of the California Energy Commission in 2009, the DCISC reviewed the status of RPV integrity for a 20-year license extension.
- In a letter dated February 28, 2011, the DCISC evaluated Pressurized Thermal Shock (PTS)¹⁹ and seismic effects.

¹⁹ Pressurized Thermal Shock (PTS) refers to a condition that challenges the integrity of the reactor pressure vessel. The root cause of this phenomenon is the radiation embrittlement of the reactor vessel. This embrittlement leads to an increase in the reference temperature for nil ductility transition Nil ductility transition can increase to the point where the reactor vessel material can lose fracture toughness during overcooling events. The analyses of the risk of having a PTS for a specific plant includes the structural and fracture analysis of the reactor vessel wall.

- Subject to new information being received, the DCISC has previously concluded both units could operate safely for twenty additional years in terms of PTS concerns.

Dr. Kadak reported that recently, at the February, June and September 2023 public meetings, concerns were expressed including by Mr. Bruce Severance and Dr. Macdonald on the status of Unit 1's embrittlement. The DCISC engaged Dr. Kirk, who previously was employed by the NRC in capacities where his knowledge, expertise and experience concerning the assessment of RPV integrity contributed greatly to the NRC's research in this area. On January 31, 2024, the DCISC issued a report in two parts by Dr. Kirk addressing public concerns and evaluating the status of Unit 1 with respect to the monitoring and predicting the condition of the RPV. Dr. Kirk then made a presentation to the DCISC at its public meeting on February 21, 2024. After the public presentation the DCISC requested any additional public and received same from Mr. Severance, to which a response was provided on May 28 and which Mr. Severance responded to on June 10, and from Dr. Macdonald on June 14, 2024, six days before this public meeting.

Dr. Kadak summarized Dr. Kirk's conclusions concerning Unit 1 embrittlement:

- PG&E's current reactor vessel integrity calculations were confirmed and validated.
- Unit 1 meets the NRC requirements for reactor vessel integrity through 60 years of service.
- Credibility of data was correctly assessed.
- Sister plant data was correctly used.
- Deferrals of surveillance Capsule B²⁰ coupon testing were appropriate.
- RPV inspection schedule is appropriate.

Dr. Kadak reported Capsule B is scheduled to be withdrawn from Unit 1 during its 2025 scheduled refueling outage. He observed removal is needed by 2028 in order to be consistent with NRC guidance and when new data is obtained from the coupons in Capsule B the outcome of the RPV integrity assessment of Unit 1 may change. Dr. Kadak stated Dr. Kirk has performed supplemental analyses using more data and modern analytical techniques which validate that for PTS the NRC screening criteria is very unlikely to be exceeded in 60 years of operation. He reported the Upper-Shelf Energy (USE)²¹ may fall below the NRC screening criteria by 2029 or 2030 but a more accurate analysis following NRC guidance is highly likely to show that acceptable margins will remain beyond those dates.

²⁰ Surveillance specimen capsules must be located near the inside vessel wall in the beltline region so that the coupon specimen irradiation history duplicates or exceeds, to the extent practicable within the physical constraints of the system, the neutron spectrum, temperature history, and maximum neutron fluence experienced by the reactor vessel inner surface.

²¹ In accordance with NRC regulation, reactor vessel beltline materials must demonstrate upper-shelf energy (USE) through testing of irradiated sample material, in the transverse direction for base material and along the weld for weld material, according to Code criteria established by the American Society of Mechanical Engineers (ASME). A vessel must maintain upper-shelf energy throughout the life of the vessel, unless it is demonstrated in a manner approved by the NRC's Director, Office of Nuclear Reactor Regulation, that lower values of upper-shelf energy will provide margins of safety against fracture equivalent to those required by the ASME Code.

Dr. Kadak reported relative to Mr. Severance's comments, those comments challenged the integrity of the Unit 1 RPV based upon:

- Were NRC procedures used correctly?
- Did the NRC correctly assess the credibility²² of the data?
- Was use of sister plant data appropriate?
- Why have embrittlement forecasts changed?

Mr. Severance also questions whether deferrals of removal of Capsule B means a 4th capsule is needed for the initial 40-year license term.

Dr. Kadak reported Dr. Kirk has responded to Mr. Severance's comments that Mr. Severance appears to continue to misunderstand how the NRC evaluates embrittlement and the use of the procedures the NRC uses to do so. Dr. Kirk explained that forecasts change largely due to the use of the current information which was available in 2011. Dr. Kirk confirmed the plant was appropriately licensed as a three-capsule plant under the provisions of the American Society for Testing and Materials (ASTM) Code Section E-185-70. Dr. Kirk reviewed and determined the NRC document cited by Mr. Severance as a license amendment does not amend DCP's 40-year license to make testing of a fourth capsule mandatory. Dr. Kirk agreed with Mr. Severance as to the supplemental USE analysis, but he observed it is not NRC approved and DCP meets all NRC license requirements. Dr. Kirk observed equivalent margins analysis for USE has shown acceptable result for all other plants where it was employed.

Dr. Kadak reported, in summary, concerning Mr. Severance's April 15 letter that none of the concerns expressed therein changed the conclusions of either Part 1 or Part 2 of Dr. Kirk's report. The embrittlement predictions for Unit 1 are compliant with NRC regulation and the PTS screening will not be exceeded in 60 years of operation while the USE meets NRC regulatory requirements for 60 years of operation. Capsule B testing is not required in the first 40 years of operation but it will be required by 2028 for extended operation. Dr. Kadak reported Mr. Severance subsequently provided additional comments which included:

- Challenging the NRC's process for reviewing embrittlement.
- Reliance on Dr. Macdonald's input.
- Challenging the use of sister plant information.
- Challenging Dr. Kirk's embrittlement assessment since it is not NRC approved.
- Requesting a review of Equivalent Full Power Years (EFPY) estimate in Dr. Kirk's report.

²² The terms "credible" or "credibility" in this context simply mean that plant specific surveillance data follow expected trends (credible), or they deviate from these trends to some extent (not credible). It does not mean the data is not valid or accurate.

Dr. Kadak reported Dr. Kirk replied to Mr. Severance's additional comments by observing nothing in Mr. Severance's latest comments change the conclusions in Part 1 or Part 2 of Dr. Kirk's report. Mr. Severance's challenges to the NRC review process including the use of sister plant data should be raised with the NRC and using the latest information, Unit 1 meets the NRC embrittlement requirements for 60 years of operation.

Dr. Lan commented and Dr. Kadak agreed that since the time Dr. Kirk was retained, his report remains Dr. Kirk's work product albeit that Dr. Kirk's report was accepted by the DCISC at its February 224 public meeting.

Dr. Digby Macdonald, who was in attendance remotely via Zoom, was recognized by the Chair to address remarks to the Committee.

Dr. Macdonald stated that based on 2003 and pre 2003 data, the reactor pressure vessel on Unit 1 appears to be dangerously embrittled. Additionally, no reliable reference temperature data has been acquired since 2003, no ultrasound testing since 2005. Dr. Macdonald observed PG&E and the NRC together have endangered public health and safety on that issue alone. He stated reliance on generic and so-called Integrated Surveillance Program (ISP) data is unjustified because DCP Unit 1 and the Palisades Nuclear Generating Station in Michigan (Palisades) do not qualify under 10 CFR 50 Appendix H, as ISP partners. Dr. Macdonald stated that Dr. Kirk's analytical methods concerning combining Unit 1 and Palisades data show that the results are not credible he stated he would show this on graphs he would provide. He stated the position on behalf of the San Luis Obispo mother for Peace is simply that Unit 1 should be closed immediately because it's the only reasonable response to PG&E and NRC risk management.

As background, Dr. Macdonald stated ASTM E-185-70 stipulates five plus capsules irradiated up to the end of life. He commented the reason for that is that the shift in the reference temperature is predicted to be more than 200 degrees Fahrenheit due to high nickel and copper and weld heat #27204 and that was forewarned by Westinghouse. He stated a minimum of five RT_{NDT} (Reference Temperature for Nil Ductility) versus fluence data are crucial to practical optimization of the model on the equations of NRC Regulatory Guide (RG)²³ 1.99, Revision 2 (1988). He commented interestingly the original surveillance program comprised eight capsules, of which three had the weld metal 27204 and five contained the base metal and it is surprising that PG&E at the NRC's insistence did not replace the base metal capsules with additional capsules containing more metal, so that there would now be a good body of data. Dr. Macdonald remarked the basic problem with Unit 1 is that there are too few data.

Dr. Macdonald stated he wanted to point out a problem with Dr. Kirk's definition of ΔT_{41} joules^{24 25} which is the reference temperature at 30 foot pounds. The solid lines on the

²³ The NRC's Regulatory Guide series provides guidance to licensees and applicants on implementing specific parts of the NRC's regulations, techniques used by the NRC staff in evaluating specific problems or postulated accidents, and data needed by the staff in its review of applications for permits or licenses.

²⁴ In many fields, it's common for Δ (the Greek letter *delta*) to represent a change or difference. Math uses it, physics uses it, engineering uses it, etc.

²⁵ A joule is a unit of energy in the International System of Units. It is equal to the amount of work done when a force of one newton displaces a mass through a distance of one meter in the direction of that force. It is also

graph he displayed showed hyperbolic tangent function curves and he pointed out the red line passes through 30 foot pounds, and that upon irradiation there's a negative shift in ΔT_{41} joules. He stated that this is simply a result of the fact that it was arbitrarily defined by ASME and, critically, adopted by NRC and PG&E. He stated the graph was taken from _____ in which it was pointed out this is a ridiculous situation where there's a negative shift in ΔT_{41} joules upon the irradiation. Dr. Macdonald stated on the other hand if one were to define the shift being at the point of inflection of the symmetric hyperbolic tangent function, one could see there is very little effect, and one of the issues is that it is not absolutely certain what level of irradiation was applied to a sample.

Dr. Macdonald then reviewed a graph he stated shows Dr. Kirk's analysis. He observed the points marked for Diablo Canyon is a generic point at minus 50 degrees centigrade and the first data point up from that is Capsule S, then Capsule Y, Capsule V and then two data points which were taken from Palisades. Dr. Macdonald said one could see that what happens is that those data points from Palisades tend to bend the curve down and so the curve begins to flatten out and run parallel to the screening criteria, but he observed the biggest problem with the graph, and he stated he did not think it is something that NRC would sanction, was that Dr. Kirk committed the original sin in science and engineering in that he did not include error bars. Dr. Macdonald stated in his opinion Dr. Kirk cherry-picked the Palisades data because Dr. Kirk published in RG 1.99, Revision 2, a supplement to that report in which he showed that there was a data point at a much higher value of RT_{NDT} , and he commented that this would be shown on his next slide where Dr. Macdonald includes the error bars. He observed if he were to draw a straight line through the data points with the error bars defined by Eason²⁶, et al, and not invented by Dr. Macdonald, which are based on hard data, he observed that one can see the intersection occurs somewhere between about 1.2 and 2.2 to 2.4×10^{19} neutrons per centimeter squared. On the other hand, Dr. Macdonald stated if one were to draw a line through the Palisades two data points that Dr. Kirk used one would have a line that's essentially parallel to the PTS screening criteria, and these lines never intersect. He stated what that means is the reactor could keep operating forever without running into a problem, but Dr. Kirk cherry-picked his data because at the top, above the PTS screening criteria, is a data point marked P which is in the supplement to RG 1.99. Dr. Macdonald stated his point is that such an analysis is invalid unless one is capable of quantifying the error bars.

Dr. Budnitz interjected to ask that on the plot with the error bars, whether the bars are intended to represent one standard deviation. In other words Dr. Budnitz asked are they 95.5% confident in the one standard deviation and what sort of uncertainty is captured by these error bars? Dr. Macdonald replied the error bars are plus or minus about 25° Fahrenheit on the vertical scale. Dr. Budnitz stated he could see that the error bars are plus or minus 25° Fahrenheit but the question he is asking is are they one standard deviation of confidence or are they two or are they based on something else? Dr. Macdonald confirmed the error bars were one standard deviation. Dr. Budnitz then questioned how the same plus or minus 25° can represent roughly the same

the energy dissipated as heat when an electric current of one ampere passes through a resistance of one ohm for one second.

²⁶ Eason, E.D.; Wright J.E. and Odette, MCS GR (1998) "Improved Embrittlement Correlations for Reactor Pressure Bessel Steels," NUREG/CR-6551 MCS 97050, Univ. CA Modeling and Computing Services, University of California Prepared for US Nuclear Regulatory Commission, 1998.

error bar for all those points and that secondly the data point in the lower left-hand corner of the on the abscissa of the graph has the same size error bars and on the abscissa it looks like goes from 50 to 150 which he described as a huge error, to which Dr. Macdonald replied that was correct. Dr. Budnitz asked whether Dr. Macdonald was asserting that the fluence that particular data point is anchored to is uncertain by such a very large amount and Dr. Budnitz commented he did not understand this and he asked Dr. Macdonald to explain where the uncertainty comes from and where the fluence, that's the abscissa, comes from and why is it the same for the data points shown higher on the graph. Dr. Budnitz commented there may be an uncertainty of plus or minus...it only has uncertainty of about ten percent, whereas the one below on the graph has an uncertainty of way more than one hundred percent because it's the same absolute. Dr. Budnitz stated that as a physicist having spent his entire career interpreting error bars he needs to understand the origin of these uncertainties. Dr. Macdonald responded "Well all I can tell you is there is a large uncertainty in the fluence, because it depends on what you're counting in determining the fluence... whether you count effective full power years, or you take into account all the power level changes and so forth. That's not entirely clear to me." Dr. Budnitz stated he understood Dr. Macdonald's response but if one looks at the data point in the lower lefthand corner of the graph labeled G, and the one is labeled D, which is a coupon that came out of Diablo Canyon, early on, he doesn't understand from Dr., Macdonald's explanation why its fluence, 150 plus or minus 50, is not understood by such a big percentage factor for that early capsule. Dr. Peterson also referred to the data point on the far left of the graph showing zero dose and he stated it is not physically possible that it could have negative dose.

Dr. Budnitz commented it appears someone took the data point and drew through the same cross, up and down, left and right, for each point whereas, the true uncertainty can't possibly be the fluence of the first point, Point D. Dr. Budnitz remarked this was just not credible.

Dr. Macdonald turned to what he termed basic equations and he described what he termed the hyperbolic, symmetric hyperbolic, function and from that one calculates, just by mathematical manipulation, the upper-shelf energy, the lower shelf energy, the fracture energy at the point of inflection, the RT_{NDT} at the point of inflection, that's equal to T north. From this he stated one can convert from $\Delta T41$ joule into RT_{NDT} Point of Inflection (POI) and so forth. Finally, he stated one can define an extent of embrittlement by that last equation and these help illustrate how the POI is in Dr. Macdonald's opinion a superior method of following what happens with the embrittlement.

Dr. Macdonald then discussed this Extent of Embrittlement methodology versus fluence and he displayed a graph on which he reported he purposefully left the error bars off because he wanted to illustrate one point which seems to be consistent. He remarked one can see that the weld metal is by far the component that is most sensitive to fluence, but when one notices on the graph the upper two points on the weld metal it appears that the Extent of Embrittlement appears consistent not only in his calculations, but also in calculations that have been shown by others. He remarked the important thing here is that does not require a large fraction of the fracture surface to be covered by brittle facets to achieve embrittlement and if ones look at the upper right plot on the graph one can see there's a ten percent change in the extent of embrittlement, essentially covering the whole range of fluences up to the end of life. Dr. Macdonald stated what

he was discussing is a relatively small amount of changes in the fracture surface in order to account for the embrittlement.

Dr. Macdonald observed Ultrasonic volumetric testing (UT testing) is indispensable because one must understand that cascade formation of "hot" interstitials and vacancies due to interaction with high energy neutrons. He remarked $\Delta T41$ joule tests for radiation embrittlement while UT testing looks for fissures that might convert into brittle fractures under the pressurized thermal shock phenomenon. He stated initial vacancy condensation on intermetallic particles acts as a barrier to dislocation movement and, hence, in the loss of ductility and that is embrittlement and these processes tend to occur in tandem as condensation of vacancies on intermetallic particles leads to fissure growth. Dr. Macdonald remarked there is a possible role for helium and hydrogen pressurization of fissures, leading to subcritical crack growth and considerable quantities of hydrogen is available in the primary coolant. Dr. Macdonald stated in his view it is absolutely essential that UT volumetric testing be carried out and it cannot be discarded as Dr. Kirk states.

Dr. Macdonald commented he does not disagree with everything that Dr. Kirk states in his report and the one thing he and Dr. Kirk agree on is that mini-compact tension specimens should be machined from remnants of the failed Charpy specimens from Capsules S, Y and V to measure the fracture toughness directly. He commented a sufficient number of specimens could be machined to yield statistically meaningful dilutes for the fracture toughness. He further remarked the WOL [?] specimens should be tested for both K_I minimum, that is, the crack would grow until the stress intensity factor becomes limiting in its lower end and the crack stops growing, and it then could be loaded in a load frame and pulled to failure in order to calculate K_{IC} , the fracture toughness from compliance of a specimen. Dr. Macdonald said he proposes using back interpolation, given that Capsule B will have a fluence of about 3.7×10^{19} neutrons per square centimeter by the time it is filled. He observed it seems incorrect to not to note that Capsule B was added as the fourth Capsule of the program as part of a deal that was struck between PG&E and the NRC for a 37 month extension of the operating license of Unit 1. He remarked nanoindentation is also a useful measurement that could be used to supplement the mini-CT and $\Delta T41$ joule.

Dr Macdonald concluded these remarks by stating his conclusion that Unit 1 must be closed now because it's continued operation has not been justified by Dr. Kirk's report and Unit 1 must be fully tested to the satisfaction of an independent committee before re-opening, given the high fluence of Capsule B, 3.6×10^{19} - 3.7×10^{19} depending on when it will be actually removed from the reactor vessel. He stated the testing methods approved by the NRC will not tell much, therefore alternative measures are necessary and Dr. Macdonald suggests backward interpolation with the low fluence and anchored by Capsules S, Y and V, and the high end anchored by Capsule B and it is his belief that these measures stand a good chance of being able to recover a value for $\Delta T41$ joule at the end of the initial operating period.

Dr. Macdonald thanked the Members for their attention to his remarks.

Dr. Budnitz referred again to the graph he questioned previously concerning the error bars and remarked it does not make sense to him that the error bars are as shown, he commented

he cannot believe the fluence data uncertainty data for Capsule S is shown accurately. Dr. Macdonald concurred and he stated that was a mistake on his part in drawing it that way. Dr. Budnitz observed the fluence is shown on the abscissa, but on the ordinate he finds it is hard to believe that that RT_{NDT} shift as shown is about 25 and the error bar goes from zero to 50. Dr. Budnitz observed that seems like such a large percentage uncertainty on a measurement of something that was previously measured. Dr. Macdonald replied those data correspond to one sigma and those data come from a report by Eason. Dr. Budnitz remarked he also does not understand the data plotted for Capsules S, Y and V, as Y has a fluence of about one and V has a fluence of about 1.4 and he observed regarding the data from Palisades he does not understand how the fluence is that uncertain in that it goes from about one is in the middle to from about .6 to about 1.4. Dr. Budnitz observed that is a huge percentage of uncertainty and the uncertainties in the fluence from the data should not be that large. Dr. Budnitz remarked concerning data shown on the ordinate on the graph he questioned the measurement of uncertainty for Capsule Y where the uncertainty goes from 50 to 100. Dr. Macdonald replied Table 4.1 from the report by Eason used the standard deviation of these data, a 400+ database of reactor data, used that standard deviation in their table and he referred Dr Budnitz to that table by Eason et al. Dr. Budnitz stated that some defense, documentation, argument or technical basis needs to be provided for those uncertainties if they are to be interpreted in terms of trying to compare the screening criteria with Dr. Macdonald's position and until that is done, which he stated perhaps Dr. Macdonald can do by a write up provided to the DCISC, but absent further information Dr. Budnitz stated the information provided by Dr. Macdonald on the graph in question is uninterpretable to Dr. Budnitz. Dr. Macdonald agreed that obviously he misdrew the vertical error bar and the horizontal error bar at the first point and the generic point. Dr. Budnitz remarked if one does not use error bars at all and doesn't pretend to, that is not a cardinal sin, it is simply an omission. But if one puts them in and says what they are and they're wrong, that's a cardinal sin, as opposed to not pretending to have them. He commented as a physicist he understands how error bars are generated based on data and models and some, frankly, by staring at one's naval and that's not wrong, but they just have to have some defense and without them, the curve on the graph provided by Dr. Macdonald, which is the fundamental basis for his argument, doesn't hold water. Dr Macdonald stated he disagreed completely with Dr. Budnitz' statement.

Drs. Lam and Peterson thanked Dr. Macdonald for his presentation.

Dr. Kadak remarked since the DCISC only received Dr. Macdonald's report less than one week ago there has been very limited time for review and Dr. Kirk has not had time to review the details of Dr. Macdonald's analysis, but Dr. Kadak stated he would provide some preliminary observations. Dr. Kadak observed Dr. Macdonald challenges the Nuclear Regulatory Commission, the American Society of Mechanical Engineers, and the American Society of Testing and Materials in terms of the methods that these bodies use to assess embrittlement. Dr. Macdonald has developed his Extent of Embrittlement algorithm that Dr. Kirk has reviewed and found that Dr. Macdonald's algorithm produces more uncertainty than the NRC's approach. Dr. Kadak stated Dr. Kirk remarked another issue is the licensing basis for Diablo Canyon is based on the ASTM E-185-70 standard which requires only three capsules. Dr. Kadak stated Dr. Macdonald's previous work on hydrogen induced cracking has been addressed in Belgium and in the U.S. by independent experts and found not to be a credible source of flaw growth, which

addresses the inspection interval allegation. He observed uncertainties are considered in the adjusted reference temperature calculations. Dr. Kadak noted that Dr. Macdonald has put one data point way above the other point. Dr. Kadak remarked he was surprised that Dr. Macdonald is suggesting that Dr. Kirk cherry picked the Palisades data because the Palisades data Dr. Kadak reviewed was correlated to the Diablo Canyon weld wires and as Dr. Macdonald knows Dr. Kirk also worked on Palisades embrittlement issues so Dr. Kirk would know whether that data point that Dr. Macdonald added is relevant to Diablo Canyon. Dr. Kadak remarked in terms of uncertainties, as Dr. Macdonald knows, the equation which defines the adjusted reference temperature, if one looks at the square root term, those are adjustments made to handle uncertainties in all of the numbers, including standard deviation as discussed by Dr. Budnitz. Dr. Kadak stated if one looks at the USE energy according to the NRC's approach, those are the curves under which the NRC licensed DCCP. Dr. Kadak suggested that Dr. Macdonald should address his concerns with the NRC concerning how the NRC does the analysis for embrittlement, and to the appropriate code committees of ASME and ASTM. Dr. Kadak stated he would now like to make a final recommendation for the DCISC for this discussion, that being the Committee should consider endorsing Part 1 and Part 2 of Dr. Kirk's report and the conclusions set forth in Dr. Kirk's report on the condition of the Unit 1 reactor pressure vessel as safe for continued operation.

Dr. Lam thanked Dr. Kadak and stated he would like to now entertain comments from the Committee.

Dr. Budnitz stated he wanted to make the point that Dr. Macdonald's comments must be linked to his data and those data about the vessel are what must drive the Committee's understanding. He stated the curve Dr. Macdonald provided with those data was not sensible, and therefore Dr. Macdonald's argument using those data does not make sense to Dr. Budnitz. So in order for the data to make sense Dr. Budnitz would have to have confidence that the data themselves have been properly interpreted, plotted correctly, and have the uncertainties that Dr. Macdonald claims about them explained including the source of the uncertainty, the magnitude, the different kinds of uncertainty, and whether the uncertainties are correlated. He observed if one has two different uncertainties and they are 100% correlated then they don't add much. On the other hand, if they are totally uncorrelated then they have a different character. Dr. Budnitz remarked that until those uncertainties and the data themselves are properly dealt with in Dr. Macdonald's argument, the best he can say is he remains to be convinced because it is only the data that speaks and all these other arguments are the context, the context for the data and Dr. Budnitz stated he knows enough about the context, but what he does not know is whether the data are plotted properly.

Dr. Lam shared his observations that the fact that Dr. Macdonald's theory does not comport with orthodox NRC methodology does not automatically make it not meritorious and the merits of Dr. Macdonald's theory and practice need to be examined in more detail. Dr. Lam acknowledged as the NRC has done it for so long in their own way, that certainly is one way. But now in front of the Committee Dr. Macdonald is saying, well, maybe there are better ways, and maybe the better way would forecast a very different outcome and Dr. Lam observed that to him that is of critical importance.

Mr. Kadak observed that Dr. Kirk in Part 1 of his report looked at Dr. Macdonald's Extent of Embrittlement calculation and compared it to the NRC approach. He remarked that given the uncertainties in terms of fracture toughness and other assumptions one must make Dr. Kirk found that the uncertainty in Dr. Macdonald's Extent of Embrittlement approach was larger than that associated with the traditional methods used by the NRC, the ASME and the ASTM to evaluate embrittlement, all of whom have weighed in on how to do these calculations, how to do the inspection in intervals and what types of inspections are done. Dr. Lam acknowledge this was true but he stated nonetheless, the Committee now has heard Dr. Macdonald is saying the orthodox way of doing business may not be the correct one.

Dr. Peterson stated he wanted to discuss his thinking about this set of problems and also to refer also back to the original study that the Committee did on PTS in 2009. He observed the key element with PTS scenarios is that they involve a number of different things which have to be true in order to lead to damage in fuel. One of them is the question of embrittlement and today's discussion was good. Dr. Peterson stated his belief that the methods used by the NRC to assess embrittlement have some significant intrinsic conservatism, so his primary thinking on embrittlement is the important point is to be in compliance with the current NRC requirements, but he observed this is a topic the Committee will probably have to return to as obviously there will be new information including with the inspection of Capsule B in the future.

However, Dr. Peterson observed there are a number of additional things that are required for fuel damage to occur due to this postulated mechanism, with the first being that you have to have an initiating event that will inject a large amount of cold water into the reactor vessel while the vessel is pressurized. Dr. Peterson remarked there are a number of things that are done that make that event unlikely to occur, and certainly very unlikely to occur between now and the next DCISC meeting in October 2024 when this topic is likely to be discussed again. But Dr. Peterson noted there is a set of conservatisms with that initiating event and with the behavior of the cold water when it is injected including the way it would flow and how buoyant it would be because it's injected into the cold leg, it flows across the bottom of the cold leg²⁷ and then down the downcomer. He reported the thermal analysis that is used to project how rapid the cooling would be has large amounts of conservatisms built into it as well and so the question of whether you could actually cool through the thickness and bulk in order to generate the necessary tensile stresses to cause the vessel to fail is another area where there is significant conservatism in the overall assumptions about how this scenario could propagate. There is also a set of questions around what is the size of the pre-existing flaws that could exist, and the assumptions that are made in the analysis are highly conservative in that area as well, and unless one does the additional analysis the answer doesn't have sufficient conservatism.

Dr. Peterson remarked the size of pre-existing flaws could be validated through things such as the ultrasonic testing and there is a whole set of actions which really do need to be done in 1R25. Dr. Peterson observed one then has the question of whether those stresses are sufficient to actually cause the vessel to crack, and if so then what would happen. Dr. Peterson stated that

²⁷ The piping between the RPV and the steam generators is called the "hot leg." The piping from the steam generators to the reactor coolant pump and back to the RPV is called the "cold leg."

the short answer is that we deterministically assume that a plant would experience core damage at that point, but nuclear power plants also have a low pressure injection system that is capable of pumping massive quantities of water into the reactor vessel, and so there is a question whether the plant will actually end up with fuel damage even if the vessel has cracked. Dr. Peterson stated that has not been analyzed but it represents yet another area of conservatism in addition to those he identified. Dr. Peterson remarked given the set of things, all of which have to happen to lead to a significant consequence from the PTS scenarios, one can deal with the uncertainty in each of them, and this has been done through applying large amounts of conservatism, but that does not mean that it is not important to understand the state of embrittlement and to use the data as best one can. However, Dr. Peterson commented embrittlement is just one piece of the overall problem in assessing the risk of this type of accident transient and whether it actually creates a significant risk that we could see a transient for where damage could occur to fuel in Unit 1.

Dr. Budnitz remarked he understands the extra conservatisms and he was involved in the original thinking in the early days when this issue came up, and 10 CFR Part 61 was being debated before it was developed. But Dr. Budnitz stated that without invoking the fact that the NRC's criteria have those extra conservatisms, Dr. Macdonald's argument regarding embrittlement on its own doesn't seem like it has sufficient strength to support the recommendation that the plant ought to be immediately shut down. He stated he believes it is meritorious to continue an investigations and to see if the data that Dr. Macdonald presented when properly dealt with do or don't provide additional insight. Dr. Budnitz confirmed that if he believed the plant warranted immediate shut down he would promptly and vigorously raise the matter with the NRC.

XVI PUBLIC COMMENTS AND COMMUNICATIONS

The Chair then called for public comment and announced members of the public would be provided four minutes each to address remarks on this agenda item to the committee.

Dr. Gene Nelson of Californians for Green Nuclear Power was recognized. Dr. Nelson remarked he has been a strong critic of Dr. Macdonald in the past regarding the issue of embrittlement. He observed Dr. Macdonald provided his report very soon before this public meeting and the data Dr. Macdonald claims support his hypothesis was hard to comprehend and relies on tests which do not have wide consensus. Dr. Nelson stated he was upset as he perceives Dr. Macdonald was trying to force-feed his data and the Committee very properly took the position by asking Dr. Macdonald to more clearly explain his data.

Mr. John Geesman representing the Alliance for Nuclear Responsibility was recognized. Mr. Geesman stated his client has chosen not to engage on the substance of this issue and takes no position on the merits of the question. Mr. Geesman commented, however, and advised Dr. Peterson to consider the recusal standards for a financial conflict in his consideration of this matter. He observed Dr. Peterson stated in his remarks he believes the NRC standards are central to Dr. Peterson's view of the matter and Mr. Geesman observed that Dr. Peterson's position as Chief Technology Officer²⁸ for Kairos Power creates a financial conflict of interest in that a

²⁸ Dr. Peterson is a Co-Founder & Chief Nuclear Officer of Kairos Power.

reasonable person could conclude Dr. Peterson could not render an unbiased decisions that directly challenged the NRC approach or methodology on the central question. He recommended that the Committee take a very well-considered approach to the matter.

Ms. Sherry Lewis of San Luis Obispo Mothers for Peace was recognized. Ms. Lewis stated her opinion that to verify some of Dr. Macdonald's points it would be good to perform testing on the fragments from prior Charpy testing. She commented she had difficulty understanding Dr. Macdonald's remarks due to the sound quality but she liked very much the points raised by Dr. Budnitz. Ms. Lewis requested that the Committee at this time not endorse Dr. Kirk's report as the Committee has it had just received Dr. Macdonald's comments and Dr. Macdonald is a well-known material scientist whose views should be listened to.

Ms. Linda Seeley of Mothers for Peace was recognized. Ms. Seeley remarked she was confused by the conversation between Dr. Budnitz and Dr. Macdonald and she hopes that the conversation will continue. She expressed her hope that the Committee would not make a decision tonight about endorsing Dr. Kirk's report. She commented testing of the small remnants of Charpy samples might provide more data points and she stated her impression was there are not enough data points for a solid analysis of the Unit 1 RPV welds. She stated the DCISC has significant influence with the CPUC and she encouraged the DCISC to be patient and to ensure the safety of the Central Coast. Dr. Kadak replied and stated that in Dr. Kirk's report he performed a supplementary analysis which used hundreds of data points from other reactors with welds similar to those used for the DCPD U 1 RPV and in that analyses Dr. Kirk demonstrated that upper-shelf energy (USE) could be lower than the typical NRC required standard. So, Dr. Kadak observed, there are not just five data points but he NRC curves displayed are based on the history of other reactors over fifty years that have been tested and the DCPD data is matched to industry data to see how closely they match. Consultant McWhorter stated that the NRC process is based on Code Cases and Standards that have been prepared by professional organizations including ASTM and others using experts and committees to look at the different ways of analyzing the problem and in coming to a consensus. Mr. McWhorter observed that to take an entirely new and untested methodology and introduce it into the problem can create problems in that it might show the reactor vessel is worse off than one otherwise believed or it might create a false sense of security, that is, the untested methodology could result creation of a non conservative situation.

The Chair then recognized Mr. Bruce Severance.

Mr. Severance thanked the Committee for the opportunity to speak but stated he did not believe the time limit gave him the opportunity to respond to what he feels are misrepresentations concerning what he has stated in the documents he has submitted to the DCISC and he does not feel it is fair that he is not going to have time to respond to misrepresentations. However, he remarked first of all the DCISC is empowered by SB846 to make somewhat executive decisions regarding its recommendations and those are going to be taken very seriously by the State of California, so if the DCISC endorses Dr. Kirk's report, it is

basically a green light to go to 2030. He stated the preamble to SB846 provides that the DCISC make its findings and recommendations for improved safety to certain public entities so the Committee's opinions here do really matter. He observed it is not up to the NRC, it is up to the Committee.

Mr. Severance reported he had an amicable conversation with Dr. Kirk some months ago, and Dr. Kirk stated mini-CT²⁹ testing is recognized by the NRC recognizes as a very reliable method for retesting already fractured samples, but Dr. Kirk expressed that there are issues with nanoindentation testing. Mr. Severance remarked his argument is if the cost was \$1 million or some other approximate amount to retest both reactors, which is one one-thousandth of the amount that the State of California is investing in extended operation and he believes that to be a good investment to ensure this [Unit 1 RPV integrity] is not a financial risk for ratepayers and for the State of California. He stated, SB846 calls for clear safety measures and PG&E has deemed its own test data non-credible as per the equations in RG 1.99.

Mr. McWhorter commented Committee representatives have held a conversation with Mr. Severance before regarding the NRC use of the term "credible" and it is acknowledged that the classifications of data as "credible" and "non-credible" is an unfortunate use of those terms. Mr. Severance objected to being interrupted and claimed he understands about credibility. Mr. Severance stated if one reads 10 CFR 50.61 it calls for consideration of all data and all surveillance reports which he stated Dr. Kirk selectively interprets as historical reports. He cited the 2006 report that predicted that Diablo Canyon would be within 3% of maximum screen limits by November of this year as a report that the Committee determined should not be considered, but he contrasted Dr. Kirk's automatically integrating Palisades and Diablo Canyon data without considering the requirements in 10 CFR Part 50 Appendix H. He remarked Dr. Macdonald brought raised this question but nobody seems to be paying attention to this detail. Mr. Severance stated the bottom line is Dr. Kirk makes the argument that sister plants are any two plants that share limiting materials, but that definition does not appear anywhere in the regulations and Dr. Kirk claims that because DCPD and Palisades are sister plants they are exempt from Appendix H. Mr. Severance stated that there is nothing in 10 CFR 50.61 or Appendix H that states the definitions Dr. Kirk is using to give an exemption. Mr. Severance asked that the Committee investigate as there is nothing in the regulations. Mr. Severance claimed Dr. Kirk is misrepresenting what the regulations actually say and he remarked this may be a common practice at the NRC. but he does not see if one uses Equation 5 from 10 CFR 50 to specifically reduce the chemistry factors that are supposed to be there to address the uncertainties around chemical impurities in the welds, there's nothing in the regulations that say you're supposed to automatically use Equation 5 to integrate the data from two plants that have not been properly qualified as integrated surveillance participating plants. He comments this is clearly defined in 10 CFR Part 50, so Mr. Severance stated he does not agree that this integration is according to NRC procedures and he claims that doing so is gaslighting.³⁰

²⁹ CT scan means a computed tomography scan.

³⁰ Gaslighting means to manipulate someone using psychological methods into questioning their own powers of reasoning.

Dr. Budnitz stated he understood the point made by Mr. Severance which Mr. Severance has made before, but he does not find it to be compelling because the NRC's regulations don't compel Dr. Budnitz, although he understands them in detail, to make his decision based on the NRC regulations. Dr. Budnitz observed the reason for this is because the regulations were put in place for decisions of a different character and the rationale when they were adopted does not perfectly fit the instant case. So, although the technical guidance therein and whether or not the plant meets them is important input information, it is not determinative.

Dr. Budnitz stated he basis his statement on the first near-PTS event which occurred in 1979 at the Rancho Seco Nuclear Generating Station near Sacramento, California, which did not result in a PTS event but did result in a cold water injection that alarmed the nuclear industry. Dr. Budnitz reported at that time he was serving as the Deputy Director of the Office of Research at the NRC and a few month later he was appointed the Director of the Office of Research. A few months later there was another near miss at another plant in the south and about a month after that a research program was initiated under the NRC at Oak Ridge, Tennessee, and the program later branched out to several other locations to understand the phenomenon. Dr. Budnitz was the Director of Research when these programs were authorized and although he left his position at the NRC before the program was completed several years later Dr. Budnitz stated he has followed the program and thoroughly understand the basis for 10 CFR Part 61 which he described as a terrific regulation, although conservative. That is, Dr. Budnitz stated if a plant meets 10 CFR Part 61 it means it has a lot of margin, but Dr. Budnitz stated Part 61 has other parameters that are not contemplated by or relevant to the situation under consideration by the Committee. In particular, if the data are there, and Dr Budnitz stated that in this case they are, and they were measured properly Dr. Budnitz stated he would review the data whether or not it is considered credible or not credible. Dr. Budnitz agreed with Dr. Lam that the points raised by Mr. Severance are worthy of further inquiry but Dr., Budnitz stated they are not determinative.

Mr. Severance remarked that if funds might be found to verify the embrittlement, because prior data have been deemed non-credible or outside of standard deviations and he stated his belief that integration with Palisades is questionable, he would be perfectly happy with DCPD running for another twenty years if new mini-CT data were available that gave a very clear indication that the 2011 report is correct. He stated considering requiring ten cents out of every hundred dollars spent by the State of California toward this additional safety measure is not very much to ask. Dr. Lam requested that Mr. Severance submit his additional remarks in writing to the Committee, to which Mr. Severance replied he has already submitted the information he discussed.

Dr. Budnitz inquired whether Dr Macdonald wished to address further remarks to the Committee.

Before Dr. Macdonald made his comments Dr. Budnitz stated he would listen to an argument that Dr. Macdonald may want to bring based on data that would support Dr. Macdonald's position, but the notion that the data support an immediate shut down of that plant does not convince him and Dr. Budnitz stated he would not endorse that position unless and until he heard an argument that does convince him and accordingly there is time for Dr. Macdonald to make it.

Dr. Macdonald was again recognized and he stated what he tried to show is that the original definition of the reference temperature which was made completely arbitrarily by ASME leads to a ridiculous result and that leads to a negative shift in RT_{NDT} . He remarked there is no way of getting around that data. Dr. Macdonald stated his second point was the Extent of Embrittlement methodology is a very useful concept because it describes how little embrittlement in terms of the area of brittle fracture facets on the fracture surface are necessary in order to get a brittle response. He stated, as one of his graphs showed, just the 10% change spans essentially the whole range of fluence up to the end of the initial operating period. Dr. Macdonald stated his third point was that one would do well to adopt using mini compact toughness specimens in order to measure the fracture toughness directly. He observed that can be done partly using the remnants of Charpy specimens that have already been tested or one could get data by testing the WOLs [weld of limitation?] even though these capsules contain WOLs, he stated he has never seen a good presentation on what the actual data looks like from the WOLs. Presumably the crack arrests at some suitably low K_{Ic} value, but he stated he has never actually seen what that is.

Dr. Macdonald observed as far as his graph where he showed the error bars, he will correct the error bars. There is a problem with the error bars on the horizontal axis, but for the error bars, the one sigma values that come from the report by Eason from Table 4.1, he described the data as pretty solid. So nonetheless Dr. Macdonald stated he would like an opportunity to submit a corrected version of that graph and he committed to getting started on that corrected version right away.

Mr. Lam inquired if Dr. Macdonald has considered participating in a formal adjudicatory proceeding in front of the NRC in which discovery and direct examination and cross-examination by opposing counsel is allowed in order to get at the truth. Dr. Macdonald replied he would willingly participate in any such proceedings the Committee felt would be useful to correct the record. Dr. Macdonald commented the reason his report was provided a few days prior to this DCISC public meeting was due to his having been hospitalized extensively over the period of the last several months. On behalf of the DCISC, Dr. Budnitz wished Dr. Macdonald well for the full recovery of his health.

Consultant Wardell was recognized and Mr. Wardell stated the NRC's process for approving a reactor vessel's embrittlement is based on a lot of good science, a lot of good data, from the Society of the American Society of Mechanical Engineers, the ASME, and the ASTM, American Society for Testing and Materials, and is accordingly well founded. Mr. Wardell reported PG&E has looked at the Unit 1 reactor vessel, looked at the data, and PG&E has submitted its data to the NRC and the NRC has said the data is worthy to demonstrate not just that the vessel is safe now but that the vessel is good for 60 years of operation, that is, twenty more years from now. Mr. Wardell observed the NRC, independently with its experts and the data from ASME and PG&E, has also said the Unit 1 reactor vessel is good for 60 years and the Committee has looked at the data and hired Dr. Kirk because of his extensive educational background in mechanical engineering and materials, the work he has done for Westinghouse to help Westinghouse develop their processes for determining reactor vessel embrittlement, and for his work with the NRC where he helped develop their process and the equations used by the

NRC for assessment of embrittlement. Dr. Kirk has been working with the DCISC as an independent consultant doing what the Committee asked him to do. Mr. Wardell commented Dr. Kirk is the expert the Committee engaged to make this determination and he found that the proper NRC procedures were followed and that the reactor vessel is good for 60 years, that is, twenty years from now. Mr. Wardell observed Dr. Kirk at the Committee's request also did an independent review analysis, independent of NRC's process, which also determined that the reactor vessel in Unit 1 is good for 60 years.

Regarding the testing, Mr. Wardell observed there has been testing done on three capsules and Diablo Canyon is a three capsule plant. Those capsules have been removed from Unit 1 and tested. Capsule B is the fourth one and if and when it is tested, which need not occur until 2028 or 2030, it is not a factor in developing what the condition of the reactor vessel is now as Capsule B will determine that acceptability of embrittlement for either 80 or 100 years total operations. Mr. Wardell stated that in his opinion Capsule B is not going to be much help right now, or for 20 more years of operations. It will be for 80 or 100 years if operations go that long which he said he doubts. Mr. Wardell remarked the DCISC has three Technical Consultants on the Committee here tonight and each has reviewed all the data and reviewed what PG&E has done and what the NRC has said and engaged in extensive conversations with Dr. Kirk, who Mr. Wardell considers an expert in this area. This review has convinced him that all three have the basis and the right evaluation and the right conclusions that the Unit 1 reactor vessel is good for at least 60 years, which is 20 more years from now. Therefore, Mr. Wardell stated he is comfortable with the Committee endorsing Dr. Kirk's report and the conclusions that the Unit 1 vessel is good for 60 years of operation, that is, 20 more years from now.

During Mr. Wardell's remarks, Dr. Macdonald interjected and commented that he was not questioning Dr. Kirk's credentials in any way, but what Dr. Macdonald is saying is that we don't have enough data on this particular pressure vessel. We've got no referent temperature data since 2003. Capsule B, which was supposed to be the fourth capsule in a four capsule surveillance program that was the agreement between NRC and PG&E that it would be pulled sixteen years ago and for one reason or another, and one can speculate on motives, Capsule B has never been pulled and furthermore Dr. Macdonald said he would not hold his breath for it being pulled next year either.

The Chair stated Dr. Macdonald has now heard Dr. Budnitz' personal view and also Mr. Ferman Wardell's personal view and he wanted to share that the Committee collegial body and majority rules, but Dr. Lam observed the Committee does not have a motion before it to endorse Dr. Kirk's report. Dr. Kadak summarized the situation and reminded the Members there is a 2011 document produced by Westinghouse that updated all the data and analyses including fluence information that Dr. Kirk used to update his embrittlement estimate. In addition, two weld specimens from the Palisades reactor have been added to the dataset and Dr. Kirk's analyses demonstrates the Unit 1 RPV is safe from embrittlement for operation for 60 years. Dr. Kadak remarked the debate seems to be over whether the use of sister plant data was appropriate and over the history that led to the 2011 Westinghouse document. Dr. Kadak observed that the history is really of no moment as Dr. Kirk used the current dataset in his analyses. Dr. Kadak stated he reviewed the Integrated Surveillance Program requirement cited by Mr. Severance and

Dr. Kadak was able to determine DCPD was never part of that program but the program allows the use of sister plant data in evaluating embrittlement.

Dr. Lam stated in his opinion the Committee has the obligation and the duty to consider all relevant information brought to it.

Ms. Linda Seeley was recognized and she commented concerning Dr. Macdonald's participation in an adjudicatory proceeding, as suggested by Dr. Lam, that San Luis Obispo Mothers for Peace has petitioned the NRC over the status of the Unit 1 RPV. Mr. Rathie and Dr. Budnitz confirmed the Committee is aware of the petition and is following the matter.

Dr. Peterson remarked the Committee will revisit this matter at upcoming public meetings.

Ms. Laurie Wolf, a member of the Alliance for Nuclear Responsibility, was recognized. Ms. Wolf observed that over the years she has attended DCISC public meetings she has found them to be a safe space for persons with divergent viewpoints and a suitable forum to present and receive information. She remarked that tonight she did not find the public meeting to be a safe space and she felt uncomfortable due to what she characterized as rude behavior and personal attacks.

Dr. Gene Nelson of Californians for Green Nuclear Power was recognized. Dr. Nelson observed the Committee had during the meeting allowed individuals to exceed the four minute time limit and to address the Members multiple times. Dr. Nelson stated he strongly agreed with Consultant Wardell's comments because those comments were focused on the data. He commented speakers representing other groups have what he termed an ideological axe to grind and their strategy is to keep the matter running for as long as possible. He observed the Unit 1 RPV is on the order of eight to ten inches thick, made of high quality steel with an inner liner. He stated his opinion the NRC operates very conservatively and the NRC has clearly stated DCPD is not at risk under any plausible scenario. He urged the Committee to focus on the reality not the fear.

The Chair then closed public comment.

Dr. Budnitz remarked he was not interested in more reports or comments which repeat the same positions which have already been provided to the Committee, but if there is new information or analyses he welcomes it. He stated what he has seen to date does not convince him the DCPD needs to be immediately shut down. Mr. Rathie confirmed that the Committee took action at its February public meeting to accept Dr. Kirk's report into its official record and Dr. Budnitz stated because of its merit, in his view the report by Dr. Kirk currently represents his position as a Member of the DCISC and Dr. Budnitz recommended to his colleagues that the Committee endorse Dr. Kirk's conclusions but remain open to sound arguments based on data. He commented that every position the Committee might take on any technical issue always remains open to receipt of new information.

Dr. Peterson commented the Committee may want to think through how it discusses these types of issues, but his conclusion follows that expressed by Dr. Budnitz, that is, the evidence the

Committee currently has does not support an immediate reaction related to the Unit 1 reactor pressure vessel and it is his conclusion that Dr. Kirk's report supports that the vessel is in compliance with NRC requirements around embrittlement and there are additional areas of conservatism he discussed earlier which further reduce the probability that there would be an event that could lead to core damage due to pressurized thermal shock. Dr. Peterson observed a key point is that the Committee has received new information from Dr. Macdonald for which Dr. Kirk has not had sufficient opportunity to review. Dr. Peterson commented he has questions over the use of linear extrapolation and the error bars and accordingly this topic needs to be treated as an open item and covered again, particularly when Capsule B is removed during 1R25 and studied. He stated he is prepared to move forward to endorse Dr. Kirk's report with the caveat that the Committee needs to subsequently examine and identify new information that might change the report's conclusions, including review of material provided by Dr. Macdonald. Mr. Rathie commented for the record that the Committee is discussing endorsing the specific conclusions contained in Dr. Kirk's report on pages 3 through 5.

Dr. Lam commented he is keenly sensitive to the statements and information provided by the Technical Consultants and from Drs. Peterson and Budnitz but he is not at this point persuaded to endorse Dr. Kirk's report because there are unresolved opinions now before the Committee from Dr. Macdonald and Mr. Severance.

Dr. Budnitz stated he would support a motion that the Committee accept and endorse Dr. Kirk's report and that its conclusions represent the Committee's position at this time. Mr. Rathie remarked this is the last public meeting before the end of the current Annual Report period and this issue has been debated at great length in the past. He observed the Annual Report is the primary method by which the Committee speaks to the CPUC, the entities appointing its members and to the California Legislature. He observed there will be a chance to make specific conclusions in the Annual Report when the 34th Annual Report comes before the Committee for approval at the October 9-10, 2024 public meeting.

Dr. Peterson observed that as it appears the Committee Members lack unanimity on the matter of an endorsement of Dr. Kirk's Report and new late information was provided, which was perfectly justifiable given Dr. Macdonald's health consideration, he is willing to defer the matter of an endorsement of Dr. Kirk's report to the October 2024 public meeting when the Committee will again turn its attention to this topic. Dr. Budnitz observed there is no operational significance to an endorsement of Dr. Kirk's report as the conclusions do not suggest a change to the operation of DCCP and accordingly if he could persuade his colleagues he would endorse the report.

Mr. Wardell reported he has added a category to the Committee's Open Item List entitled "Reactor Unit 1 Vessel Embrittlement" and the item now includes three actions. Dr. Budnitz remarked the Committee in scheduling its future fact-finding visits will need to review the subject matter of the fact-findings in light of this discussion. **Dr. Kadak stated his understanding that the action by the Committee is to now ask Dr. Macdonald to provide his revised data and Dr. Budnitz agreed and added the Dr. Macdonald should also provide additional support for his argument on the benefits of the additional testing Dr. Macdonald recommends.**

XVII ADJOURN EVENING MEETING

The Chair adjourned the evening session of the DCISC at 7:30 p.m.

XVIII RECONVENE FOR MORNING MEETING

The morning meeting of the DCISC was convened by the Chair at 9:00 a.m.

XIX COMMITTEE MEMBER COMMENTS

There were no comments by any member at this time.

XX PUBLIC COMMENTS AND COMMUNICATIONS

Dr. Lam invited members of the public to address the Committee on matters not on the agenda for this meeting.

Dr. Gene Nelson of Californians for Green Nuclear Power was recognized. He provided and read from a written statement to the Committee. Dr. Nelson stated that last evening he had the unfortunate role of attempting to be part of a balanced and fair discussion of adopting the conclusions in Dr. Kirk's report. He requested Dr. Kirk attempt to arrange his schedule so that he might be present in person when the issue is taken up again by the Committee. Dr. Nelson described the discussion last evening as the worst managed in the seventeen years he has attended DCISC public meeting with opponents of DCPD including Dr. Macdonald being permitted multiple times to interrupt speakers they did not agree with, Mr. Severance continuing a practice of rudely exceeding his allotted time to repeat the same points, and Mr. Geesman making an attempt at character assassination concerning Dr. Peterson. Dr. Nelson stated it was his sense that Dr. Lam had made up his mind before the discussion and Dr. Lam's failure to enforce decorum confirms his hypothesis. He requested that advocates for and opponents of DCPD be treated with equal respect and the public meetings be run with more impartiality than was the case last evening.

XXI ACCEPTANCE OF MINUTES

This item concerned review and acceptance of the Minutes of the Committee's February 21-22, 2024, public meeting conducted in Avila Beach and as a Zoom Webinar. A draft of the February 2024 Minutes was included in the public agenda packet for this meeting. Dr. Peterson remarked that the use of **bold** text in the Minutes is important as it captures and describes some action or commitment on the part of the Committee which is then included on the Committee's Open Items List and the **bold** sentences should be complete statements to ensure the items are properly captured. The Members and Consultants reviewed the Minutes in detail and provided corrections, clarifications and substantive changes to certain sections of the Minutes which will be included in the final version of the February 2024 Minutes. The Members and Technical Consultants conducted a page-by-page review of the February 2024 Minutes and discussed some of the follow-up actions to be taken, provided clarification concerning typographical errors and

the accuracy of certain statements in the Minutes and made editorial comments and changes concerning the draft of the February 2024 Minutes. The February Minutes in their final form will be part of the Committee's 34th Annual Report to be approved at the October 2024 public meeting. On a motion made by Dr. Budnitz, seconded by Dr. Peterson, the Minute of the February 21-22, 2024 public meeting were accepted by a unanimous vote.

Mr. Rathie remarked that in the preparation of the minutes of the Committee's public meetings he is ably and necessarily assisted by Ms. Denise Righetti, Office Administrator for Wellington & Rathie, who prepares a detailed transcript from the audio recording of the public meeting.

Mr. John Geesman on behalf of the Alliance for Nuclear Responsibility was recognized. Mr. Geesman commented the DCISC Minutes are exemplary and confer a tremendous benefit on those who actively following the Committee's proceedings and should serve as a model for other public agencies. Dr. Budnitz remarked the minutes remain invaluable as a source for previous discussion and actions by the Committee. Mr. Rathie thanked Mr. Geesman for his comment,

XXII ACTION ITEMS

A. Nomination and Election of DCISC Chair and Vice-Chair for the July 1, 2024 - June 30, 2025 Term.

On a motion made by Dr. Budnitz, seconded by Dr. Lam, the Committee elected Dr. Peterson to the position of DCISC Chair and then on a motion made by Dr. Peterson, seconded by Dr. Lam, with Dr. Budnitz abstaining, Dr. Budnitz was elected to the position of DCISC Vice-Chair, both to serve terms of office from July 1, 2024 through June 30, 2025.

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 an important tool used by the Committee to set priorities, track and to follow issues, concerns, information requests and activities identified for subsequent action or receipt during fact-finding or public meetings. Mr. Wardell stated he appreciated Consultant McWhorter's assistance with the Open Items List and reported newly added or changed items were shown in *red italics* while items for which follow up is scheduled prior to the June 2024 public meeting were shown in *yellow*, and items which were deleted or changed were shown in ~~strike-out~~ on the version of the Open Items List included with the agenda packet and certain items on the list were identified for closure.

Items discussed or concerning which action was taken included the following³¹:

³¹ Key to some abbreviations used: Fact-finding (FF), Independent Peer Review Panel (IPRP), Integrated Public Alert Warning System (IPAWS), Public Meeting (PM), Quarter (Qtr.), to be determined (TBD) Robert J. Budnitz (RJB), Andrew C. Kadak (ACK), Najmedin Meshkati (MK), Per F. Peterson (PFP), R. Ferman Wardell (RFW), Richard D. McWhorter Jr. (RDM).

Open Items List

<u>Item</u>	<u>Re:</u>	<u>Action Taken/Next Action</u>
CO-13	Operating in different modes	Close
NS-5	Monitor NSOC meetings	Next Action 6/24 the 10/24 Via MStTeams
SE-26	Review U-1 RPV integrity	Move to U-1 RPV Embrittlement
SF-1	Monitor ISFSI operations	Next Action July 22-Oct 18, 2024 7 or 8 or 9/24 FF
SC-14	Monitor IPRP	Next IPRP Mtg and Oct 24 PM
DEC-1	Review decommissioning plans	Change ADK to ACK
DEC-4	Emerg. Preparedness in decommissioning	Change ADK to ACK
DEC-5	LAR Requests for decommissioning	Change ADK to ACK
EO-9	Review SB846 Updated Seismic Assessment	Leave Open
EMB-1	Next Steps U-1 RPV embrittlement	Close
EMB-4	Macdonald responses to DCISC questions	New Item Next Action 10/24 PM
EMB-5	LRA review of U-1 RPV embrittlement	TBD
	Rev. Credible/Not Credible data status for Capsule B outcome	
2/24PM-3	Review Pressurizer safety valve leak	Next Action When Root Cause Evaluation is Available
2/24PM-4	Implementation of FLEX and Procedure CP M-12 Stranded Plan	Next Action PFP FF 8 or 12/24 or 7/24 FF (RJB/RFW)
2/24PM-8	Plans for IPAWS in Emerg. Preparedness	Close to EN-19
2/24PM-11	B. Severance concerns re embrittlement	Move to Embrittlement (EMB)
2/24PM-12	B. Severance Concerns - data gathering	Move to Embrittlement (EMB)
2/24PM-13	Dr. Kirk Complete USE reanalysis	Move to Embrittlement (EMB)\
2/24PM-18	Investigate contents of Capsule A	Close
2/24PM-19	Coordinate NRC/DCISC	Close
	Public meeting schedules	
6/24	Monitor Nuclear Insurer Reviews	TBD/Future FF

DCPP Programs Reviewed Periodically

<u>Item</u>	<u>Last Reviewed</u>	<u>Action Taken/Next Action</u>
Operating Experience	November 2021	Review Soon ¾ Qtr24 FF

The Committee discussed providing the revised Unit 1 RPV Embrittlement section of the Open Items List to all Members individually and to the Consultants collectively prior to the October 2024 public meeting.

XXIII DISCUSSION, DIRECTION AND ACTION, AS APPROPRIATE, BY THE COMMITTEE, CONSULTANTS AND COUNSEL

C. Public Outreach, Site Visits and Other Committee Activities, Scheduling and Confirmation of Future Fact-Finding Visits and Public Meetings.

Mr. Rathie reported this agenda topic is for Members or Consultants to make brief reports on their activities or site visits since the last public meeting and to then turn to future scheduling of public meetings and fact finding visits. He mentioned all Members with the Technical Consultants attended a meeting held entirely remotely of the IPRP on May 30, 2024.

Mr. Rathie mentioned he is making an effort to keep the DCISC website current and all relevant documents for each public meeting, including the legal notice, agenda, agenda packet, informational presentations and the draft fact finding reports are now posted to www.dcisc.org in advance of each public meeting. In response to Dr. Nelson's question about how to get information on a plant tour Mr. Rathie referred Dr. Nelson to the Committee's website under the "Plant Tour" link where contact can be made with DCPD concerning tours of the powerplant. Mr. Rathie thanked DCPD employee Ms. Rachel Dion for her valuable assistance in answering inquiries and meeting requests from the public for plant tours. The Members and Consultants then discussed the possibility of conducting a plant tour with members of the public accompanied by the DCISC Members and Technical Consultants. Dr. Peterson remarked this could provide a valuable opportunity for the new DCISC member to interact with the public **Direction was provided to explore the possibility of conducting a tour with members of the public in conjunction with the October 9-10, 2024 public meeting.**

A short break then followed.

The Members then discussed and confirmed future public meetings of the DCISC including the next scheduled public meeting on October 9-10, 2024, with discussion of possibly having a public tour on the first day if the Control Room Simulator were available, February 19-20, 2025, and June 11-12, 2025 and the Members and Consultants then scheduled a public meeting for October 21-22 or 22-23, 2025.

Fact-finding visits were then confirmed, subject to confirmation by DCPD that the plant can support the visit on the selected dates, and scheduled as follows:³²

[2024] July 31-August 1 PFP/RFW (in conjunction with the next evaluated emergency exercise), August 21-22 MK/RDM; September 24-25 RJB/RFW; November 20-21 RJB/RDM; December 11-12 PFP/RFW; and

[2025] January 21-22 MK/RDM; March 18-19 RJB/RFW; April 8-9 MK/RDM; May 7-8 (PFP/RFW); July 29-30 PFP/RDM; August 12-13 MK/RFW and September 16-17 RJB/RDM.

Mr. McWhorter discussed possibly changing consultant fact-finding assignments with Consultant Wardell to enable the newest member to have a fact finding visit with each Technical

³² Robert J. Budnitz (RJB), Andrew C. Kadak (ACK), Mark Kirk (MK), Peter Lam (PL), Richard D. McWhorter Jr. (RDM), Per F. Peterson (PFP), R. Ferman Wardell (RFW), To be Determined (TBD).

Consultant in attendance. Dr. Nelson was recognized and commented on the importance of a process of continuity for members of the Committee to make for better operation going forward.

B. Documents Provided to the Committee:

The Chair observed the Committee operates in a transparent fashion. Assistant Legal Counsel Rathie reported outgoing and incoming correspondence to and from the Committee is kept on file at the office of its Legal Counsel and that a list of documents received by the DCISC from PG&E since its last public meeting in September 2023 was included in the public agenda packet for this meeting.

XXIV TECHNICAL CONSULTANT REPORT & RECEIVE, APPROVE, AND AUTHORIZE TRANSMITTAL OF A FACT FINDING REPORT TO PG&E (Cont'd.)

B. The Chair requested Consultant Mr. Wardell to provide a report on the April 17-18, 2024, fact-finding visit which he conducted with Mr. Wardell. Mr. Wardell reviewed the topics discussed with PG&E during the April 2024 visit as follows:

➤ As Low As Reasonably Achievable (ALARA) Review Committee Meeting – Consultant Wardell ALARA principles include making every reasonable and practicable effort to maintain exposure to radiation below the applicable limits and the ALARA Review Committee consists of senior management personnel and meets periodically, particularly during outages, to provide formal oversight of the ALARA Program. At the meeting observed by the FFT the Radiation Protection group presented the 2R24 outage goals and reviewed the progress on meeting those goals. He reported the ALARA Review Committee opted to keep the outage goals at the level previously set. The DCISC FFT found the ALARA Review Committee was effective in discussing the outage dose goal and the progress to date.

➤ Reactivity Management Update –Mr. Wardell described the Reactivity Management Program developed to review the fractional change in the neutron population from one neutron generation cycle to the next, or to take measurement of the departure from criticality. He reported the Operations Department has overall responsibility for reactivity management but the Reactivity Management Team is composed of senior personnel to evaluate any event which takes place and to provides performance measures. Mr. Wardell stated reactivity management events to date from the first of this year have been primarily minor and he described them a precursors which he stated are important to monitor to identify developing trends. The FFT concluded the Reactivity Management Program at DCPD has been effective in assuring safe plant operations from a reactivity standpoint.

➤ Meet with NRC Senior Resident Inspector – the FFT met with NRC Senior Resident Inspector Mr. Mahdi Hayes to discuss NRC inspection activities, refueling outage 2R24, the plans for a replacement for the other NRC resident inspector, two are assigned on a rotating basis, Unit 1 reactor pressure vessel embrittlement, on which Mr. Wardell stated the NRC has made its determination but remains interested in the Committee's investigation into this issue. The FFT discussed with the inspector the campaigns planned for moving spent fuel from the

spent fuel pools to the ISFSI. Mr. Wardell reported these meetings continue to be beneficial for both parties and should be continued.

➤ Digital Systems Update – Consultant Wardell reported the FFT reviewed digital systems used for control function of various systems which he stated have been modernized from the former electro-mechanical analog systems. He reported the digital systems are more flexible, reliable and provide enhanced safety while taking some burden off Operations personnel. He reported DCPD did a comprehensive review of digital systems in 2018 and developed a long-term strategy for their implementation and the digital systems have been incorporated into the Cyber Security Program. The FFT concluded the digital systems were in good health and have provided a benefit to DCPD.

➤ Observe Outage Maintenance Activity – Mr. Wardell reported with a Maintenance Manager he visited the Unit 2 Turbine Deck where the Main Turbine and Generator had been disassembled for maintenance during 2R24. He reported on a heavy lift of the feedwater pump casing using the Turbine Building entry crane which he remarked was very carefully, safely, professionally and cautiously done to achieve a successful conclusion.

➤ Outage 2R24 Safety Plan and Outage Status – the DCISC FFT reviewed the Outage Safety Plan used to prevent problems with high risk activities during outages. He reported the Safety Plan is used in Mode 5 and refueling operations.³³ DCPD uses a program known as the Phoenix Program which Mr. Wardell described as a probabilistic risk assessment (PRA) program to evaluate various activities and to assess the change in risk from removing equipment from service. He reported DCPD employs the N+1 defense in depth philosophy which requires one more component above the minimum number required to be available and in service for safety. In response to Dr. Budnitz query Mr. McWhorter responded the Outage Safety Plan uses colors to define differing operational situations with Green indicating almost all equipment is available (i.e., greater than N+1), Yellow indicates a situation where the system's safety function has redundancy (N+1), Orange means the safety function is met but there is no longer any redundancy (N), while Red indicates a condition where the safety function is not met. He stated that DCPD's goal in developing an Outage Safety Plan is to if possible avoid Orange or Red windows and maintain Green or Yellow (N+1) at all times. An Orange window, which Dr. Budnitz stated he cannot remember ever having occurred at DCPD, requires approval from the senior reactor operator on duty and includes all necessary measures to shorten its duration. A Red window is not allowed.

➤ Operations Update and Operational Decisions-Making (ODM) Process – Consultant Wardell reported the FFT talked with Operations Department personnel concerning staffing and concerning the Operational Decision-Making process. He reported Operations is increasing staffing levels by hiring new operators and has commencing new classes for operators and for operators seeking to move up to senior reactor operator licenses. Mr. Wardell reported the Operations Department is fully staffed and looks to remain so. Operations performance

³³ There are six Westinghouse PWR operation Modes: Mode 1 - power operation, Mode 2 - startup, Mode 3 - hot standby, Mode 4 - hot shutdown, Mode 5 - cold shutdown, and Mode 6 - refueling.

indicators are primarily in Green status. The FFT reviewed the Operational Decision-Making Processes which are employed in normal situations for any plant movement or off-normal conditions or transients. These processes are used when the plant is in a stable condition but there is an issue to be dealt with and a decision team is formed and a leader identified to research and identify the problem its scope, the proposed solution and timeliness of that solution. Management approval is then sought and the process is communicated to others in the plant. Following implementation and completion an effectiveness review is performed. Mr. Wardell described it is a structured process and the FFT reviewed four instances where operational decision-making was employed and concluded the process was effective and was being appropriately used.

➤ Emergency Diesel Generator 2-2 Maintenance Outage Window – Mr. Wardell stated Consultant McWhorter reported on this issue in his report made on the previous day. Mr. Wardell reported the FFT found the repair and the NRC enforcement discretion were appropriate and the work was performed at low risk.

➤ Meet with DCPD Officer – the FFT met with PG&E Vice President for Technical and Business Services Ms. Maureen Zawalick to discuss the agenda for the fact finding and other items of mutual interest. Mr. Wardell observed these meetings are beneficial for the DCISC and DCPD participants.

➤ Margin Management Update – Consultant Wardell reported the Margin Management Program was developed as a formal program and is used to ensure the conservatism built into nuclear power plant design which provides those margins is maintained and not lost or degraded. He reported the Operations and Maintenance Departments are responsible for continually reviewing margin management on a system by system basis. He reported the Margin Management Subcommittee periodically reports to the Plant Health Committee. Mr. Wardell discussed the three items on the Margin Management Subcommittee's top issues list including the increase in Pacific Ocean water temperature, improvement to the Turbine control digital systems to improve synchronization with the Generator, and modifications to the main steam safety valve to improve their margins. The FFT concluded the Margin Management Program was well executed and effective in maintaining margins at DCPD.

➤ Reactor Coolant System Boric Acid Indication Root Cause Evaluation – Mr. Wardell reported during 2R24 the in-service inspection engineers found some dry white powder on a two-inch line which comes from the Reactor Coolant System. The powder was from a two-inch socket weld crack and leak which occurred due to normal vibration during operation. Mr. Wardell reported a temporary weld-overlay patch was done in accordance with permitted ASME Piping Code standards and the line will be replaced during 2R24 which was ongoing at the time of the FFT visit.

➤ Intake Cove Dredging Update – Consultant Wardell reported the FFT reviewed the dredging project to remove sand from the Intake Cove. He remarked the Committee previously received an anonymous allegation that this project was illegal, unsafe and improper and the DCISC first reviewed the project at a fact finding in December 2023 when it was found there

were no improprieties associated with the project and it was done in a legal fashion in accordance with all required permits with nuclear safety maintained. Mr. Wardell reported prior to the dredging project that will commence later this month, divers were using fire hoses to clear sand from in front of the Intake Structure which had the potential to threaten the amount of cooling water available to the condensers and the reliability of plant operation. Mr. Wardell reported the DCPD Employee Concerns Program has not received any allegations or input concerning the project. The FFT concluded the sand removal and dredging are appropriate and are being done safely with permits.

Following Mr. Wardell's report, Ms. Sherry Lewis of Mothers for Peace was recognized. Ms. Lewis inquired if relative to the transition to digital controls whether artificial intelligence (AI) aspects were employed. Dr. Peterson responded the use of AI for digital control is unlikely to be something that is done, however, he remarked for the Corrective Action Program wherein huge amounts of data are managed and interrogated there are likely to be opportunities to employ AI. **Dr. Peterson stated the DCISC will be looking into the area of innovation opportunities for the plant that could increase safety including the potential application of AI.** Dr. Budnitz observed there has been discussion in the industry on this fast-moving topic but at this point the general opinion is that AI is not necessary. Dr. Peterson stated it is important to explore opportunities to apply more modern computing in ways that could enhance operational safety and reliability.

Dr. Gene Nelson with Californians for Green Nuclear Power was recognized. Dr. Nelson remarked digital process control does not represent a high level of sophistication or complexity.

Ms. Rochelle Becker was recognized. Ms. Becker stated she wished to repeat a request she said she has made many times of the DCISC, PG&E and the CPUC, that being that the capital letter "N" be added to the acronym "DCPD" to indicate that DCPD is a nuclear power plant. She observed that without the "N" no one would be at the meeting this afternoon. She remarked that Dr. Nelson appeared yesterday to have a problem with his pen and with a persistent cough when Mr. Geesman was speaking and she offered Dr. Nelson some pens and cough drops which Dr. Nelson declined.

On a motion made by Dr. Peterson, seconded by Dr. Budnitz, the April 17-18, 2024 fact Finding Report and Resolution 2024-05 was unanimously approved and its transmittal to PG&E authorized. The April 17-18, 2024 Fact Finding Report will become a part of the DCISC's 34th Annual Report.

XXV ADJOURN MORNING MEETING

The Chair adjourned the morning meeting of the DCISC at 11:45 a.m.

XXVI RECONVENE FOR AFTERNOON MEETING

The afternoon meeting of the DCISC was convened by the Chair at 1:00 p.m.

XXVII COMMITTEE MEMBER COMMENTS

There were no comments by any member at this time.

XXVIII TECHNICAL CONSULTANT REPORT & RECEIVE, APPROVE, AND
AUTHORIZE TRANSMITTAL OF A FACT FINDING REPORT TO PG&E (Cont'd.)

C. The Chair requested Consultant Mr. McWhorter to provide a summary report on the May 8-9, 2024, fact-finding visit with Dr. Peterson. Mr. McWhorter reviewed the topics discussed with PG&E during the May 2024 visit as follows:

➤ Meet with NRC Senior Resident Inspector – Consultant McWhorter reported that along with NRC Senior Resident Inspector Mr. Mahdi Hayes the NRC Region IV Reactor Projects Branch A Chief Ms. Patricia Vossmar attended this meeting. Topics discussed included the present vacancy in the Resident Inspector position expected now to be filled by mid-2024 and the NRC's interest in making a presentation during the DCISC's October 2024 public meeting as part of the NRC's public outreach efforts. Mr. McWhorter reported he would be following up with Mr. Hayes on this matter.

➤ Response to DCISC Recommendation on the Use of Earthquake Response Procedures – Mr. McWhorter reported a previous DCISC fact finding identified that there was no formal process for entering into FLEX³⁴ procedures, which have the capability to help with response to earthquakes, in a situation other than the extended loss of all AC power which he described as the primary original entry point for FLEX procedures. The DCISC FFT previously recommended that plant procedures for earthquake response be reviewed and changes considered to add more references to the use of FLEX procedures. A follow up was conducted at the December 2023 fact finding and the present review was to have a detailed look at the final form of the changed procedures including CP M-4 for use of FLEX communication and staging equipment in critical areas including the spent fuel pools and for damage assessment and CP M-12 "Stranded Plant." **Mr. McWhorter reported DCP is still working on its Stranded Plant Procedures CP M-12 and he recommended a follow up visit at a later date to close out this item.** Dr. Peterson remarked the ability to implement FLEX portable equipment and FLEX training is probably the single most important change in the last decades to address residual risks from beyond design basis events and conditions including from extremely severe earthquakes to ensure significant capability, authority and responsibility lies with the plant staff to take action. Dr. Peterson stated he was pleased the plant acted proactively in this area to update its procedures.

➤ Observe Outage Scope Review Team and Daily Notification Review Team Meeting – Consultant McWhorter reported this was a combined meeting of these two teams held during 2R24. He reported the notification process, which the DCISC reviews regularly, creates an input

³⁴ 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 certain beyond design basis events. It is a group of supplemental components, many of them portable, which are seismically stored, and can be made available for timely attachment to permanent plant systems for accident mitigation.

called a notification into the SAP³⁵ System whenever a deficiency is identified and those notifications then go through multiple reviews, first by the Notification Review Team which reviews all notifications and then later by the Daily Notification Review Team which reviews all notifications specific to plant equipment, focusing on repair and the priority and schedule for repair. During outages he reported the team meetings are combined to allow the synergy of being able to review new emergent issues with equipment at the same time as the decision is being made whether the repairs should be included in the scope of the current outage. Mr. McWhorter reported the teams moved efficiently through 80 equipment-related notifications and determined their disposition and the FFT concluded the meeting was conducted effectively and efficiently.

➤ Human Performance and Plant Status Control – Consultant McWhorter observed these two items are regularly reviewed by the DCISC which review includes of the numbers of the types of human performance events. He reviewed the hierarchy for such events with Station Level Events being the highest, followed by Department Level Events and Organizational Learning Opportunities. Mr. McWhorter reported improvement has been made in these areas over the past few years with no Station Level Events having occurred since April 2021 when hoses inside the Unit 2 Main Generator were incorrectly swapped during reassembly. Since January 2023 there have been six Department Level Events which although they did not technically meet the qualifications for same, management chose to classify them as such to give them high visibility. He reported there were four Department Level Events in 2021 and nine in 2022 and he commented this represented a good trend. Consultant McWhorter reported Plant Status Control is a subset of human performance specific to the Operations and Maintenance organizations and refers to the manipulation of plant equipment. Mr. McWhorter reported performance was good with no level one through four events and all events tracked were level five, that is precursor events, where there was something that could have led to incorrect manipulation of equipment but which were corrected prior to any equipment being mispositioned. The FFT concluded human performance for Plant Status Control was excellent.

➤ Nuclear Insurance Programs – Consultant McWhorter reported this was a new item for DCISC review and he stated there are two categories of nuclear insurance, one being for property protection and a second for radiological protection (i.e., liability coverage). The FFT reviewed only the property insurance element which he reported totaled \$1.5 billion in primary coverages with another \$1.25 billion in secondary coverage. The primary property insurance is provided by the Nuclear Electric Insurance Limited (NEIL), a mutual insurance agency for nuclear power plants. Mr. McWhorter reported NEIL regularly inspects plants and provides risk of loss reports and the FFT had the opportunity to review the report for 2022 which he described as generally positive with a few suggested improvements such as putting splash guards around bolted oil connections to guard against spraying oil on to hot components. **Mr. McWhorter recommended the DCISC review the radiological protection insurance component at a future fact finding and he noted the Price-Anderson Act³⁶ and the federal government**

³⁵SAP is a German multinational software company which has developed enterprise software to manage business operation and is the world's largest enterprise resource planning (ERP) software vendor.

³⁶ The Price-Anderson Act provides a system of financial protection for persons who may be liable and persons who may be injured by a nuclear incident.

provide a backstop to some of the risk of loss for the station. The FFT concluded the property insurance policies were being properly maintained and the inspection by the insurer found no major deficiencies. **Dr. Peterson reported the auditing and reviews performance and inspection by NEIL and American Nuclear Insurers (ANI) focus on topics which relate to operational safety and he recommended a review of these inspections be added to the Open Items List as an ongoing item.** Dr. Peterson observed with NSOC and INPO the insurers' reviews represents another set of entities reviewing activities at the plant relevant to operational safety. In response to Consultant Kadak's query Mr. McWhorter stated NEIL is primarily a U.S. nuclear power plant mutual insurance association to which stations have paid for many years. He reported NEIL has secondary coverage through the European Mutual Association for Nuclear Insurance (EMANI) but he reported EMANI does not conduct facility inspections.

➤ **Meteorological Information and Dose Assessment System (MIDAS) –** Mr. McWhorter reported the MIDAS is a computer program that is used by the Emergency Preparedness organization to process information from the station's radiation monitors as well as its meteorological instruments to predict the airborne path of a plume from a release of radiation. He reported there have been no major software changes since the DCISC's last review and some hardware has been updated to address communication between system terminals. Mr. McWhorter reported there have been some issues in past emergency exercises with dose assessment personnel use of MIDAS and corrective actions were developed which appear to have been effective as personnel performed well during the most recent emergency exercise. The FFT concluded MIDAS is being properly maintained and is being used correctly.

➤ **Cause Evaluation for Auxiliary Saltwater Pump 2-2 Failure –**Consultant McWhorter reported the cause evaluation for oil in the motor bearing due to its actual pre-load not having been correctly set, a repeat of a 2018 event, was not completed at the time of the May 2024 fact-finding due to the need to validate needed procedure and maintenance changes following a pump motor overhaul to be performed this summer. **Consultant McWhorter confirmed the Auxiliary Saltwater Pump 2-2 failure should remain on the Open Items List for review.**

➤ **Learning Services Department –** Mr. McWhorter reported Learning Services is responsible for on site training primarily for Operations, Maintenance, Engineering Technical Services, and supplemental personnel. The FFT reviewed operator training and Mr. McWhorter reported when DCPD was scheduled to close by 2025 many license training instructors were moved into requalification and now with SB846 and extended operation the plant has had to initiate a renewed initial license training class program and has successfully hired instructors to do so. He reported four licensed operator classes and examinations are scheduled to be conducted in the period 2023-2025. DCPD has also had to commence another training program accreditation review which is scheduled for mid-2025. Mr. McWhorter reported the Simulator, a full-scale mock-up of the Unit 1 Control Room, is performing well and the FFT concluded the Learning Services Department was performing well over all and insuring DCPD staff are being appropriately trained.

➤ Inspection and Maintenance Programs for Major Equipment Supports – Consultant McWhorter reported the FFT reviewed the inspection of maintenance programs for major equipment support which he stated was a new topic suggested by Dr. Peterson. The FFT focused on construction and maintenance of supports for major equipment inside Containment including for the reactor pressure vessel, the steam generators, and the reactor coolant pumps. Mr. McWhorter reported the reactor vessel is supported by pads and saddles under each of its eight loops (four hot leg and four cold leg loops), while the steam generators are supported vertically by four articulated legs and laterally by sliding supports and snubbers. Snubbers function as shock absorbers to restrict sudden motion while allowing some motion for thermal growth. He reported visual inspections are done for passive supports and active inspections for active supports are performed under Section 11 of the In-Service Test Program. Dr. Peterson observed the pads which provide passive support are not replaceable and therefore represent a part of the reactor system for which aging management must be considered. Mr. McWhorter reported about 50 of the 500 or more snubbers at the station are tested each outage, either by testing them in place or changing them out and testing the removed snubbers.

➤ Plant Tour – Consultant McWhorter reported the FFT toured inside Containment during 2R24 to inspect the steam generators and reactor coolant pump enclosures and to view the lower level bio-shield entry area. He reported the FFT found the areas inspected to be in good condition and Consultant McWhorter displayed and described photos of the steam generator and reactor vessel structural supports and large and small snubbers located in Containment. Dr. Peterson stated that by supporting the reactor vessel and the steam generators at the same level they are able to grow vertically at the same elevation due to thermal expansion but they stay at the correct height because they are tied together at the elevation of the hot and cold legs.

➤ Refueling Equipment – Consultant McWhorter reported the FFT was joined remotely by DWR personnel during this part of the fact-finding. He reported there are three major equipment components or systems required for refueling the reactor, those being: the Manipulator Crane inside Containment used to move over the vessel and remove the fuel; the Transfer System which uses Up-Enders on each side to take the fuel from a vertical to a horizontal position to move it from Containment to the Spent Fuel Pool; and the Bridge Crane over the Spent Fuel Pool which places the fuel into storage locations in the pool. He reported all three of these components and systems have experienced occasional problems and these problems are often on the outage critical path. Mr. McWhorter reported a detailed briefing was given to the Plant Health Committee in March 2023 concerning past issues and short term strategies were developed to keep the components and systems in good working order through the R24 outages and the systems and components performed well. For the R25 outages several of the components will be replaced and systems upgraded particularly the Transfer System which will have a lot of refurbishment work done to ensure its reliability. Mr. McWhorter reported future modification is also under consideration for the Manipulator Crane. He reported the Bridge Crane was replaced several years ago and there are some modifications needed to the software before the next refueling outages. The FFT concluded the refueling equipment was generally in good health without major problems during the past refueling outages with long-term plans in place for refurbishment and upgrades to the systems and components.

➤ Observe Corrective Action Review Board (CARB) – Consultant McWhorter described this is a regular review of an important organization which provides senior management with the ability to oversee and provide direction as appropriate to the Corrective Action Program. Open notifications and action items are reviewed with a focus on a limited number of items at each meeting. He reported at the meeting observed by the FFT the CARB reviewed the corrective actions and assignments resulting from two cause evaluations and review of the P-9/C-9 Reactor Protection System interlock regarding the turbine trip/reactor trip implemented at 50% power and above, and the drain down of the Reactor Coolant System during 2R24 where issues were experienced in getting clearances in place in a timely manner. The FFT concluded the CARB meeting was effective and there was good participation by all members.

➤ Meet with DCPD Officer – the DCISC representatives met DCPD Site Vice President Mr. Adam Peck.

➤ Equipment Reliability Program – Consultant McWhorter reported this session of the fact-finding visit was also attended remotely by DWR representatives and focused on a regular review of equipment reliability. He reported an INPO industry initiative called IER 21-4 is in progress which concerns the procurement of parts to ensure reliability and to improve the cross-functional organizational understanding in dealing with equipment reliability. The FFT met with the DCPD Engineering Director who described the effort at DCPD as looking ahead for planning and implementing effective upgrades in 1R26 and 2R26 focused on equipment reliability. Mr. McWhorter reported this relates to earlier discussion at this public meeting concerning feedwater heaters and Main Turbine replacement which he described as significant and very complicated projects with an overall impact on reliability. The FFT concluded that the Equipment Reliability Program has been effective as proven over the past two years of reliable operation and with extended operations pending the program's focus on project implementation is appropriate to keep reliability high.

Mr. John Geesman representing the Alliance for Nuclear Responsibility was recognized. Mr. Geesman stated while the Alliance for Nuclear Responsibility has been critical of the DCISC's lack of recommendations to PG&E over the last several years, he commended the Committee for its earthquake response recommendation and detailed follow up on that recommendation as documented in the fact finding report.

Following a comment by Dr. Lam that claims were being collected in connection with the accident at the Fukushima Daiichi plant in Japan, Dr. Gene Nelson representing Californians for Green Nuclear Power recommended that the Committee members review a report circa 1996 entitled Junk Science Meltdown prepared by a person Dr. Nelson identified as a radiation protection professional which specifically looked at the Three Mile Island accident, following which he stated there were very aggressive actions to try to collect on insurance when the consensus was that nobody was harmed ionizing radiation releases from the Three Mile Island plant.

Ms. Linda Seeley of Mothers for Peace was recognized, Ms. Seeley commented she believes the Price-Anderson Act cap is \$14.1 billion and she observed the value of the housing

market in San Luis Obispo County was \$85 billion and agricultural production was valued at \$1.5 billion.

On a motion made by Dr. Budnitz, seconded by Dr. Lam, the May 8-9, 2024 fact Finding Report and Resolution 2024-06 were unanimously approved and transmittal of the Fact Finding Report to PG&E authorized. The May 8-9, 2024 Fact Finding Report will become a part of the DCISC's 34th Annual Report.

XXIX INFORMATION ITEMS PRESENTED BY THE COMMITTEE (Cont'd.)

- B. Receive May 30, 2024 Fact Finding Report Including Input Received from the Independent Peer Review Panel and a Further Update of the DCISC SB846-Mandated Comprehensive Seismic Safety Update of May 5, 2023;
Review PG&E's Diablo Canyon Updated Seismic Assessment of March 6, 2024 - Required by SB846; and Approve March 18-20 and May 30, 2024 Fact-Finding Reports; and Authorize Their Transmittal to PG&E.

Dr. Budnitz reported his presentation would be made in two parts, with the first being a summary of the meeting of the Independent Peer Review Panel (IPRP) for seismic studies of the DCPD site held on May 30, 2024, and the second part being a presentation on a proposed update to the DCISC's Comprehensive Seismic Safety findings and conclusions from May 5, 2023.

Dr. Budnitz mentioned that three members of the IPRP, Drs. Gordon Seitz and Tim Dawson of the California Geological Survey and Dr. Philip Johnson of the California Coastal Commission, were present at this meeting and Dr. Seitz and Dr. Johnson will be making presentations later during the meeting. Dr. Budnitz reported that a set of slides has been received from Dr. Peter Bird who will be making a remote presentation later during this meeting.

Dr. Budnitz stated that in any science or engineering discipline expert peer review is the best way in which to gain high confidence in the quality of difficult work. He remarked peer review does not mean the work is perfect, but rather validates its credibility and excellent quality to the authors and the professional community. Dr. Budnitz reported the 2015 PG&E SSHAC Level 3 Probabilistic Seismic Hazard Seismic (2015 PSHA) had a rigorous peer review component and was governed by the peer review guidance and procedures of the Senior Seismic Hazard Analysis Committee (SSHAC) which Committee was previously chaired by Dr. Budnitz. He reported then in 2018 PG&E performed a Seismic Probabilistic Risk Assessment (2018 SPRA) using probabilistic risk assessment which also had an elaborate peer review done under standards set by the American Society of Mechanical Engineers (ASME) and the American Nuclear Society (ANS). He reported the 2024 Updated Seismic Assessment mandated by SB846 was sponsored and carried out by PG&E and a group of independent experts and consultants. He reported the 2024 Update Seismic Assessment was peer reviewed by the B, John Garrick Institute for the Risk Sciences at University of California at Los Angeles (UCLA) and a second supported by PG&E. Dr. Budnitz stated he believes a high degree of credibility is due to those reports due to the strong peer review.

Dr. Budnitz stated the IPRP consists of a panel of experts, each of whom is a member or employee of a state, or in one case a county, agency and the IPRP's charter is to review and opine on PG&E's programs in the area of seismic safety. The May 30, 2024 IPRP meeting's principal focus was on the SB846 mandated PG&E 2024 Updated Seismic Assessment and presentations were made by Dr. Seitz and Dr. Johnson and others and Dr. Budnitz stated the general tone of the IPRP's comments was that the IPRP thought the 2024 Updated Seismic Assessment represented a good quality report, although there were technical questions identified by the IPRP. Dr. Budnitz reported the IPRP is to document its review and questions in a written report which has not yet been publicly released although a draft of the report was provided to the DCISC for review. During the May 30, 2024 IPRP meeting PG&E also made a presentation on its Long Term Seismic Program (LTSP) which has been ongoing for some 35 years as a DCPD license condition imposed by the NRC. Dr. Budnitz reported the IPRP also received a presentation from Dr. Bird summarizing the technical arguments Dr. Bird has made in three recent declarations on behalf of San Luis Obispo Mothers for Peace which disagrees with PG&E's analyses and asserts PG&E has seriously underestimated the likelihood of a very large earthquake. Dr. Bird also disagreed with the evaluation of his arguments made by PG&E in the 2024 Updated Seismic Assessment. However, Dr. Budnitz reported there was no substantive discussion at the May 30 2024, IPRP meeting of Dr Bird's presentation due to time constraints. In response to Dr. Lam's query Dr. Budnitz confirmed that if Dr. Bird should be found correct in his analyses, the seismic hazard at DCPD would be much more dangerous than is currently understood.

Dr. Budnitz reported in response to SB846 the DCISC was mandated to and did engage in an extensive set of fact-findings that led up to the Committee's May 5, 2023 seismic safety evaluation which was presented and adopted as the Committee's interim position at the June 28-29, 2023, public meeting. Dr. Budnitz stated that if adopted, what he is presenting today and the accompanying Fact Finding Report would supersede the Committee-adopted May 5, 2023 Comprehensive Seismic Safety Update report. Dr Budnitz confirmed he is the principal author of the May 30, 2024, Update to the May 5 2023 Comprehensive Seismic Safety Update Fact Finding Report with contributions by the Committee's Technical Consultants, but in this effort the other two members have not participated in any manner due to the constraints imposed by the Bagley-Keene Open Meeting Act.

Dr. Budnitz stated the May 5, 2023 Comprehensive Seismic Safety Update concluded that the DCISC did not believe there were any important seismic safety upgrades that would be needed for continued operation. Dr. Budnitz reported the 2015 PHSA study and the 2018 SPRA have each been accepted by the NRC for regulatory purposes. He observed the LTSP is part of the conditions for the NRC licenses for DCPD.

Dr. Budnitz stated the issues identified and raised by Dr Bird on behalf of San Luis Obispo Mothers for Peace have introduced new information and alternative interpretations of the overall seismic hazard at DCPD and Dr. Bird has submitted two documents to the NRC, one document to the CPUC, and a letter to the DCISC. Dr. Budnitz reported the NRC staff produced an initial assessment of Dr. Bird's evaluation as part of the NRC's Petition Review Board process and the DCISC continues to closely follow the matter in this context.

Dr. Budnitz reported on other new developments including the 2023 PG&E submittal to the NRC of its License Renewal Application for DCPD for another 20 years' of operation and the continued research performed under the LTSP.

Dr. Budnitz then described what he proposed as DCISC findings including:

- The 2024 Updated Seismic Assessment used the SSHAC Level 1 process that was enhanced and effectively supplemented to include some SSHAC Level 2 processes. He observed a SSHAC Level 1 process is appropriate as an update of the earlier SSHAC Level 3 2015 PHSA. Dr. Budnitz reported a crucial element of the SSHAC process is to carefully and cautiously develop the center, body, and range of technically defensible interpretations in each area and the process includes considerable peer review.
- PG&E continues to review all available new information relative to the seismic hazard as part of its LTSP and has determined although there is important new information, there is nothing in the new information that changes the broader understanding of the previous seismic studies. Dr. Budnitz stated he agreed with this conclusion and that most of the new information reinforces the previous understanding.
- The models used for in-structure energy propagation and seismic fragility of components continue to remain valid and the methodology for analyzing fragilities is well defined, widely used, and very mature. Dr. Budnitz stated he reviewed these matters and agrees there is nothing new that would modify the previous insights of the 2018 SPRA and, in fact, what is new reinforces rather than challenges the prior understanding.
- The 2018 SPRA model is considered valid by DCPD and it has been peer reviewed and reviewed by Dr. Budnitz. He remarked the model is widely used worldwide and there is nothing new with regard to system modeling that would modify the insights of the 2018 SPRA. Dr. Budnitz remarked the DCPD analyses are considered as the "gold standard" for seismic PRAs.
- Concerning the 2024 Updated Seismic Assessment it was found the Hosgri Fault (Hosgri) slip rate is now believed to be slightly higher than previously thought. with the effect being there is a small increase in the annual frequency of large earthquakes, but this difference is much smaller than the overall uncertainty, of 30-50% in the knowledge of the Hosgri slip rate.
- Concerning the 2024 Updated Seismic Assessment none of the small differences found would modify the present understanding of the seismic performance of the plant and Dr. Budnitz stated he agrees with this finding. He reported the 2024 Updated Seismic Assessment includes an entire chapter with what Dr. Budnitz described as a thorough analysis of Dr. Peter Bird's analyses and evaluation, which analyses were subjected to two outside peer reviews, and the 2024 Updated Seismic Assessment did not find there was support for Dr. Bird's claims. Dr. Budnitz reported San Luis Obispo Mothers for Peace have petitioned the NRC and that matter is pending, but the initial NRC assessment did not find the arguments sufficiently strong to merit further review and a Petition Review Board hearing is scheduled for next week which will afford Dr. Bird an opportunity to make a presentation.

- Dr. Budnitz reported there is considerable uncertainty in evaluating the seismic hazard and in-structure responses and while there is no way to reduce these uncertainties the manner in which they are analyzed is well understood and the 2024 Updated Seismic Assessment competently addressed the uncertainties.
- DCPD previously sponsored an independent assessment of the safety of the spent fuel pools performed by the B. John Garrick Institute for the Risk Sciences at UCLA and Dr. Budnitz reported those analyses which determined that the risk was low remain valid and nothing to contradict this has been found in the LRA process.

Dr. Budnitz then presented three recommendations for the future action by the DCISC:

- **The DCISC should review any new seismic-safety-related information from the NRC review of the LRA;**
- **The DCISC should review any future evaluations performed by the NRC, the IPRP, PG&E or other entities in response to Dr. Peter Bird's analyses of seismic hazard; and**
- **The DCISC should review any other seismic-safety information that may emerge in the normal course of events.**

Following Dr. Budnitz' comments the Chair recognized Ms. Linda Seeley of Mothers for Peace. Ms. Seeley observed Dr. Bird's presentation was cut off during the May 30, 2024 IPRP meeting and she requested that he be given ample time to address the DCISC.

Ms. Sherry Lewis was recognized. Ms. Lewis commented it seemed to her that Dr. Budnitz was premature in concluding his analysis of Dr. Bird's information. Dr. Budnitz responded that Dr. Bird's work was submitted about one year ago to the IPRP and has been thoroughly reviewed including by the DCISC, with the exception that Dr. Bird has now submitted and claims that an earthquake on the Noto Peninsula in Japan which occurred in January 2024 supports his position on the local tectonic regime and seismic activity and that issue remains to be reviewed.

The Chair then recognized Dr. Gordon Seitz, an earthquake geologist with the California Geological Survey and a member of the IPRP to address remarks to the Committee. Dr. Budnitz also recognized the presence of Dr. Seitz colleague Dr. Tim Dawson, also with the California Geological Survey and a member of the IPRP.

Drs. Budnitz and Seitz exchanged comments on the effect of increase on the Hosgri and Dr. Budnitz stated his earlier reference was to the ground motion at the site and the annual probability per year that an earthquake will produce ground motion and, to a lesser degree, the impact on the spectrum of an event that is higher than prior understanding. Dr. Seitz concurred with Dr. Budnitz observation that the overall uncertainties in the entire analysis of the safety of the plant are larger than the increase in the uncertainties regarding the Hosgri and therefore the

increase in the Hosgri uncertainty does not affect decision making concerning whether the plant is safe because that decision was based on a higher end uncertainty.

Dr. Seitz reported the IPRP is getting near to completing its review of the 2024 Updated Seismic Assessment and is focused on the changes to the Hosgri since the 2015 PHSA and he characterized the Hosgri as the primary seismic source and stated the IPRP agrees with PG&E that there is now a high degree of confidence in a 2.6 millimeter (mm) per year rate as compared to the prior rate of 1.7 mm per year per the 2015 PHSA.

Dr. Seitz mentioned one of the IPRP's main concerns with the 2024 Updated Seismic Assessment is that some data was not addressed, in particular this data included a fault study on the Casmalia Fault located 20-30 kilometers south of DCP. He reported there were four sites used by PG&E to estimate the slip rate on the Hosgri including locations south of San Simeon, off Estero Bay, southern Estero Bay, and Point South. He reported another study done of the offshore architecture of sediments based on the deformation of different unconformities was not addressed. He stated in this study indicated an increase in the Hosgri slip rate over the last one million years and he stated older determinations for an older age range on slip rates are not representative of the current seismic regime and he commented this was perhaps the IPRP's biggest concern. He mentioned the IPRP reviewed the ground motion calculations in the 2024 Updated Seismic Assessment based on the Seismic Source Characterization and they appear to be appropriate. In response to Dr. Peterson's inquiry as to when these questions may be resolved Dr. Seitz stated the IPRP will pose questions and make a recommendation to PG&E in its final report.

Dr. Seitz stated with reference to the 2012 study entitled "High Resolution Geophysical and Geochronological Analysis of a Relict Shoreface Deposit Offshore Central California: Implications for Slip Rate Along the Hosgri Fault," which he described as a well-sourced study, this study was considered in the 2024 Updated Seismic Assessment with a very low weight of 20% due to some questions about the age of the feature. He stated the way a slip rate is calculated is by looking at a feature that crosses a fault and dating that feature and measuring how much it has moved. Dr. Seitz stated the IPRP agrees with PG&E on the study's finding in terms of slip rate for 12,000 years and the most important facet of the study was to understand the internal structures of the shoreface feature which data he stated was some of the best found on that kind of offshore feature, dated both by radiocarbon and optically stimulated luminescence.

Dr. Seitz reported the age range for the slip rate, the applicability of the slip rate location, i.e., how close is it to the plant, and the confidence in the interpretation of the feature are all pertinent in this context and the data from the San Simeon data point demonstrates an increase in the Hosgri slip rate since the 2015 PHSA and the confidence level in that determination over an age range of 12,000 years has increase greatly since 2015. He commented in 2015 80% of the weight went to sites he believes to be of lesser quality, but in the 2024 Updated Seismic Assessment the San Simeon site weight was increased from 20% to 50%. He remarked the age range for the two sites closer to DCP both have age ranges corelated to 700,000 years and demonstrate slower slip rates and are therefore not as applicable as a site with a 12,000 age range over a corelated 200,000 years. He remarked all the sites were close to the plant and the

earthquake ruptures of concern are longer than their distances from the plant. He stated the IPRP agrees with PG&E that the San Simeon site is the highest confidence site. He remarked in the IPRP's view age range should not be used as a weighting but rather as a straining tool.

Dr. Seitz displayed a plot of the full uncertainty of all the rates along the Hosgri from IPRP Report No. 7 including the two offshore sites that PG&E puts weight on but which IPRP in Report No. 7 argues these sites are not applicable as they do not add to calculating the slip rate on the Hosgri. He reported the uncertainties of the offshore rates are large while the geodetic model is interesting as it is a current very short-term rate which gives the slip budget. He displayed a graph showing the different sites plotted in terms of slip rate and cumulative probability and Dr. Seitz observed the highest quality rate is significantly higher than the average rates and he stated the IPRP fears that averaging the rates with lower quality less applicable rates in the time range results in a biasing the slip rate on the low side.

Dr. Seitz stated the IPRP has an issue with the two studies that it identified that were not addressed by PG&E, those being first the Casmalia Fault study with a slip rate increase from 1.5 to 6 mm per year which although not a source as it is located fairly distantly does have implications on other faults that connect to the Hosgri, and the second study was a study contracted by the NRC in 2016 which concluded that the slip rate has increased significantly in more recent times and he stated the current regime is best represented by more current rates and not older rates. In response to Dr. Peterson's query Dr. Seitz confirmed the principal issue is the probability of the return frequency of an event because the size of the motion of a postulated earthquake is not changing in the IPRP's estimation. Dr. Budnitz expressed this concept as a higher annual frequency, that is, a higher probability per year. Dr. Seitz estimated the return frequency on the Hosgri to be on the order of a thousand years. In response to Dr. Lam's query as to whether there is a linear correlation with respect to the frequency increase Dr. Seitz observed when one puts the different slip rate determinations into a weighting scheme he observed the prior slip rate of 2.5 mm per year in the 2015 PHSA has remained pretty much constant with the studies now showing 2.6 mm per year and he observed the confidence has increased by direct dating and the publication and peer review under the SSHAC process for the data. Dr. Seitz observed the study on the Casmalia Fault includes information on the faulting architecture which could bear on Dr. Bird's model. In response to Consultant Kadak's question as to the combined cumulative probability distribution Dr. Seitz referred to the green line on the graph he displayed, the "Point Estero (CHS) 2023 Update," as that is the site that has been published and has the highest confidence. He observed in the 2024 Updated Seismic Assessment this data was weighted at 50% and the rest of the data from what he described as lower quality sites is weighted 50%. With that data rated as from 700,000 to 1.5 million years old. He remarked if one has many quality sites then a weighting scheme works well, but in this case he stated he would use the age range as a screening tool and if the data is too old and you have higher quality data that in the age range that is most applicable then one would use that data only.

Dr. Budnitz then introduced Dr. Philip Johnson of the California Coastal Commission and a member of the IPRP to make a presentation to the DCISC.

Dr. Johnson began his presentation by reviewing the location of the Hosgri which is located offshore to the west of DCPD with the Irish Hills to the east of DCPD and he stated the faults around the Irish Hills are of great interest to the IPRP. He reported the Los Osos Fault is located to the north of the Irish Hills and the fault extends to the northwest. He stated the Irish Hills themselves have a westerly orientation which is in contrast to the folds and faults locally in the Coast Range. He stated similarly oriented and more westerly are the Casmalia Hills located to the south.

Dr. Johnson reported the faults that bound the Irish Hills are of great importance because of the potential seismic hazard to DCPD and the IPRP has been looking at the Los Osos Fault as a thrust or reverse fault that is dipping or is inclined toward the southwest. On the southwest side of the Irish Hills is the San Luis Bay Fault which dips or is inclined to the northeast. Dr. Johnson reported there are three different geologic models for the Irish Hills and for the seismic hazard and there is no clarity at this point on which model would be preferred due to a lack of information. He reported the Irish Hills have an uplift rate of between 0.1 and 0.2 mm per year as determined by the uplift of the Pleistocene terraces. He reported for the Casmalia Hills the uplift rate is much higher at 5.6 to 6.7 mm per year based on modeling of fold and thrust fault.

Dr. Johnson stated the three models for the Irish Hills involve: purely reverse thrust type slip uplifting along the Los Osos Fault on the north side; a similar type of thrust or reverse fault slip on the south side on the San Luis Bay Fault; or the PG&E proposed combination model which indicates a westerly motion where along the Los Osos Fault there is uplifting due to reverse or thrust type slip along with a lateral slip going toward the northwest which Dr. Johnson stated was termed by geologists a dip, slip and strike slip motion. He stated it is at present unknown how to distinguish between these models. He remarked that typically a single geologic model that is effective and fits the data collected is developed but more data would be needed. He confirmed Dr. Peterson's observation that the Hosgri is a slip strike fault.

In response to Dr. Peterson's questions about the forces which load the Los Osos Fault Dr. Johnson replied there is a great deal of compression in the Coast Range and this compression also occurs in the folds with the northwest striking features, but in the south end of the southwest Coast Range region there are east-west trending thrust and reverse faults showing north-south compression and this element has been added to the region which includes the Irish Hills.

He provided and discussed the following:

- Current data set is not adequate to distinguish between the competing geologic models for the Irish Hills and the Los Osos Fault;
- Additional offshore seismic reflecting data focusing in detail on the Los Osos and Casmalia Faults may identify piercing features that could yield rates of lateral slip;
- Additional onshore investigation could be utilized to characterize the Los Osos Fault and evaluate the competing models;

- A recent study by McGregor and Onderdonk from 2021 shows a very clear uplift rate and geologic model for the Casmalia Hills, additional work could develop a geologic model that answers questions on the uplift rate and slip along the Casmalia Fault which is a thrust fault; and
- The sedimentary units available for the Casmalia Hills are not available for the Irish Hills but there is interesting information on the Los Osos Fault in the offshore zone which bounds the Irish Hills on the north side with evidence consistent with more strike slip faulting offshore, so the notion of a thrust or reverse type fault as used by PG&E uplift model may not be capturing all the slip as a great deal of the slip is lateral slip.

Dr. Johnson observed the areas he identified are ripe for further investigation and the cross-Hosgri feature described by Dr. Seitz provides much better understanding of the Hosgri than in the past and by using offshore features a slip rate on the old shoreline can be developed in the case of the cross-Hosgri feature from 12,000 years ago. Any deflection by the Los Osos Fault would require still more offshore and onshore investigation and preliminary data seem to show that there is more strike slip type faults within the broad Los Osos Fault offshore zone. He commented in 2015 PG&E ran a vibroseis investigation perpendicular to the Los Osos Fault but the data were inconclusive and Dr. Johnson observed there are other methodologies that could be utilized with the Los Osos and San Luis Bay Faults.

Dr. Johnson displayed a map showing the Los Osos and Morro Bay Faults and he stated the same investigation could be made by the U.S. Geological Survey as was done on the Hosgri to profile the subsurface using low energy seismic reflection methodologies and also offshore of the Casmalia Hills which has an analogous character to the Irish Hills. Dr. Johnson stated the IPRP believes this to be appropriate for the future and he noted it is of great importance given the location of DCP. In response to Consultant Kadak, Dr., Johnson confirmed PG&E has three different competing models for all the faults he mentioned which make certain assumptions as to their behavior and he agreed these models either need to be refined or the better model selected or Dr. Johnson observed there could be another model altogether, but at this time the IPRP lacks data for the faults as below the surface it gets much more uncertain and there are various fault investigations that could be conducted. Dr. Seitz observed that since 2015 the uncertainties have not decreased as there have not been any more studies done and he stated the only thing that has changed is the rate has actually decreased as PG&E used a regional sea level curve to calculate the uplift which he stated the IPRP believes to be an improved dataset. Dr. Seitz observed the most significant set of data since 2015 is the study on the Casmalia Fault as it is essentially an analogous study and it could impact the slip budget on the Irish Hills and this should be addressed.

In response to Dr. Budnitz inquiry Dr Seitz stated the IPRP has not yet reviewed Chapter 6 of the 2024 Updated Seismic Assessment wherein PG&E addressed Dr. Bird's model and he stated is unsure whether there is sufficient data to do so. He confirmed Dr. Budnitz observation on the IPRP's belief in the existence of an analog site.

Dr. Gene Nelson of Californians for Green Nuclear Power was recognized. Dr. Nelson cited for perspective a 2019 paper "Reproducibility of the San Andreas Fault Slip Rate Measurements" which states [the slip rate is] 33.9 plus or minus 2 at the Wallace Creek site in

eastern San Luis Obispo County. Dr. Budnitz observed that experts have judged the San Andreas Fault to be too far away to have an important influence at DCPD compared to the other faults.

Ms. Linda Seeley of Mothers for Peace was recognized and she commented the Great Tohoku earthquake in Japan was on a fault 50 mile away from the damage sustained at Fukushima. Dr. Budnitz remarked the earthquake was more than 50 miles from Fukushima, but he reiterated that experts have concluded a big earthquake on the San Andreas Fault will not have the impact feared on DCPD. Ms. Seeley stated she finds it interesting that there is considerable data on the Casmalia Fault but less data on the faults in proximity to DCPD given the location of the nuclear plant.

Dr. Budnitz then introduced Dr. Peter Bird, participating remotely, and reported Dr. Bird is on the faculty at UCLA and has a long and distinguished history and is well respected in the field and has provided several communications to the DCISC. Dr. Budnitz also thanked Dr. Seitz and Dr. Johnson for their presentations.

Dr. Bird stated he was appearing in his capacity as a consultant to the San Luis Obispo Mothers for Peace.

Dr. Bird stated he would summarize and clarify the six filings that he provided previously which develop two different but related themes. The first being that the 2015 PHSA Seismic Source Characterization was deficient and biased and the second being an independent estimate of the seismic hazard at Diablo Canyon. He stated in his presentation he would review his criticism of the 2015 Seismic Source Characterization which is based upon no deformation modeling having been performed and accordingly the fault slip rates are unknown as is the consistency with geodesy.³⁷ He observed that no one has ever looked at how the fault slip rates in the Irish Hills relate to changes in slip rate along the trace of the Hosgri and perhaps more importantly, because there was no deformation model there is no estimate of the distributed strain or cryptic strain that is not occurring on the model faults, but is necessary for kinematic self-consistency. Dr. Bird stated that this is important because that distributed strain tends to express itself as earthquakes, and sometimes very large earthquakes, and that is a great deficiency of the report.

Dr. Bird observed the second great deficiency is that when PG&E attempted to account for unmapped faults in the local source model it mischaracterized the seismic moment rate of that whole set of virtual faults by simply assuming that they would continue to produce seismic moment rate as at the same rate as micro-seismicity in the last several decades. He commented this is absolutely the wrong way to do things and if this method were applied to the San Andreas Fault one would get the totally misleading answer that it is absolutely safe to live on. He stated what PG&E should have done is to take the distributed deformation rate within that zone and converted it to a seismic moment rate using a global calibration which Dr. Bird and others have produced over the last twenty years.

³⁷ Geodesy or geodetics is the science of measuring and representing the geometry, gravity, and spatial orientation of the Earth in temporally varying 3D.

Dr. Bird observed his third criticism was that there have several proposals and arguments for a thrust fault at shallow depth under DCPD with a high slip rate, but no such source was included.

He displayed a slide based on a publication from PG&E in 2015 to which he added a dashed red line which he referred to as the inferred coastline thrust fault, in the tradition of geologic maps it is long-dashed because it is poorly exposed but well located. He stated this coastline thrust fault is located first by the topography of the Irish Hills, second by the uplift map for the Irish Hills, which has a mis-continuity, and third by the folding in the older late Miocene - early Pliocene sedimentary rocks of the Irish Hills. Dr. Bird stated this feature might actually be exposed, but it is mislabeled as Shoreline Fault and he is very aware of an analog on the south side of the Santa Monica Mountains called the Malibu Coast Fault which is both strike slip and a thrust fault and has been so consistently for the last six million years. He stated the other possibility is that this inferred coastline thrust fault is a blind thrust fault which is expressed as a very large fold near the surface.

Dr. Bird stated in the 2024 PHSA update of the Seismic Source Characterization PG&E attempted to refute his criticisms in Chapter 6, however, the attempts to refute them were full of elementary logical errors and misunderstandings and basically they failed to do so. He stated he provided a full rebuttal to the DCISC in a memo of 8 May, 2024 [actually dated May 16, 2024], and he continues to stand by his original objections.

Dr. Bird remarked this was his first theme and it was developed in several documents, but a new theme became available after the Noto Peninsula earthquake of January 1, 2024, which was a very serious earthquake which caused approximately 60 persons to lose their lives. But Dr. Bird characterized it as rather like a gift to California because the event showed what can be expected in our future in the California Coast Range. He stated there is an exactly analogous geologic situation where a small block of crust has been uplifted between two conjugate thrust faults, which are poorly exposed because they are under the water and the Noto Peninsula earthquake simplifies the consideration because it had shaking that was very strong, peak ground acceleration of 1 to 2.3 G at five modern, strong motion instruments such that one can be virtually certain that the same earthquake would have caused seismic core damage at DCPD if the plant had been located within the same range of hills.

Dr. Bird stated the critical question is, if one considers this a characteristic earthquake that must be guarded against, how often will it occur? He stated he found three different, simple ways to estimate the total slip rate on all the gently dipping thrust faults under the Irish Hills, with the result of 2 to 2.8 mm per year. The first he described as the isostatic method, since it is known that the Irish Hills are being uplifted at about 0.2 mm per year and since it is known the Irish Hills are isostatically over-compensated, it follows that the rate of crustal thickening in the Irish Hills is about six times greater, or 1.2 mm per year. He observed that the rate of thrust faulting has to be calculated from the rate of crustal thickening, not the rate of surface uplift and this is a case where PG&E got it wrong by a factor of 6.

Dr. Bird observed by knowing the total rate of thrust faulting on all the thrust faults under the Irish Hills, whether they're dipping north, dipping south or internal, one can convert that to recurrence interval of about 715 years for Noto type earthquakes by knowing the mean slip in the Noto Peninsula earthquake which was 2 meters or 2,000 mm. Dr. Bird remarked this was the basis for his March 4, 2024, Declaration made to NRC documenting that the seismic core damage frequency at Diablo Canyon is about 1.4×10^{-3} per year, not 3×10^{-5} per year as PG&E has claimed. He stated this represent an increased risk by a factor of 47 and this contention became the basis for an emergency shutdown petition by the San Luis Obispo Mothers for Peace, The Environmental Working Group, and Friends of the Earth which is still being considered by NRC and a meeting with the NRC is tentatively scheduled on July 17, 2024 at noon PDT. In response to Dr. Lam's query Dr. Bird reported the meeting was postponed due to availability of NRC staff and the submission of a Supplementary Declaration addressing the NRC's concerns in its initial assessment, attempted to show the NRC misconceptions which have their origin in PG&E's 2015 Seismic Source Characterization.

Dr. Bird stated he wanted to ask the DCISC, without expecting an answer today, relative to the 2015 Seismic Source Characterization where is the update of the GPS geodetic program? In 2015 PG&E reported preliminary results from GPS sites at DCPD and surrounding locations which were good enough to show that the shortened direction in the Irish Hills is North 15 East, and PG&E reported that in the 2015 Seismic Source Characterization without mentioning what the shortening rate actually is, although it may have been preliminary at that time. However, after ten to thirteen more years of data collection Dr. Bird stated it should be possible now to provide a highly accurate value for the horizontal crustal shortening rate across the Irish Hills and he observed this number is one of the most important for determining the seismic hazard at DCPD due to thrust faulting. He observed according to his arguments the thrust faulting seismic hazard at DCPD is much greater than the hazard from the Hosgri, therefore it should receive the focus of attention and research. He observed perhaps the DCISC Members may have the ability to get an answer to this question and he asked the Committee to pursue the question he posed.

Dr. Lam thanked Dr. Bird for his comments and opened the floor for questions by the Committee.

Consultant Kadak inquired as to one of Dr. Bird's key points in Dr. Bird's theory, that being to say that this Noto Peninsula earthquake is similar to one that might occur here at the Irish Hills and he asked if Dr. Bird could explain further. Dr. Bird replied this was one of the concerns of the NRC Petition Review Board which pointed out that the rupture at Noto Peninsula or offshore was longer and therefore the magnitude was higher than one might be able to fit into the fault system of the Irish Hills. Dr. Bird acknowledged this is a valid point, however, he strongly holds that if this earthquake is a major threat to DCPD it deserves a more serious treatment than just calculating the magnitude and using that data for a ground motion prediction equation. He explained what an adequate Seismic Source Characterization for DCPD should do is to take the actual seismograms from Noto Peninsula which are very high quality records, and if the magnitude is found to be too large all one need do is truncate the source after an appropriate number of seconds, but as a seismologist he stated he feels strongly that that will have very little result on the peak ground motion which comes from the part of fault closest to or underneath the

seismometer. He described the Noto Peninsula event as a pop-up between two conjugate thrust faults, but he stated he is not claiming that every aspect of the geologic history is parallel.

Dr. Budnitz commented that in the May 30, 2024 Fact Finding Report he summarized earlier he stated that relative to Dr. Bird's claim that that Noto Peninsula earthquake in Japan has sufficient analogous properties to be similar here, that the Committee has not had the opportunity either to review that matter or to see anybody else's review of it yet and there's no way that anyone on the Committee is an expert on the tectonic regime of the geology of the Noto Peninsula in Northern Japan and the DCISC must await an evaluation by others who can either confirm the analogy is valid or partially valid depending on what they know.

Dr. Seitz inquired of Dr. Bird concerning the uplift rate in general, if Dr. Bird is claiming the markers that were used up until now are not representative of crustal thickening because they do not represent crustal thickening under the Irish Hills. Dr. Bird confirmed Dr. Seitz observation and stated that essentially the analogy that PG&E is making is that the Irish Hills are an elevator cab made of stainless steel completely rigid, with the top of the crust rising in the same amount as the bottom of the crust and then there's a little friction at the side which is expressed as thrust faulting on the San Luis Bay Fault system. However, Dr. Bird stated that this model can be discredited very easily, as if one has a flat rug laid on the floor of an elevator on the ground floor, when the elevator gets to the second floor the rug is still lying flat. He stated this is not so for the late Miocene and Pliocene sedimentary rock of the Irish Hills, which are folded into the Pismo incline and many other folds with 90 degree angles and 45 degree dips. Therefore, he stated the Irish Hills have not been rising as a rigid block and this means there are probably other thrust faults involved. Dr. Bird further stated another good reason to expect that other thrust faults are involved is that the basement is Franciscan complex, which is essentially made of thrust faults. The Franciscan having been scraped off the subducting Farallon plate back in Cretaceous and early tertiary time, and slowly deformed [?]. Dr. Bird observed all of those old thrust faults are still there and available for reactivation.

Dr. Budnitz stated he tried to study this as best he could and he saw sort of an analogy to Airy isostasy in which is similar to when an iceberg floats and one adds mass to the iceberg, it doesn't just respond linearly, there's a relationship because one-seventh is above and six-sevenths is below the surface. He observed that sort of Airy isostatic phenomenon³⁸ is different than what Dr. Bird said it could be, it is a block of steel that just goes all by itself. Dr. Budnitz stated as he understands if the question in part is whether or not those formations actually behave that way and that is an important part of the response over time. Dr. Seitz agreed and stated that was part of his question and he also questions what observation is there that the crustal thickness is greater underneath the Irish Hills. Dr. Bird replied for this he was using data provided by PG&E in Chapter 6 of their 2024 Update Seismic Assessment where a isostatic gravity map shows that the Irish Hills are not just isostatically compensated, they're over-compensated. That is to say, if somehow one could stop plate tectonics and stop all the fault slipping then the Irish Hills would rise about another 200 meters in the future. So actually when he uses the Airy

³⁸ Airy's isostasy is a theory that describes the Earth's crust as a rigid shell that floats on a denser, more liquid substratum.

isostasy model as a basis for calculation, he is actually underestimating the rate of crustal thickening. Dr. Bird in response to Dr. Seitz stated that he has unfortunately not reviewed the Casmalia Fault study for implications for the Irish Hills. Dr. Seitz commented the Shoreline Fault as we know it is a vertical fault and strike slip at the surface and he questioned if this inferred thrust fault would be located by Dr. Bird's between the Shoreline Fault and DCP, where would it see daylight, or is Dr. Bird alleging it is a blind thrust? Dr. Bird replied he accepts that there is a vertical and probably strike slip Shoreline Fault and there is a lot of good evidence for that, although there is a little mystery as to how it could be active when it's at right angles to the direction of compressive stress shown by both the world stress map and by the GPS analysis he mentioned, but he stated he accepts that it is there. However, it's entirely possible that a thrust fault is confused with the trace of the Shoreline Fault in that they haven't been adequately separated, alternatively the inferred coastline fault could be a blind thrust that surfaces in a fold in the late Miocene sedimentary rocks. Dr. Seitz observed and Dr. Bird agreed there is another piece of data, which is the focal mechanisms of the Shoreline Fault are strike slip and he stated that this is hard to dismiss. Dr. Bird stated there were two thrust earthquakes under the Irish Hills recently; one was December 27, 2023, and another on January 1, 2024, almost in sympathy to the Noto Peninsula earthquake to which Dr. Seitz observed both were not low angle and were commented on by PG&E in the 2024 Updated Seismic Assessment. Dr. Bird commented he gives credit to PG&E for noticing and commenting on all kinds of data but his criticism is that when PG&E comes to create their fault geometry models it does not actually use that information.

Dr. Lam and Dr. Budnitz both thanked Dr. Bird for his presentation.

XXX PUBLIC COMMENTS AND COMMUNICATIONS

Dr. Gene Nelson of Californians for Green Nuclear Power was recognized Dr. Nelson stated it seemed to him that this was a really productive dialogue, but he think there's a missing party that really should be here, and that is we should have one or more representatives from PG&E from their Geoscience department and it is his hope that may happen in the future.

Dr. Sam Blakeslee, appearing remotely, was recognized [Dr. Blakeslee is a former California State Senator representing California's 15th State Senate district which included the counties of Santa Clara, Monterey, San Luis Obispo, Santa Cruz and Santa Barbara. He previously served as a California State Assemblyman from California's 33rd State Assembly district. Dr. Blakeslee holds both Bachelor's and Master's degrees in geophysics from University of California, Berkeley and a Ph.D. from University of California, Santa Barbara for his research in seismic scattering, micro-earthquake studies, and fault-zone attenuation. He is published in numerous scientific journals.]

Dr. Blakeslee remarked it was an honor to be here with Dr. Bird, a very august individual, to present a quite impressive analysis. Dr. Blakeslee stated he had two things to share. One being an amusing anecdote from when he was a legislator and he was worried about insufficient data and in 2006 PG&E invited him to visit their headquarters and look at the seismic data and he remembered PG&E pulling the cloud of seismic data around the plant, along

the Shoreline Fault, and saying that "looking at this one could almost imagine there's a thrust fault here, but that's impossible."

Dr. Blakeslee commented on the importance of quality data and the absence of same and he stated as a legislator he was very concerned that there was a lot of confidence being put in the interpretation of what was going on at DCPD with very little data, which is why he offered AB 1632 which had the California Energy Commission make the recommendations to begin acquiring this data and in part to have launched the IPRP. He mentioned there was a particular item in one of the IPRP reports he wanted to bring up today with regard to lack of data.

He shared information about the importance of data with regard to the site effect and observed the view has been a "30,000 foot view" of the tectonics of the area, sort of looking even at a satellite level at the sorts of uncertainty and he stated he has been very impressed by the new data that's been acquired with regard to slip rates, and he thought Dr. Johnson's comments about the importance of needing new data were important. But, Dr Blakeslee stated he wanted to harken back to something that Dr. Seitz said about trying to relate the uncertainty or changes in the estimates versus the hazard. He observed what one has is a number of parameters that go into estimating shaking and this has been talked about as source characterization, but there is an important side effect. He reported there are four bore holes identified at the site of DCPD. Bore hole A which is to the southwest, bore hole B which is to the north of Unit 1, bore hole C which is to the south of Unit 2, and bore hole D which is to the east of the plant. Dr. Blakeslee stated the IPRP has looked at PG&E's analysis of the site effect based on their characterization of the velocity and the IPRP took exception in its Reports No. 6, 9 and 10 and he was not sure to the extent the IPRP's issues were resolved.

Dr. Blakeslee displayed a diagram from an IPRP report, and stated it reflects PG&E's base case in terms of the risk assessment using PG&E's methodology, which assumes the velocity structure near the plant and some site factors that PG&E creatively put together. But he commented the IPRP looked at the potential risk if different parameters were used. So, for example, if one used 1,200 meters per second under the plant as a velocity, or a thousand meters per second under the plant as a velocity, or 760 meters under the plant as a velocity and the IPRP found that the hazard increases by more than a factor of three in this case and he commented in earlier conversations there was a discussion about increase for clearance rates not potentially changing the severity of the event if there were more data acquired with regard to slip rate. He remarked this is an instance where we don't have a lot of data about the velocity structure under the plant, but the impact is potentially quite significant. He stated if there is reason to believe that there are velocities other than those at these very rapid speeds, which of course correlates to high impedance, there is the velocity profile of the four bore holes. He stated he wanted to identify the velocity structure in bore hole C is down to the 700 meters per second range, which is the sort of worst case scenario that was identified in the earlier plot which is not the velocity that's being used by PG&E to estimate the shaking under the plant. He observed that everyone acknowledges it's a highly heterogeneous environment, there is a lot of fill and there is bedrock exposed but the challenge is that there are only these four bore holes. Dr. Blakeslee commented there were two more put in up near the ISFSI, but only these four bore holes since 1978 in the vicinity of the plant and he commented bore holes are very easy to drill and the data is easy to acquire, and the

significance of low velocity fill anywhere near any of these important structures can't be overstated.

Dr. Blakeslee reviewed another image from the IPRP's report that looked at the significance of different site effects and he highlighted what is known as the Hosgri exception which is the accepted shaking that is considered acceptable as a function of frequency. He observed one can see that if one assumes the less optimistic assumptions with regard to the fill and the materials around the nuclear power plant, one will see that any one of these faults, given these magnitudes, could hypothetically exceed the margin of safety for the Hosgri exception or the LTSP profile.

Dr. Blakeslee stated he just wanted to add his voice as someone who's been involved in this conversation now for a couple of decades, about the need for data, and how easy it is, even for peer reviewed studies, to come to the wrong conclusion in the absence of data, and a concern that we've heard concerns the need for geodetic data which Dr. Bird brought up and which Dr. Blakeslee does not think has been forthcoming. He stated he remembers Mr. Geesman asking for the deterministic estimates that show that a thrust fault would not impede safe operation of the plant and he remarked although he requested to review it he never saw that data, even though PG&E insisted it was available and he asked to be included in the response to Mr. Geesman. Dr. Blakeslee stated he has talked about the lack of source data for large earthquakes in close proximity to faults, which was discussed previously with regard to the earthquake in Turkey and he brought up another example of just how important it is to have the site effect just right. Dr. Blakeslee stated he wanted to continue to lend his voice to the IPRP and hopefully they will listen, that the IPRP needs to be a voice for insisting on obtaining data so the uncertainty can be lowered, because peer review conclusions that are not based on quality data shouldn't be relied upon when the stakes are this high. Dr. Blakeslee thanked the Committee for allowing him to make a rather long comment.

Dr. Budnitz stated he presented a position that he stated he believed should represent the DCISC's current position on these matters and he wanted to suggest two things. First, he believes that what he presented concerning the May 30, 2024 Fact Finding represents the DCISC's current state of knowledge and he was going to suggest that the Committee accept the May 30, 2024 Fact Finding Report with the proviso that the Committee has heard a lot of interesting challenges and the DCISC owes it to itself and to the public to do further fact finding investigations with colloquies with PG&E, and also with colleagues that have just been heard from, and to do everything it can to get to the bottom of this so that the Committee may have a more thorough understanding by the next public meeting in October 2024. He remarked that other new information will be forthcoming from the July 17, 2024, NRC Petition Review Board public meeting. Dr. Budnitz stated his second point concerned the comments by the two IPRP representatives that although the IPRP has not looked into the detail of this yet, they are going to and Dr. Budnitz remarked that it is important that they do so for the reason that they are not only experts, but are also independent and have been appointed to do so by the State. Dr. Budnitz remarked without the benefit of the IPRP's insights the DCISC will not have closure on this matter. Finally, Dr. Budnitz remarked that the petitioners seek to shut the plant immediately and Dr. Budnitz stated that personally he just does not see that this is supported by the evidence and if getting to the bottom of the matter means increasing the Committee's knowledge by a

certain amount, but then we require more data in some other areas, then the Committee should ask for that.

Dr. Budnitz moved for approval of the May 30, 2024 Fact Finding Report and stated that the Committee remains open to the receipt of new information and is t to doing as much as it needs to do in the way of intermediate fact finding, and to urge others including the IPRP, Dr. Bird and also PG&E to also conduct investigations as needed. Mr. Rathie requested a friendly amendment to the motion which was accepted by the maker that relative to the March 18-20, 2024, fact finding report presented earlier at this meeting, that the section on the review of the 2024 Updated Seismic Assessment be ratified in context of the May 30, 2024, Fact Finding Report. Dr. Lam seconded Dr. Budnitz' motion.

Mr. John Geesman on behalf of the Alliance for Nuclear Responsibility was recognized. Mr. Geesman stated he hopes somebody at some point would try to provide an answer as to how the ratepayers could fund \$64 million of data collection pursuant to then Assembly Member Blakeslee's legislation, and have the IPRP some eight or ten years ago identify the key uncertainties in site conditions and how those fed into ground motion at the plant, and still stand here in 2024 with such enormous gaps in our data. He observed in response to much of the praise of peer review that accompanied Dr. Budnitz' presentation and the repeated references to the quality of the SSHAC Level 3 review performed in 2014 and 2015, he would like David Weisman, the Alliance's Executive Director to refresh your memory on what constituted the peer review process in 2014 and 2015.

Mr. Weisman then played a video presentation about the differing roles of the participants in a peer review process, which were identified through the use of various colored hats worn and then repeatedly exchanged by the participants. Dr. Budnitz remarked that the video was produced as a humorous exercise at the conclusion of a long period of review.

Ms. Linda Seeley was recognized. Ms. Seeley requested that the Committee not endorse the May 30, 2024, Fact Finding Report because its conclusion is to reject Dr. Bird's analysis and Ms. Seeley believes that such action would give the wrong impression about the DCISC's view of the seismic program at DCP. She suggested that the Committee consider a statement instead that it was in the process of creating a final analysis. Dr. Budnitz responded that in his opinion he has seen no seismologist who has endorsed, approved or agreed with Dr. Bird. He observed Chapter 6 of the 2024 Updated Seismic Assessment and two separate peer reviewers did not agree with Dr. Bird. Dr. Budnitz stated that does not mean Dr. Bird is wrong and Dr. Budnitz stated he has an open mind, but that assessment correctly represents his own current view. Dr. Budnitz stated Dr. Bird has requested more information, additional analysis and for further review and the DCISC should support these requests in whatever ways it can. Dr. Budnitz remarked that this commitment was true in any safety-related context in one needs to be open to new information.

Ms. Rochelle Becker was recognized. Ms. Becker stated she was involved with the creation of the IPRP, worked on Assembly Bill 1632 with Senator Blakeslee, and she observed the IPRP still has questions. She stated the IPRP has many more experts than the DCISC and a report will be produced shortly, but likely there will still be questions. She stated the DCISC

should wait for the IPRP's report before going forward with no geologic scientific seismic experience aside from one person. She urged the DCISC to look carefully at the IPRP's report and the questions they may continue to have and then to consider moving forward.

Ms. Sherry Lewis of Mothers for Peace was recognized. Ms. Lewis stated she objects to Dr. Budnitz' extreme confidence in his own judgment as he is not a seismologist although he seems to weight himself equal with all the other scientists involved. Dr. Budnitz encouraged everyone to read Chapter 6 of the 2024 Updated Seismic Assessment and that he was not standing alone but on the shoulders of the authors and peer reviewers.

The Chair closed public comment and Dr. Budnitz called the question on his motion. Dr. Peterson stated he would support the motion which consists of two parts, one to accept/approve the May 30, 2024, Fact Finding Report and a second part to undertake significant work in the period between this meeting and the public meeting in October to review available information. On a unanimous vote the Committee then approved the May 30, 2024 Fact Finding Report and Resolution 2024-08 as stated in the foregoing.

XXXI RECOGNITION OF DCISC MEMBER DR. PETER LAM'S SERVICE

Dr. Lam requested the Chair-elect for the next term, Dr. Peterson, lead this discussion.

Dr. Peterson then read from Resolution No. 2024-09, a "A Resolution of Appreciation and Commendation from the Diablo Canyon Independent Safety Committee to Peter Lam." This resolution recognized Dr. Lam's fifteen years of dedicated and outstanding service to the DCISC, from July 2009 through June 2024, and as Chair of the DCISC for ten terms during that period, and that the DCISC and the community at large have greatly benefitted from the dedication, hard work, expertise and energy which Dr. Lam has given to the DCISC in the performance of his duties as Member and Chair and extended public recognition and official thanks to Dr. Lam for his many contributions to the DCISC and the public it serves, while a Member and Chair of the DCISC.

Dr. Lam was then presented with a commemorative gift from the Members and Consultants of the DCISC in the form of a decorative clock recognizing his service and expressing their appreciation.

Dr. Lam expressed this thanks to the Committee for this recognition and wished all concerned the best of luck in their future endeavors.

XXXII CONCLUDING 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.

XXXIII ADJOURNMENT OF THE ONE HUNDRED AND EIGHTH PUBLIC MEETING

There being no further business, DCISC Chair Dr. Peter Lam stated it was now the time to say farewell and he expressed his appreciation to all participants in this public meeting, to PG&E and DCPD senior management, to the AGP Video team, and to the dedicated and passionate members of the public and to the other members and the technical consultants of the DCISC. The Chair then adjourned the afternoon session and this public meeting at 4:45 p.m.

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE	
AGENDA TRANSMITTAL FORM	
MEETING DATE:	October 10, 2024
AGENDA ITEM:	XXI-A
AGENDA TITLE:	Review and Discussion of the Open Items List.
CONSENT [] ACTION [X] INFORMATION [X]	
Staff Summary: It is anticipated that the Committee will hold discussion concerning the items appearing on its Open Items List prepared by Committee Technical Consultant Wardell with the assistance of Consultant McWhorter.	
RECOMMENDED COMMITTEE ACTION: As appropriate, review and provide direction.	

Diablo Canyon Independent Safety Committee Open Items List – 2023-2024

Open Item Type: M= Monitor F = Follow-up I = Issue Items in Red Italics are new or revised
 Items in Yellow are for the next 3 FF Meetings
 Items struck-through were deleted

ITEM NO.	TYPE	OPEN ITEM CATEGORY/DESCRIPTION	Last Actions	Next Action
CO		Conduct of Operations (CO)		
CO-7	M	Review DCCP storm response experience and strategy every two years [or as necessary] during or after annual winter storm season.	5/17FF 3/21FF	As necessary
CO-8	M	Monitor all reactor trips – automatic and manual – and forced outages. (review trip LERs at public meetings). <i>Reviewed 1X25 forced outage 9/24FF.</i>	11/21FF 2/22PM <i>9/24FF</i>	Post-trip FFs & PMs (4X25 Cause)
CO-9	F	Reactivity Management – review every 18-24 months.	List end of OIL 4/23FF 4/24FF	Regularly
CO-10	M	Mispositioning Errors (Equipment Status) – monitor the status of mispositioning errors and actions to resolve.	12/21FF 4/23FF <i>5/24FF</i>	2Q25FF
CO-13	M	Review any initiatives to operate DCCP 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 DCCP 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.	12/19FF 12/21FF	As necessary <i>Close?</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. Review operator staffing. (Also see EO-5.)	9/23PM 11/23FF	4Q24FF
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.	5/22FF 7/22FF	Each Pair of RFOs 12/24FF
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. DCCP 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 9/24FF	Regularly 3Q25FF
CM-13	M	Review Maintenance Department performance measures, staffing, etc. approximately annually.	4/24FF 5/24FF	2Q25FF
EN		Engineering Programs (EN)		
EN-16	F	DCCP Systems – review a system (or structure or component), system health, long-term plan, Maintenance Rule performance & walkdown with System Engineer at FFs. [Note: Systems reviewed are listed with dates at the end of this Open Items List.]	See list at end of OIL	Regularly
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.] Review Engineering reorganization 1Q23FF.	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, Plant Health Prioritization Committee, Plant Health Working Group, Outage Management Team, and other regular meetings.	See list at end of OIL	Regularly
EN-21	F	Regularly review projects long-term planning	8/23FF 6/24PM	1/25FF
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. Further observations and improvements in the Management Observation Program should be reviewed by DCISC.	5/24FF 8/24FF	2Q25FF
HP-25	M		4/19FF 7/21FF 12/23FF	2Q25FF
HS		Health, Nuclear Safety and Safety Conscious Work Environment		
HS-6	F	Follow DCCP 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).	9/22FF 8/23FF#1	1/25FF
PI		Performance Improvement Programs		
PI-1		DCCP Performance Improvement Programs: Corrective Action, Self-Assessment, Operating Experience, Benchmarking, etc. Programs reviewed are listed with dates at the end of the Open Items List. [CAP reviewed 4/238/24FF – satisfactory.] [Observed Corrective Action Review Board 5/24 – satisfactory.]	See list at end of OIL 8/24FF	Annually

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EP		Emergency Preparedness (EP)		
EP-2	M	Attend and observe DCCP emergency drills and exercises annually [including Hostile Action Based Exercises], paying special attention to JIC communications to the media and public, including radiation release communications to the public, use of social media, coordination of information release with SLO County, and extension of drills to better exercise FMTs & JMC. DCISC drill attendees should assure the confidentiality of the drill scenario by keeping the scenario hidden and under their control at all times. [Observed Evaluated Exercise 7/31/24]	3/23FF 5/24FF 7/24FF 9/24FF	Next evaluated exercise - Mid-2026
EP-3	F	Meet with Emergency Preparedness Group for updates and performance in years with no major exercises.		3Q25FF
RA		Risk Assessment and Management (RA)		
RA-5	M	Review overall [non-seismic] PRA program annually. Include Fire PRA Upgrade & Shutdown Analysis. Review PRA Group resources/capabilities. (see SC-6).	11/23FF 8/24FF	11/24FF RJB
RA-6	F	Review DCCP response to NRC re: 10CFR50.59 risk-informed rule changes. Review in FF.	3/23FF 8/24FF	11/24FF
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.	11/23FF 7/24FF	Next meeting [see FFPM]
NS-9	M	Monitor DCCP's program to track INPO Areas for Improvement. Review with DCCP Coordinator. Review DCCP August 2022 INPO evaluation.	12/22FF 11/23FF	11/24FF
NS-10	M	Monitor Insurance Programs including the results of insurer inspections and reports.	5/24FF 7/24FF	2Q26FF
RP		Radiation Protection (RP)		
RP-3	M	Regularly review outage RP performance. Observed ALARA Committee meeting at 4/24FF.	11/23FF 12/23FF 4/24FF	1R25
RP-12	M	Review annual DCCP radioactivity release report each year. Review at Summer or Fall FFs.	8/23FF#1 7/24FF	3Q25FF
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.	3/22FF 9/23PM	10/24PM 1/25FF
QP-9	F	Software QA Program	See list at end of OIL	Regularly
NF		Nuclear Fuel Performance (NF)		
NF-9	M	Nuclear Fuel Performance & Issues (review after RFOs). Observed new fuel receipt and inspection 8/22FF.	12/22FF 1/24FF	Each pair of RFOs 2R25

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ER		Equipment Reliability and Life Cycle Management (ER)		
ER-5	M	Monitor the Equipment Reliability Process approximately annually.	See list at end of OIL 5/24FF	Annually 3Q25FF
		Organizational Effectiveness & Development (OE)		
OE-1	F	Review DCCP Operating Plan each January after development.	1/24FF 2/24PM	2/25PM
OE-2	F	Station Excellence Plan & Management Review Meeting	3/23FF	1Q25FF
		System and Equipment Performance/Problems (SE)		
SE-39	F	Review and tour the inspections and repairs of concrete Intake Structures following selected refueling outages.	12/19FF 8/21FF 8/23FF#2	Next RFO 1R25
SE-49	F	Emergency Diesel Generators (EDGs): Reviewed EDG 2-2 Maintenance Outage Window 4/24FF	See list at end of OIL 4/24FF	Regularly
SE-50	F	Maintenance Rule Functional Failures [Change from SSFFs to MRFFs beginning 3/21FF.]	See list at end of OIL 11/23FF	Regularly 1Q25FF
SE-51	F	Cause Evaluation for Auxiliary Saltwater Pump 2-2 Failure – Extended to include observations during 7/24 pump motor overhaul.	3/24FF 5/24FF	1/24FF
		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.	11/23FF 3/24FF	Each RFO 1R25
OM-4	M	Review Outage Safety Plan, safety margin trends, outage results, including clearances, following each outage at FFs and PMs.	3/24FF 4/24FF	Each RFO 1R25
OM-5	F	Review FME Program Performance.	See list at end of OIL 4/24FF	Each RFO 1R25
OM-6	F	Monitor Changes in 1R24/2R24 Outage Scopes Needed to Support Extended Operations. Outage 1R24 scope complete. Review 2R24 outage plans 1Q24FF. Review Results of 2R24 June 2024 PM.	2/24PM 6/24PM	1/25FF
		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.	12/20FF 12/22FF	4Q24FF 12/24FF

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SEC-4	M	Review status of DCCP cyber security (but not physical security) program in compliance with NRC requirements.	1/23FF 3/24FF	3Q25FF
SF		Independent Spent Fuel Storage Installation – ISFSI (SF)		
SF-1	F	Monitor ISFSI operations, including the development of new procedures by Orano for the loading of new Dry Storage Canisters (DSCs), movement of DSCs from SFP to ISFSI, and loading of DSCs into new Horizontal Storage Module (HSM). Review and observe 2024 loading campaigns.	7/24FF 9/24FF	10/24PM Then TBD
SF-2	M	Follow technical advances of relative risks of existing (Holtec) casks and pool storage. Follow relicensing of ISFSI including seismic adequacy reviews and the implementation of aging management plans.	6/23PM 8/23FF#2	12/24FF
SF-4	F	Review the adequacy of the design for new (Orano) spent fuel TBD storage system focusing on items of safety significance including seismic adequacy, criticality control, storage of damaged fuel, thermal analyses, effects of extreme environmental conditions, long-term (>100 years) integrity assurance, radiation/neutron shielding, and accident analyses.	1/23FF 8/23FF#2	TBD
SF-5	F	Monitor the submittal and approval of license amendment(s) for the Orano spent fuel storage system.	1/23FF 6/23PM 8/23FF#2	TBD
SF-7	M	Monitor Plans for Storage of Greater than Class C Waste	8/22FF	TBD
SF-8	M	EPRI study [Radiological Consequences of a Release of Radionuclides from a Spent Fuel Storage Cask] has not yet finished although some supporting studies have been concluded regarding source term and what flow rate should be estimated for use in the study. He reported EPRI plans to issue its study in early spring of 2023 and the DCISC should review it at that time. Update 5/23 – study completion deferred until 2025 to obtain additional research data from DOE.	5/23FF#1	4Q25FF
SC	M	Seismic, Tsunami and Other External Events		
SC-3	M	Long-Term Seismic Program: review periodically. Review significant seismic events as they occur. (See also EO-9.)	5/23FF 9/24FF	4Q25FF
SC-12	F	Workplace seismic safety – review annually.	5/23FF#1 7/24FF	12/24FF PFP
SC-14	M	Monitor the Work of the Independent Peer Review Panel	5/24FF#2 9/24FF	10/24PM
SC-15	M	The DCISC should review post-earthquake procedures for the fire department and for security personnel with respect to FLEX equipment and plant access. DCISC recommendation partly implemented by DCCP.	5/24FF 7/24FF	Close
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.	See list at end of OIL 9/24FF	Regularly 4Q25FF
LD		Learning & Development Programs (LD)		
LD-3	M	Review non-license technical, operations & accredited training programs at least annually. [Reviewed Learning Services 5/24FF – satisfactory.]	5/24FF 9/24FF	3Q25FF

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LD-6	F	Observe operator <u>license</u> , re-qualification, classes periodically in FF meetings.	4/23FF 1/24FF	1/25FF
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		Decommissioning		
DEC-1	F	Review DCCP 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 DCCP because of the potential impact on staffing and future options with respect to managing spent fuel.	10/22PM 2/23PM 6/23PM	TBD ACK
DEC-4	F	Emergency preparedness during decommissioning. [Met with SLO OES 11/22FF.]	11/22FF 2/23PM	TBD ADK
DEC-5	F	DCCP'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.	9/22FF 9/22PM	4Q24FF TBD ADK
EO		Extended Operations (EO)		
EO-1	M	Monitor the Purchasing of New Fuel [12/22FF fuel performance & future purchases satisfactory for 2030 operation.]	12/22FF	As appropriate
EO-3	M	Monitor the State and Local Permitting Process	6/24PM	As needed 6/25PM
EO-4	M	Monitor the NRC License Renewal Application and Review Process, including any seismic-related activities.	12/23FF 8/24FF	1Q25FF
EO-5	M	Monitor Staffing for Extended Operations	11/23FF 2/24PM	12/24FF
EO-9	F	Monitor and review the updated seismic assessment required by SB846 [complete 6/24]. Review new seismic safety-related information from the IPRP, and Dr. Peter Bird, NRC petitions, and any other third-party sources.	5/24FF#2 9/24FF 6/24PM	10/24PM
EMB		Unit 1 RPV Embrittlement [New]		
1	F	Determine DCISC Next Steps on Unit 1 Reactor Pressure Vessel Embrittlement. Request/receive comments on Kirk Report by Severance and Macdonald in April/May 2024 and address them as needed in Kirk Report for discussion at 6/24PM. Scope of discussion is "current state."	2/24 PM 6/24PM	10/24PM then Close
2	F	Mark Kirk to review and report on the possible outcomes of Capsule B test results.	2/24PM 6/24PM	10/24PM then Close

3	F	[Former SE-26] Review reactor pressure vessel compliance status after next set of surveillance samples (Capsule B) is analyzed and effective vessel lifetime projections are updated.	11/23FF 2/24PM 6/24PM	After 1R25
4	F	<i>Review and comment on June 2024 report from Dr. Macdonald.</i>		10/24PM then Close
5	F	<i>Review and comment on any new information provided by third parties. Include reviews of NRC petitions. [Words added to EO-9.]</i>		10/24PM then Close to EO-9
6	F	<i>Review and comment on any new questions or requests for information related to vessel embrittlement in LRA proceedings.</i>		2Q25FF
7	F	<i>Review the possible use of alternative methodologies for evaluating Capsule B data.</i>		10/24PM then Close
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.	11/22FF 8/23FF#1 4/24FF	Regularly
O-2	F	COVID-19 responsibilities/practices.	9/21FF 1/22FF	As appropriate
		Public Meeting Items (PM) (Reference: Public Meeting Minutes Pages)		
2/23 PM 14	F	Dr. Peterson commented he favors the wider application of Wi-Fi technology in the plant and moving toward electronic procedures as both can objectively improve plant safety and these applications also create opportunities for the plant staff to acquire new skills which are beneficial to them independent of the future of DCP and he remarked creating these opportunities for plant staff make it more attractive to remain at DCP. [Including the use of AI. (6/24 PM Comment)]	2/23PM 8/23FF#1 12/23FF	12/24FF PFP
9/23 PM 8	F	Dr. Peterson remarked there are legal issues that constrain where servers can be located but he believes the question of how artificial intelligence with its ability to both reduce the amount of work and pull additional insights out of information might be applied in the context of OE and in other applications is one the DCISC should follow as it is possible improvements in operational safety may result.	9/23PM	12/24FF
2/24 PM 4	F	The DCISC FFT concluded that this was appropriate follow up and the status of the implementation of FLEX procedures should be reviewed in the future with reference to other procedural changes. [Reviewed 5/24 FF: satisfactory. The DCISC should review additional changes planned for procedure CP M-12, "Stranded Plant," during a future Fact-Finding Meeting later in 2024.]	2/24 PM 5/24FF 7/24FF	Close
5	F	Mr. McWhorter stated the FFT concluded that the DCISC should review this topic [electronic procedures] following conclusion of the 2R24 refueling outage.	2/24 PM	12/24FF

6	F	The FFT concluded the Emergency Preparedness Department was performing well overall and the DCISC should plan to observe the emergency preparedness exercise scheduled for July 31, 2024 and Mr. McWhorter reported a fact finding visit has been planned around that date.	2/24 PM 7/24FF	Close
11	F	Dr. Peterson replied the Committee would be able to develop some recommendations and he believes, at this point, he has a good understanding of the basic areas of concerns that Mr. Severance is raising and he does not believe it to be possible to cover all of them in the context of this public meeting and a different process will need to be developed to try to make that happen.	2/24 PM	10/24PM Then Close
6/24 PM 1	F	In response to Mr. McWhorter's query as to the Feedwater Heater Project Mr. Jones stated he would need to review the status of funding for the project and get back to the Committee with a response. He remarked PG&E believes it is a prudent project to do as part of the General Rate Case, but funding has not yet been approved and not all parties agree and the rate case is being contested.		Awaiting DCPP 1/25FF
2	F	Mr. McWhorter reported the DCISC should continue to follow completion of the root cause evaluation for the Auxiliary Saltwater Pump 2-2- failure. Dr. Budnitz observed the design appeared to lack flexibility and the procedure was difficult to develop in a way to proscribe making an error. Consultant McWhorter observed the DCISC should review procedure changes that are being proposed for the pump motor overhaul process and see how the procedures work before the root cause evaluation is finalized.		Close to SE-51
3	F	The Committee discussed providing the revised Unit 1 RPV Embrittlement section of the Open Items List to all Members individually and to the Consultants collectively prior to the October 2024 public meeting.		Close to EMB-4 through EMB-7
4	F	Direction was provided to explore a tour with members of the public in conjunction with the October 9-10, 2024 public meeting. [Deferred to February PM due to unavailability of the DCPD Simulator in October (exams).]		2/25PM
5	F	Dr. Peterson stated the DCISC will be looking into the area of innovation opportunities for the plant that could increase safety including the potential application of AI.		Close to 2/23PM #14
6	F	Mr. McWhorter reported DCPD is still working on its Stranded Plant Procedures CP M-12 and he recommended a follow up visit at a later date to close out this item.		7/24FF Close (see also SE-15)
7	F	Mr. McWhorter recommended the DCISC review the radiological protection insurance component at a future fact finding and he noted the Price-Anderson Act and the federal government provide a backstop to some of the risk of loss for the station.		7/24FF Close
8	F	Dr. Peterson reported the auditing and reviews performance and inspection by NEIL and American Nuclear Insurers (ANI) focus on topics which relate to operational safety, and he recommended a review of these inspections be added to the Open Items List as an ongoing item.		Close to new items NS-10 & EN-19
9	F	Consultant McWhorter confirmed the Auxiliary Saltwater Pump 2-2 failure should remain on the Open Items List for review.		Close to SE-51

10	F	The DCISC should review any new seismic-safety-related information from the NRC review of the LRA. [Words added to EO-4.]		Close to EO-4
11	F	The DCISC should review any future evaluations performed by the NRC, the IPRP, PG&E or other entities in response to Dr. Peter Bird's analyses of seismic hazard.		10/24PM then close to EO-9
12	F	The DCISC should review any other seismic-safety information that may emerge in the normal course of events. [Words added to EO-9.]		Close to EO-9
13	F	The Chair closed public comment and Dr. Budnitz called the question on his motion. Dr. Peterson stated he would support the motion which consists of two parts, one to accept/approve the May 30, 2024, Fact Finding Report [Comprehensive Seismic Safety Update] and a second part to undertake significant work in the period between this meeting and the public meeting in October to review available information. On a unanimous vote the Committee then approved the May 30, 2024 Fact Finding Report and Resolution 2024-08 as stated in the foregoing.		10/24PM

DCPP Systems/Components Reviewed Periodically [Yellow = Upcoming FF]

4 kV – July 2022
 230 kV & 500 kV – Dec 2022
 Aux Feedwater – Mar 2024
 Aux Saltwater – Mar 2024 FF (ASWP 2-2 Failure Cause Eval)
 Aux Bldg Ventilation – July 2023
 Chemical & Volume Control System and High Pressure Injection – Jan 2021
 Component Cooling Water – Mar 2023
 Compressed Air – Apr 2023
 Condensate & Feedwater – Nov 2021
 Containment Structure – July 2022
 Containment Spray – May 2022
 Containment Ventilation and H₂ Purge – July 2023
 Control Room Simulator – May 2024
 Control Room Ventilation – July 2023
 Digital Systems – 2024 April 2024
 DC Power – Mar 2022
 EDG – Jan 2024
 Fire Protection & Detection Systems – Apr 2023
 Nuclear Instrumentation & In-core Instrumentation – Sep 2022
 Plant Protection System – Mar 2023
 Radiation Monitoring – May 2023
 Radwaste Processing – 2020 Mar 2024
 Reactor Coolant System & Pumps – Apr 2023

Buried Piping & Tanks – May 2023
 RCS Process Control System – May 2020
 Refueling Equipment – Jan-2022 May 2024
 RHR – Jan 2021
 Rod Control & Indication – Aug 2023
 Safety Injection Pumps – Jan 2021
 Spent Fuel Pool Cooling & HVAC – July 2021
 Steam Generators – Aug 2023
 Special Protection System – Mar 2020
 Turbine-Generator – Jan 2023

DCPP Programs Reviewed Periodically [Yellow = Upcoming FF]

10CFR50.59 Program – July 2021
 ALARA – May 2022
 Air Operated Valves – Jan 2024
 Benchmarking – Mar 2022
 Boric Acid Corrosion Control – Aug 2023
 Chemistry – Aug 2021
 Cranes – Dec 2021
 Configuration Management – Apr 2022
 Corrective Action – CARB – Aug 2024

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Emergency Preparedness – Dec 2023
 Employee Concerns Program – Aug 2023
 Equipment Environmental Qualification – Dec 2022
 Equipment Reliability – May 2023 May 2024
 Fire Doors & Door Life Cycle Mgm't. Plan – Jan 2022
 Fire Protection Program (NFPA-805) – **Sep 2024**
 FLEX Program – Jul 2023
 Flow Accelerated Corrosion – May 2022
 Foreign Material Exclusion – ~~May 2022~~ April 2024
 Greater Than Class C Waste – Aug 2022 PFP
 In-service Inspection Program – Jul 2023
 Integrated Risk Assessment Program – Mar 2022
 Large Motors – Jul 2023
 Long-Term Capital Planning Process – May 2023
 MIDAS – Dec 2024 May 2024
 Maintenance Rule – Nov 2023
 Margin Management Program – ~~May 2020~~ April 2024
 Motor Operated Valves – Jan 2024
 Notification Review Team – Mar 2022
 Nuclear Fuel Program – Jan 2024
Nuclear Insurance Programs – July 2024
 On-Line Maintenance – **Sep 2024**
 Operating Experience – **Jul 2024** (review biennially)
 Operability Assessment Program – Jan 2022
 Operational Decision Making – April 2024
 PRA Programs (non-seismic) – Sep 2022
 Performance Improvement – Sep 2023 PM
 Performance Review Quarterly Meeting – Apr 2021
 Plant Health Committee/Subcommittee – Jul 2023
 Plant Health Prioritization Committee – Aug 2023
 Reactivity Management – Apr 2024
 Safety-Security Interface – Dec 2022
 Self-Assessment – Jan 2023
 Single Point Vulnerabilities – Jan 2022
 Seismic PRA – May 2023
 Seismically Induced System Interactions – ~~Nov 2020~~ Mar 2024
 Software QA - Aug 2021
 Spent Fuel Management – Aug 2023
 System Engineering – Mar 2022
 Transformers, Large – July 2023
 Troubleshooting – Dec 2022
 October 9-10, 2024 Public Meeting
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Tsunami Hazard Analysis – August 2022
 Vibration Monitoring – Mar 2021

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DIABLO CANYON INDEPENDENT SAFETY COMMITTEE	
AGENDA TRANSMITTAL FORM	
MEETING DATE:	October 21, 2024
AGENDA ITEM:	XXII
AGENDA TITLE:	Update on Public Outreach, Site Visits and Committee Member Activities and Scheduling of DCISC Activities During 2024-2025-2026.
CONSENT [☐] ACTION [☐] INFORMATION [☒]	
Staff Summary: It is expected that the Committee Members will hold a discussion regarding public outreach, Member's activities and will schedule confirm and scheduled future activities of the Committee for 2024, 2025 and 2026. The Actual and Proposed DCISC Fact-Finding and Public Meeting Items, with Key Dates, prepared by Committee Consultant Ferman Wardell is provided for your use in reviewing and planning Committee activities.	
RECOMMENDED COMMITTEE ACTION: As appropriate	

DCISC Fact-Finding and Public Meeting Agenda Items for 2024-2025

July 31-August 1, 2024 Fact-finding Meeting (PFP, RFW) (AR Exhibit D.1)

1. Observation of the July 31, 2024 NRC-Evaluated Emergency Exercise
2. DCPD Stranded Plant Procedure
3. Annual Radiological Reports
4. Operational Experience Program Update
5. Workplace Seismic Safety
6. Nuclear Liability Insurance
7. Meet with DCPD Officer
8. Meet with NRC Senior Resident Inspector
9. Spent Fuel Movement to ISFSI

August 21-22, 2024 Fact-finding Meeting (NM, RDM) (AR Exhibit D.2)

1. Plant Design and Major System Functions
2. Site Area Tour
3. Probabilistic Risk Assessment Program
4. Station Organization and Major Programs
5. Meet with NRC Senior Resident Inspector
6. Corrective Action Program and Human Performance
7. Lunch with Senior Leadership Team
8. License Renewal Application
9. Plant Tour

September 24-25, 2024 Fact-finding Meeting (RJB, RFW) (AR Exhibit D.3)

1. Meet with DCPD Officer Maureen Zawalick
2. License Renewal Update and Unit 1 Capsule B Withdrawal
3. On-Line Maintenance
4. Observe Licensed Operator Training: Reactor Physics
5. Status of Independent Spent Fuel Storage Installation License Renewal
6. Pressurizer Safety Valve Root Cause Evaluation
7. Current Campaign Moving Spent Fuel from Spent Fuel Pool to Independent Spent Fuel Storage Installation
8. Results of July 31, 2024 Evaluated Emergency Preparedness Exercise
9. Meet with NRC Senior Resident Inspector and New Resident Inspector
10. Fire Protection Update
11. Follow-up to August 27, 2024 Meeting with PG&E Geosciences
12. Observe Work in Progress: Calibration of Nuclear Instrumentation

October 9-10, 2024 Public Meeting (AR Exhibit B.3)

1. State of the Plant Update: including Organizational Changes, Significant Past and Future Plant Activities, Power History, Significant Equipment Issues, Intake Cove Dredging Project, and Other Station Activities
2. Update on the Status of NRC Performance Indicators, Licensee Event Reports, NRC Inspection Reports NRC Current Issues, & Current & Future License Amendment Requests
3. Presentation by the Independent Peer Review Panel for Seismic Hazard Studies of DCPD on the Panel's Report on PG&E's Diablo Canyon Updated Seismic Assessment PG&E Evaluations of Technical Concerns on the Seismic Safety of DCPD Provided by Dr. Peter

Bird in His Letter to the DCISC

4. Report on Evaluations of Public Input on Studies by Dr. Mark T. Kirk Evaluating Unit 1 Reactor Pressure Vessel Integrity
5. Presentation by the NRC's Senior Resident Inspector for DCPD Mr. Mahdi Hayes on the NRC's Annual Assessment of DCPD's End-of Cycle Performance
6. Quality Verification Organization's Perspective on Plant Performance, Top Issues, Quality Performance Assessment Report
7. Update on Recent Campaign to Move Spent Fuel Assemblies from the Spent Fuel Pool to the Independent Spent Fuel Storage Installation

November 12-13, 2024 Fact-finding Meeting (RJB, RDM) (AR Exhibit D.4)

December 11-12, 2024 Fact-finding Meeting (PFP, RDM) (AR Exhibit D.5)

January 21-22, 2025 Fact-finding Meeting (NM, RFW) (AR Exhibit D.6)

February 19-20, 2025 Public Meeting (AR Exhibit B.6)

March 18-19, 2025 Fact-finding Meeting (RJB, RDM) (AR Exhibit D.7)

April 8-9, 2025 Fact-finding Meeting (NM, RFW) (AR Exhibit D.8)

May 7-8, 2025 Fact-finding Meeting (PFP, RFW) (AR Exhibit D.9)

June 11-12, 2025 Public Meeting (AR Exhibit B.9)

July 29-30, 2025 Fact-finding Meeting (PFP, RDM) (AR Exhibit D.1)

August 12-13, 2025 Fact-finding Meeting (NM, RFW) (AR Exhibit D.2)

September 16-17, 2025 Fact-finding Meeting (RFW, RDM) (AR Exhibit D.3)

October 22-23, 2025 Public Meeting (AR Exhibit B.3)

DCPD 2024 Key Dates

NSOC Meetings (DCISC invited only to the 2-hour exit meeting on the final days below)

- October 21, 2024
- March 20, 2025
- June 26, 2025
- December 11, 2025

Refueling Outages

- 1R25 Spring 2025
- 2R25 Fall 2025

Emergency Preparedness Exercise

Mid-2026

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE	
AGENDA TRANSMITTAL FORM	
MEETING DATE:	October 10, 2024
AGENDA ITEM:	XII-B
AGENDA TITLE:	Documents Provided to the Committee
CONSENT [] ACTION [X] INFORMATION [X]	
Staff Summary: Attached for your information are copies of the transmittal memoranda which list the various documents provided to the Committee by PG&E since your last public meeting in June 2024.	
RECOMMENDED COMMITTEE ACTION: None, information item only.	

May 2024
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
5/1/2024	DCL-24-047	2023 Annual Nonradiological Environmental Operating Report
5/1/2024	DCL-24-049	2023 Annual Radiological Environmental Operating Report
5/8/2024	DCL-24-051	One Hundred Eighty Day Steam Generator Report for Diablo Canyon Power Plant Unit 1 Twenty-Fourth Refueling Outage
5/16/2024	DCL-24-052	Responses to NRC Requests for Additional Information on the Diablo Canyon Power Plant License Renewal Application Environmental Report
5/17/2024	DCL-24-054, LER 2024-001-00	Unit 2 Licensee Event Report 2024-001-00, Unit 2 LCO 3.0.3 Completion Time Limits
5/28/2024	DCL-24-056	10 CFR Part 21 Interim Report

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
5/29/2024	DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENT NOS. 245 AND 247 RE: REVISION TO TECHNICAL SPECIFICATIONS TO ADOPT TSTF-505, REVISION 2, "PROVIDE RISKINFORMED EXTENDED COMPLETION TIMES – RITSTF INITIATIVE 4b" (EPID L-2023-LLA-0100)

D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title
5/28/2024	PSRC 2024-004	Emergency Plan, Revision 5.00 (various portions)

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

Type	Doc. No.	Title
04/30/2024		Significance Level 1 and 2 Work Group Evaluations Created 04/01/2024 - 04/30/2024
05/31/2024		List of DN 5.1 and 5.2 Created 05/01/2024 - 05/31/2024
05/31/2024		DCPP 1 WGE and 2 WGE Notifications Completed 05/01/2024 - 05/31/2024
05/06/2024		Open LTCA DA Notifications Station Significance 3 as of 05/06/2024
05/06/2024		20 Oldest Non-LTCA DA Notifications as of 05/06/2024
05/06/2024		Open RCEs as of 05/06/2024

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05/06/2024		Open LTCA DA Notifications Station Significance 1 & 2
04/24/2024	51209321	DA-U2 Line 1900 has slight BULGE
05/07/2024	51232800	DA-QAAF – AR PK21 Series Trip Criteria
05/07/2024		Updated Condition Report 04/30/2024 to 05/06/2024
05/15/2024	51233612	DA-Failure of STP V-630 (CS-2-9001B) - 2
04/09/2024	51225391	DA-Gland Stm system degraded performance
05/09/2024	51210807	DA-Arcing on U2 MBT-A Lightning Arrestor
05/16/2024	51238415	DA-Failure to report legal action OM11.I
05/07/2024	51235217	DA-Contractor Safety Plan Insufficient
05/30/2024	51236751	DA-TGMC-Loose Bolt Identified on H2 Bush

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

Date	Doc. No.	Title
05/01/2024		Quality Digest, May Edition 2024

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
05/11/2024	51226865	Document Svcs Benchmarking at Palo Verde
05/02/2024	51212473	Perform QHSA against NRC IP 71124.06
05/20/2024	51230020	2R24 NRC ISI Inspection QHSA
05/06/2024	51181202	Buried Pipe Quick Hit Self-Assessment
03/11/2024	51220785	Benchmark - Wolf Creek PI&R SA
12/29/2022	51142456	OM15.ID10 Self-Assessment 2022
05/02/2024	51217373	Track 2024 Part 37 Review
05/29/2024	51229609	IST PP Update Revision Cost Benchmarking
11/02/2023	51210679	BNHI INPO TR Managers Working Meeting
05/16/2024	51229653	NEI Cyber Implementation Benchmark
05/07/2024	51236769	2024 NAECP Annual Trip Report

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

Date	Doc. No.	Title
1/31/2022		Generation Operating Plan 2021 – 2025, No new updates this month.
04/29/2024		May 2024 PI Status Summary
05/14/2024		May 2024 Operations Services Performance Improvement Dashboard

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05/15/2024		May 2024 Maintenance PI Dashboard
05/16/2024		May 2024 Engineering Services Performance Improvement Dashboard
05/14/2024		May 2024 Security & Emergency Services Performance Improvement Dashboard
Station Initiative		There are no new Station Initiatives for this month.

J. INPO

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

K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
5/29/2024		Unit 2 Condenser In-Leakage
5/30/2024		Unit 2 Condenser In-Leakage
5/30/2024		ODM Meeting Minutes, "Intermittent Salt Leak in the SE Quadrant of the Unit 2 Main Condenser"
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	Week 202416	T+1 Performance Critique
	Week 202417	T+1 Performance Critique
	Week 202418	T+1 Performance Critique
	Week 202419	T+1 Performance Critique
	Week 202420	T+1 Performance Critique
	Week 202421	T+1 Performance Critique

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	Week 202422	T+1 Performance Critique
	April	T+1 Monthly Performance Critique 2414-2417
	May	T+1 Monthly Performance Critique 2418-2422

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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
6/17/2024	DCL-24-064	Response to Letter from John L. Geesman Regarding the Seismic Update Discussion at February 22, 2024 DCISC Meeting
6/27/2024	DCL-24-066	Request to Extend the NRC Approval of Alternative for Use of Full Structural Weld Overlay, REP-RHR-SWOL, Units 1 and 2

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
6/10/2024	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 - NRC INITIAL OPERATOR LICENSING EXAMINATION APPROVAL 05000275/2024301; 05000323/2024301

D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title
6/3/2024		PSRC Members/Alternates
5/14/2024	2024-005	OP L-0
5/22/2024	2024-006	AD7.DC6, Revision 30
3/19/2024	2024-007	Verbal NOED Template

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

Type	Doc. No.	Title
1 WGE	SAPN	
2 WGE	51226292	DA-S/E-46 Failure during weekly swap
2 WGE	51225501	DA-QAAF: ATS Housekeeping
2 WGE	51227014	DA-E/S-44 tripped off
2 WGE	51206621	DA-Adv. Trend: 2023 Security HU Action P
2 WGE	51210857	DA-N-Mod f/Caulking Shd be in ISI Scope
2 WGE	51232777	DA-STP M-3B Pre-conditioning
2 WGE	51232800	DA-QAAF - AR PK21 Series Trip criteria
2 WGE	51153670	LTCA DA - U1 Sys 04C FLR Goal Setting
Eff. Eval		
06/30/2024		Significance Level 1 and 2 Work Group Evaluations Created 05/03/2024 - 06/30/2024
06/30/2024		List of DN 5.1 and 5.2 Created 6/1/2024 - 6/30/2024

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List of Documents Transmitted Electronically

06/30/2024		DCPP 1 WGE and 2 WGE Notifications Completed 06/01/2024 - 06/30/2024
06/10/2024		Open LTCA DA Notifications Station Significance 3 as of 06/10/2024
06/10/2024		20 Oldest Non-LTCA DA Notifications as of 06/10/2024
06/11/2024		DCPP CAP Station Index
06/11/2024		Open RCEs as of 6/11/2024
06/10/2024		Open LTCA DA Notifications Station Significance 1 & 2

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

Date	Doc. No.	Title
06/05/2024		Quality Digest, June Edition 2024
06/12/2024	2024-AS-15	Assessment to Determine Cyber Security Audit Frequency

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
	BNHI- 51241474	Golden Image Laptop Benchmark
	BNHI- 51225311	OPS benchmark - Surry (CPE)
	BNHI- 51231483	INPO March T&L Summit summary
	SAQH- 51191886	Station Programs QHSA 2024
	BNHI- 51202208	Benchmark Training Qual Exemptions
	BNHI- 51231220	Benchmarking - Certrec Reg Conference 23
	BNHI- 51187234	Benchmark: Plant Farley

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

Date	Doc. No.	Title
1/31/2022		Generation Operating Plan 2021 – 2025, No new updates this month.
06/2024		June 2024 DCP Station Excellence Plan
07/01/2021		July 2024 PI Status Summary
06/2024		June 2024 EP Dashboard
06/13/2024		June 2024 Operations Services Performance Improvement Dashboard
06/13/2024		June 2024 Maintenance PI Dashboard

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06/13/2024		June 2024 Engineering Services Performance Improvement Dashboard
06/09/2024		June 2024 Security & Emergency Services Performance Improvement Dashboard
6/12/2024		June 2024 Industrial Safety Performance Improvement Dashboard
6/18/2024		DCPP Projects PI Dashboard
Station Initiative		There are no new Station Initiatives for this month.

J. INPO

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

K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
ODM		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	Week 202423	T+1 Performance Critique
	Week 202424	T+1 Performance Critique
	Week 202425	T+1 Performance Critique
	Week 202426	T+1 Performance Critique
	June	T+1 Monthly Performance Critique 2423-2426

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A. Licensing Basis Impact Evaluations

Date	LBIE No.	Title
	2024-002	SDR-DFMP-24-01, Vent Plate Accept As-Is
	2024-003	DCP 1000025647, 2024 ISFSI Campaign DCP; Holtec Engineering Change Order (ECO) 1073-137
	2024-004	DCP 1000025647, 2024 ISFSI Campaign DCP; Holtec ECO-1073-138

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

Date	Letter No.	Title
7/3/2024	DCL-24-068, DIL-24-008	Emergency Plan Update
7/11/2024	DCL-24-069	2Q2024 quarterly reports
7/22/2024	DCL-24-071	COLR Unit 2 Cycle 25
7/31/2024	DCL-24-073	Coastal Development Permit No. A-3-SLO-04-035-A1 Spent Nuclear Fuel (SNF) Management Special Condition No. 9 Annual Report
7/31/2024	DCL-24-070	License Amendment Request 24-03, Revision to Technical Specification 5.5.16 for Permanent Extension of Type A and Type C Leak Rate Test Frequencies

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
7/3/2024	DIABLO CANYON NUCLEAR POWER PLANT UNIT 2 LICENSE RENEWAL PHASE 1 REPORT 05000323_2024011
7/8/2024	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 – SECURITY BASELINE INSPECTION REPORT 05000275/2024401 AND 05000323/2024401
7/11/2024	DIABLO CANYON NUCLEAR POWER PLANT – AGE-RELATED DEGRADATION INSPECTION REPORT 05000275/2024014 AND 05000323/2024014
7/23/2024	Acceptance Review - Diablo Canyon request for approval to extend the alternative for use of full structural weld overlay (EPID: L-2024-LLR-0043)
7/31/2024	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 – LICENSE RENEWAL REPORT 05000275/2024012 AND 05000323/2024012-ML24213A074

D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title
7/9/2024	2024-008	PSRC Meeting Minutes 2024-008

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List of Documents Transmitted Electronically

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

Type	Doc. No.	Title
1 WGE	SAPN	
2 WGE	51225504	ATS CGD Purchase Order Doc
2 WGE	51233883	Report of first aid
2 WGE	51245088	PC4d Goal Setting Eval - U2 MEDT
2 WGE	51166116	DG 2-3 FO challenge review
2 WGE	51228036	QAAF: Work Planning for Lead Exposure
2 WGE	51217108	Confirmed Trend: Incorrect Comp Actio
2 WGE	51230730	Trend - DA3 Improper Closures
Eff. Eval	51185847	Effectiveness Evaluation for CE 51174947
06/30/2024		Significance Level 1 and 2 Work Group Evaluations Created 6-01-2024 - 6-30-2024
07/31/2024		List of DN 5.1 and 5.2 Created 7-1-2024 – 7-31-2024
07/31/2024		DCPP 1 WGE and 2 WGE Notifications Completed 7/01/2024 - 7/31/2024
07/09/2024		20 Oldest Non-LTCA DA Notifications as of 07/09/2024
07/09/2024		Open RCEs as of 07/09/2024
07/09/2024		Open LTCA DA Notifications Station Significance 1 & 2 as of 07/09/2024
07/09/2024		Open LTCA DA Notifications Station Significance 3 as of 07/09/2024

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

Date	Doc. No.	Title
07/10/2021		Quality Digest, July Edition 2024
7/8/2024	2024-IA-04	2024 Procurement Audit Report 6/10/2024 - 7/8/2024

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
7/23/24	51247515	Informal Benchmark - Conditional SPV
7/1/2024	51194356	INPO Corp Eval Follow-Up Self Assessment
7/23/2024	51247513	Informal Benchmark - LCO Execution
7/11/2024	51236998	Callaway Nuclear ISFSI Benchmark
7/23/24	51247514	Informal Benchmark - Resource Loading

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7/9/2024	51245873	RWM Informal Benchmark WWM Seminar
7/11/2024	51212474	Perform QHSA against NRC IP 71124.07
7/12/2024	51212476	Perform QHSA against NRC IP 71124.08
7/31/2024	51225706	RP ALARA Conference Benchmark
7/11/2024	51212472	Perform QHSA against NRC IP 71124.05
8/19/2024	51107700	FSA:STA/IA & Shift Manager Training 3Q23

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

Date	Doc. No.	Title
1/31/2022		Generation Operating Plan 2021 – 2025, No new updates this month.
07/01/2024		July 2024 PI Status Summary
07/16/2024		July 2024 Operations Services Performance Improvement Dashboard
7/11/2024		July 2024 Industrial Safety Performance Improvement Dashboard
07/15/2024		July 2024 Maintenance PI Dashboard
07/15/2024		July 2024 Projects PI Dashboard
07/15/2024		July 2024 Engineering Services Performance Improvement Dashboard
07/15/2024		July 2024 Security & Emergency Services Performance Improvement Dashboard
07/03/2021		July 2024 Learning Services PI Status Summary
7/1/2024		July 2024 Emergency Preparedness Performance Improvement Dashboard
Station Initiative		There are no new Station Initiatives for this month.

J. INPO

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

K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
ODM		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

July 2024
List of Documents Transmitted Electronically

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 2022	T+1 Performance Critique
	Week 2022	T+1 Performance Critique
	Week 2022	T+1 Performance Critique
	Week 2022	T+1 Performance Critique
	July	T+1 Monthly Performance Critique 2126-2130

August 2024
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
8/1/2024	DCL-24-074	Diablo Canyon Power Plant Intake Cove Dredging – Project Completion Report
8/8/2024	DCL-24-075	Response to RAI for LAR 23-02, Application to Adopt 10 CFR 50.69, “Risk-Informed Categorization and Treatment of Structures, Systems and Components for Nuclear Power Reactors
8/13/2024	DCL-24-076	Owner's Activity Report for Unit 2 Twenty-Fourth Refueling Outage
8/15/2024	DCL-24-077	Responses to NRC Requests for Additional Information on the Diablo Canyon Power Plant License Renewal Application Severe Accident Mitigation Alternatives Analysis
8/28/2024	DCL-24-082	Diablo Canyon Power Plant Decommissioning Draft Biological Assessment and Draft Essential Fish Habitat Assessment

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
8/6/2024	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 – INTEGRATED INSPECTION REPORT 05000275/2024002 AND 05000323/2024002
8/22/2024	UPDATED INSPECTION PLAN FOR DIABLO CANYON POWER PLANT, UNITS 1 AND 2 (REPORT 05000275/2024005 AND 05000323/2024005) - ML24232A084
8/26/2024	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 – NRC EXAMINATION REPORT 05000275/2024301 AND 05000323/2024301
8/27/2024	2.206 PETITION REGARDING SEISMIC CORE DAMAGE FREQUENCY FOR DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 (EPID L-2024-CRS-0000)

D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title
7/23/2024	2024-009	FPEE 172, Fire Hose Removal PG&E Letter DCL-24-070, License Amendment Request 24-03

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

Type	Doc. No.	Title
1 WGE	SAPN	
2 WGE	51225738	DA-System 18B Firewater – MR Goal Settin

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2 WGE	51223942	DA-EFEV Criteria Not Met
2 WGE	51241946	DA-QAAF-Safety Security Interface Record
2 WGE	51232406	DA-NRC- Identified – MRFF Eval Revision
2 WGE	51240613	DA-Unattended Keycard Adverse Trend
2 WGE	51232402	DA-Radioactive Material outside the RCA
Eff. Eval	51157404	RCE Effective Eval – 51151560 1X24 SGBD
08/31/2024		Significance Level 1 and 2 Work Group Evaluations Created 08/01/2024 - 08/31/2021
08/31/2024		List of DN 5.1 and 5.2 Created 8-1-2024 – 8-31-2024
08/31/2024		DCPP 1 WGE and 2 WGE Notifications Completed 8/31/2024
08/05/2024		Open LTCA DA Notifications Station Significance 3 as of 8/05/24
08/05/2024		20 Oldest Non-LTCA DA Notifications as of 08/05/2024
08/05/2024		DCPP CAP Station Index
08/05/2024		Open RCEs as of 08/05/2024
08/05/2024		Open LTCA DA Notifications Station Significance 1 & 2

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

Date	Doc. No.	Title
08/07/2024		Quality Digest, August Edition 2024

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
	BNHI 51242211	Benchmark: 2024 PPA Conference
	BNHI 51248414	2024 NUPIIC Conference Lessons Learned
	BNHI 51248622	Trip report - EPRI BOP NUCC Conference
	BNHI 51214504	Benchmark Robinson Station
	BNHI 51251150	2024 Women In Nuclear Conf Key Takeaways
	QHSA 51146570	2022 MR (a)(3) Assessment

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

Date	Doc. No.	Title
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August 2024
List of Documents Transmitted Electronically

1/31/2022		Generation Operating Plan 2021 – 2025, No new updates this month.
08/05/2024		August 2024 PI Status Summary
08/13/2024		August 2024 Operations Services Performance Improvement Dashboard
08/19/2024		August 2024 Maintenance PI Dashboard
08/15/2024		August 2024 Engineering Services Performance Improvement Dashboard
08/19/2024		August 2024 Security & Emergency Services Performance Improvement Dashboard
08/13/2024		August 2024 Industrial Safety PI Dashboard
08/21/2024		August 2024 Projects PI Dashboard
08/05/2024		August 2024 Learning Services PI Dashboard
No Date		August 2024 Emergency Preparedness PI Dashboard
Station Initiative		There are no new Station Initiatives for this month.

J. INPO

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

K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
8/22/2024		U1 Condenser inleakage > 2 gpd ODM
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	Week 202432	T+1 Performance Critique

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE	
AGENDA TRANSMITTAL FORM	
MEETING DATE:	October 10, 2024
AGENDA ITEM:	XXIII
AGENDA TITLE:	Presentation by the NRC's Senior Resident Inspector for DCPD Mr. Mahdi Hayes on the NRC's Annual Assessment of DCPD's End-of Cycle Performance during Calendar Year 2023.
CONSENT []	ACTION [] INFORMATION [X]
Staff Summary: It is expected the Committee will receive a presentation from the Nuclear Regulatory Commission's (NRC) Senior Resident Inspector for Diablo Canyon Units 1 and 2, Mr. Mahdi Hayes, during which Mr. Hayes will provide an overview of the role of the NRC, its regulatory processes for reactor oversight, the role of the Resident Inspector Program, and also discuss the 2023 Annual Assessment of Diablo Canyon Units 1 and 2 end-of cycle performance. The NRC's inspections and performance assessments include review of performance indicators, inspection results, and enforcement actions and also determines the performance of Diablo Canyon Power Plant, Units 1 and 2 relative to the NRC's Reactor Oversight Process (ROP) Action Matrix.	
RECOMMENDED COMMITTEE ACTION: Receive the presentation by Mr. Hayes.	

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

AGENDA TRANSMITTAL FORM

MEETING DATE:

October 10, 2024

AGENDA ITEM:

XXIX - A

AGENDA TITLE:

Status of Governmental Agency Interactions, Responses to SB 846 Directives, Discussion of Regulatory Matters including R.23-01-007 Phase 2 Issues Including DCISC Funding for Extended Operation and Consideration of Term Limits for Committee Members, Administrative Matters (including ratification of Amendment No. 4 to Consulting Agreement with Dr. Mark Kirk) Consideration and Approval of New and Revised Committee Policies, Financial and Other Committee Business.

CONSENT []

ACTION [X]

INFORMATION [X]

Staff Summary: On August 31, 2022, in the California Assembly, and on September 1, 2022, in the California Senate, the California Legislature passed and on September 2, 2022, Governor Newsom signed urgency legislation to invalidate the Joint Proposal which would have retired DCPD Unit 1 in 2024 and Unit 2 in 2025 in order to preserve the option of continued operation of DCPD beyond 2025 (California Senate Bill SB 846).

The legislation amends sections of the California Government Code, the Public Resources Code, the Public Utilities Code and the Water Code to require the Public Utilities Commission to consider setting new retirement dates for DCPD, conditioned upon the NRC extending the plant's operating licenses. On December 15, 2023, the CPUC issued Decision 23-12-036 Conditionally Approving Extended Operations at Diablo Canyon Nuclear Power Plant Pursuant to SB 846 until October 31, 2029 (Unit 1) and October 31, 2030 (Unit 2). Public Utilities Code §§712.1 and 712.8, added by SB846, require the Committee to undertake certain additional reviews and duties including concerning the transmittal of its findings and recommendations.

On November 7, 2023, PG&E submitted its License Renewal Application for Diablo Canyon to the NRC and on December 19, 2023 the Application was found by the NRC to be acceptable for docketing (NRC 2023-0192) and on December 14, 2023, the License Renewal Application was deemed acceptable by the NRC which permits the plant to continue to operate while the NRC completes its investigation and review.

It is anticipated the Members, Technical Consultants and Legal Counsel will hold a discussion and receive information including recent interaction with governmental agencies, financial, administrative and regulatory matters including the Committee's response to the passage of SB846 and the CPUC Order Instituting Rulemaking [R.23-01-007] including Phase 2 to address future funding for the Committee's operations during the period of extended operation and having term limits for Committee members.

The Committee is also expected to take up the ratification of Amendment No. 4 to the Agreement with Dr. Mark T. Kirk concerning Unit 1 Reactor Pressure Vessel integrity increasing compensation provided to Dr. Kirk, and discuss financial and future funding and other matters.

RECOMMENDED COMMITTEE ACTION:

Discussion and take action and/or provide direction as appropriate.

COM/KDL/cmf 6/25/2024



FILED

06/25/24

08:59 AM

R2301007

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Implementing Senate Bill 846
Concerning Potential Extension of
Diablo Canyon Power Plant
Operations.

Rulemaking 23-01-007

**ASSIGNED COMMISSIONER'S AMENDED SCOPING MEMO
AND RULING FOR PHASE 2 OF PROCEEDING**

This amended scoping memo and ruling (Amended Scoping Memo) sets forth the issues, category, need for hearing, schedule, and other matters necessary to scope Phase 2 of this proceeding pursuant to Public Utilities Code Section (§) 1701.1¹ and Article 7 of the Commission's Rules of Practice and Procedure (Rules).

1. Procedural Background

The April 6, 2023 *Scoping Memo of Assigned Commissioner and Administrative Law Judge* (Scoping Memo) established a preliminary scope for Phase 2 of this proceeding. *Administrative Law Judge's Ruling Seeking Comments on Phase 2 Scoping Memo*, dated February 7, 2024, invited comments from parties to this proceeding on the preliminary Phase 2 issues listed in the Scoping Memo.

The following parties filed timely responses to the ruling: Alliance for Nuclear Responsibility (A4NR), Coalition of California Utility Employees, Green Power Institute (GPI), Pacific Gas and Electric Company (PG&E), The Utility

¹ All statutory references are to the Public Utilities Code unless otherwise stated.

Reform Network (TURN), San Luis Obispo Mothers for Peace (SLOMFP) and Small Business Utility Advocates. Replies were filed by A4NR, Alliance for Retail Energy Markets and Direct Access Customer Coalition, California Community Choice Association, Californians for Renewable Energy, Inc., GPI, PG&E, TURN, SLOMFP, and Southern California Edison Company.

After considering the comments and replies, we have amended the scope of issues and the schedule of the proceeding as set forth in this Amended Scoping Memo.

2. Issues

After review of the comments on the February 7, 2024 ruling and in light of the direction provided in Decision (D.) 23-08-004, D.23-12-036, and the applicable law, the issues to be determined or otherwise considered are as follows:

1. Whether the Commission should continue to use the general framework and definitions for the use of the surplus performance-based fees as adopted in D.23-12-036 in the post-2024 period.
2. Consideration of review criteria for the annual compensation report in accordance with § 712.8(s)(1).

The baseline review criteria for the annual compensation report should include the following:

- a. the volumetric performance fees collected under § 712.8(f)(5) broken down by investor-owned utility company/load-serving entity customers and rate categories;
- b. forecast volumetric performance fees under § 712.8(f)(5) as approved in the Extended Operations Forecast proceeding as compared to actual volumetric performance fees collected, plus explanations for any differences between forecast and actual amounts;
- c. forecast costs for public purpose priority spending under §§ 712.8(s)(1)(A) - (F) as approved in the Extended

Operations Forecast proceeding as compared to actual spending, plus explanations for any differences between forecast and actual amounts;

- d. categorization of costs using the six public purpose priorities listed in § 712.8(s)(1) parts (A) - (F) and costs associated with Diablo Canyon Power Plant extended operations; and
 - e. citations to the decision(s) authorizing the public purpose priority programs and projects now being accelerated or increased and the costs approved in those decisions.
 - f. Additional review criteria will be considered, particularly those which help demonstrate whether PG&E shareholders received any compensation from the volumetric performance fees or other requirements in § 712(s)(2).
3. Consideration of any additional information concerning the Diablo Canyon Independent Safety Committee's (DCISC's) forecast costs and associated activities during DC extended operation.
- a. How should the current DCISC funding methodology be adjusted;
 - b. Whether any new or revised parameters for the DCISC during extended operations should be made by amending the DCISC charter, including but not limited to those concerning funding for DCISC going forward and whether DCISC members should have term limits.

3. Need for Evidentiary Hearing

Given the issues to be determined or otherwise considered in Phase 2, we determine that evidentiary hearings are not needed.

4. Schedule

The following schedule is adopted here and may be modified by the Administrative Law Judge (ALJ) as needed to promote the efficient and fair resolution of this proceeding.

Event	Date
Party Proposals on Phase 2 Issues Filed and Served	August 15, 2024
Opening Comments on Proposals Filed and Served	September 19, 2024
Reply Comments on Proposals Filed and Served	October 3, 2024
Proposed Decision	Within 3 months of reply comments

Phase 2 of the proceeding will stand submitted upon the filing of reply comments on proposals unless the ALJ requires further evidence or argument.

5. Category of Proceeding

This ruling reconfirms the Commission's determination in the Scoping Memo that this is a ratesetting proceeding. Accordingly, *ex parte* communications are restricted and must be reported pursuant to Article 8 of the Rules.

6. Intervenor Compensation

Pursuant to Rule 17.2, a party found eligible for an award of compensation in one phase of a proceeding remains eligible in later phases in the same proceeding. Pursuant to § 1804(a)(1), where new issues emerge subsequent to the time set for filing notices of intent to claim compensation, the Commission may determine an appropriate procedure for accepting new or revised notices of intent to claim compensation. Accordingly, an intervenor who intends to seek an award of compensation for Phase 2 must file and serve a notice of intent to claim compensation within 30 days after the issuance of this Amended Scoping Memo. New intervenors may only intervene on issues new to the scope of Phase 2 of this proceeding.

IT IS RULED that:

1. The scope of Phase 2 of this proceeding is described above and is adopted.
2. The schedule for Phase 2 of this proceeding is set forth above and is adopted.
3. Evidentiary hearing is not needed.

Dated June 25, 2024, at San Francisco, California.

/s/ KAREN DOUGLAS

Karen Douglas
Assigned Commissioner

AMENDMENT No. 4
to
AGREEMENT FOR CONSULTING SERVICES
With MARK KIRK, Ph.D..

This Amendment No. 4 to the Agreement for Consulting Services between the Diablo Canyon Independent Safety Committee ("Committee") and Consultant Mark Kirk ("Consultant") is made as of AUGUST 19, 2024.

In consideration of the mutual promises contained herein, Committee and Consultant agree that the Terms and Conditions set forth herein are incorporated into the Agreement for Consulting Services between Committee and Consultant dated September 13, 2023 (the AAgreement@) as amended by Amendment No. 1 on December 11, 2023, by Amendment No. 2 on February 21, 2024, and by Amendment No. 3 on May 22, 2014. Only the paragraph number of the Terms and Conditions of said Agreement which is being modified or otherwise revised is set forth in this Amendment.

Paragraph 2. "Compensation. Effective on the date first written above, for the services to be provided by Consultant under this agreement, Consultant shall be compensated at the hourly rate of \$200.00 per hour, not to exceed the total amount of \$100,000.00 without the written consent of the Committee's Chair. Time spent by Consultant for the services hereunder shall be recorded under generally accepted accounting practices and shall be itemized on any billings to the Committee. In addition to compensation for the Consultant's time above, the Committee shall also reimburse Consultant directly for all out-of-pocket expenses reasonably incurred by Consultant in connection with providing services to the Committee including, but not necessarily limited to, printing of any reports, photocopies, facsimile, postage, long-distance telephone and internet charges and for any travel specifically requested by the Committee and for lodging and subsistence (meals and incidental expenses) incurred during such travel. Time and expense reporting shall be in accordance with Committee Policy No. 6 "Consultant Guidelines" attached to the Agreement as **Exhibit "B."**

IN WITNESS WHEREOF the Chair of the Diablo Canyon Independent Safety Committee has executed this Amendment as evidence of the Chair's authorization for Consultant to exceed the "not to exceed" total amount of \$81,000.00 provided by Amendment No. 3 in accordance with Committee Policy No. 6, Section 7, and the Consultant and the Chair have executed this Amendment on the date(s) and year written below. This Amendment No. 4 may be executed in counterparts, including counterparts transmitted by electronic mail in so-called pdf format and shall be legal and binding and have the same full force and effect as if paper originals with handwritten signatures had been exchanged. All executed counterparts shall constitute one agreement, and each counterpart shall be deemed an original.

This Amendment No. 4 shall be subsequently ratified by vote of the Members at the earliest opportunity, the October 9-10, 2024 public meeting or at the next legally noticed public meeting of the Committee, whichever shall occur first.

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

By 
Dr. Per F. Peterson, Chair

19 AUGUST 2024
Dated

CONSULTANT

By 
Dr. Mark T. Kirk

12 August 2024
Dated

REVIEW OF FACT FINDING REPORTS

1. The Consultant or Consultants who participated in the fact finding visit or are involved in preparation of the report of the fact finding (referred to herein in the singular as the “Consultant,” as each consultant may act in the other’s stead in this process) prepares the initial draft, prominently marked as such, of the fact finding report in MS Word format. If a report is prepared by more than one Consultant those Consultants may share drafts between themselves and then provide a complete draft, which may also include text provided to the Consultant by the participating member (the “Member”), for the Member’s review, revision, and comments. The Consultant and Member may exchange drafts until the Member approves a draft.
2. The draft report as approved by the Member is then provided by the Consultant to the other two members and to the other consultants (i.e., those not involved in preparation of the report) for their review. The other members and consultants review the report and provide suggested revisions and comments by separate email (i.e., without copying each other or the Member who conducted the fact finding) directly to the Consultant.
3. The Consultant, using the MS Word Track Changes feature, then incorporates as appropriate the revisions and comments of the other members and consultants into the draft circulated for that purpose without attribution as to the source and provides the revised draft by separate email to the other members and consultants who then have the opportunity to provide additional comment or revisions to the Consultant. If further revisions or comments are received this process may repeat until each of the other members and consultants either no longer respond or indicate that no further changes will be forthcoming.

4. Using Track Changes, but without attribution as to the source, the Consultant then revises the draft previously approved by the Member to incorporate the other members and consultants' revisions or comments and provides that revised draft directly to the Member.
5. Using Track Changes either the Member or the Consultant at the Member's direction either accepts or rejects each revision or comment and produces a "clean" public meeting draft.
6. The Consultant then provides the public meeting draft, prominently labeled as such, to the other members and consultants and to the Legal Counsel's office (preferably by individual email, but if the email has multiple addressees the advice "Please do not use reply to all if responding to this email" should be prominently included at the beginning of the email.) Prior to the next public meeting the Legal Counsel's office will prominently post the public meeting draft of each report on the Committee's website www.dcisc.org on the homepage.
7. After a presentation by a Consultant at the next public meeting and receipt of public comments on the presentation, and after a motion (preferably made by the Member who conducted the fact finding) is made and seconded to approve the report, discussion is then in order concerning any further changes proposed to the public meeting draft. The decision on whether to accept any such changes in the final version of the fact finding report to be voted upon is the sole prerogative of the Member who conducted the fact finding (whether or not that Member was also the made the motion for approval). Approval of the report requires the affirmative vote of at least two members.

(Adopted October 2024)

RESPONSE TO DIABLO CANYON POWER PLANT EMERGENCIES

Inherent with the use of nuclear power is the very small likelihood of an emergency which may directly affect members of the general public. The purpose of this document is to provide a plan of action for the Committee members and staff for responding to an actual emergency event at Diablo Canyon Power Plant (DCPP). Should a significant emergency event occur at DCPP, it is desired to have an advance plan for responding inside the Committee as well as for responding to inquiries from state and local agencies as well as the general public. The following general principles shall govern the Committee's response to an emergency at DCPP.

1. Emergency Significance and Classification. In the event of an off-normal condition at DCPP, the plant's Emergency Plan will be used to analyze the significance of the event and classify it according to pre-established guidelines approved by the Nuclear Regulatory Commission and the Federal Emergency Management Agency as follows:

A. Notice of Unusual Event (NOUE) – A situation is in progress or already completed which could potentially degrade the plant's level of safety or indicate a security threat to the facility. No releases of radioactive material requiring offsite actions are expected unless safety systems degrade further. This classification ensures the first steps for future response are being carried out, that operations staff are ready, and that the plant systematically handles unusual event information and decision-making.

B. Alert – Events are in progress or have occurred which have (or could) substantially degrade the plant safety, or a security event that could threaten site personnel or damage to site equipment is in progress. Any offsite releases of radioactive material that could occur are expected to be minimal. This classification ensures that emergency personnel are ready and available to respond if the situation becomes more serious or to perform confirmatory radiation monitoring if required. It also ensures that offsite authorities receive current information on plant status.

C. Site Area Emergency (SAE) – Events are in progress or have occurred which have caused (or likely will cause) major failures of plant functions that protect the public or involve security events with intentional damage or malicious acts that could lead to the likely failure of (or prevent effective access to) equipment needed to protect the public. Any offsite releases of radioactive material are expected to remain below public exposure guideline levels beyond the site boundary. An SAE declaration ensures: a) emergency response centers are staffed; b) monitoring teams are dispatched; c) personnel required for evacuating nearby areas are at duty stations if the situation becomes more serious; d) proper consultation with offsite authorities; and e) government authorities are providing updates to the public.

D. General Emergency - Events are in progress or have occurred which: a) have caused (or shortly will cause) substantial reactor core damage, with the potential for uncontrolled releases of radioactive material, or b) involve security events that deny plant staff physical control of the facility. Offsite releases can be reasonably expected to exceed public exposure guideline levels beyond the plant site. A General Emergency declaration initiates predetermined protective actions for the public including: a) continuous dose

monitoring by the licensee and offsite organizations; b) additional protective measures as necessitated by potential or actual releases; c) consultation with offsite authorities; and d) updates to the public by government authorities.

2. Objectives. The objectives of the Committee's response to an emergency event at DCPD are as follows:

- A. Independently monitor PG&E's management of the event and ensure the event is accurately assessed and appropriate and timely actions are taken to protect the health and safety of the public and plant staff.

- B. Respond appropriately to inquiries from its three appointing organizations, state and local agencies, the media, or the general public.

- C. Provide specific technical information and analyses as requested to assist state and local agencies in responding to the event.

3. Actions. PG&E should initially contact the Committee's legal office upon declaration an emergency at DCPD, and the Committee members and staff should consider taking the following actions:

- A. Response to an NOUE or Alert.

- a) The Committee members and staff should enter a monitoring posture, typically without any Committee members or staff responding directly to the site.

- b) The Committee will provide a central point of contact for communications about the event to PG&E and request that PG&E similarly identify a central point of contact to the Committee who will provide the Committee with information relative to the cause of the event, actions taken by PG&E, and responses to Committee questions.

c) The Committee will communicate internally to independently review and analyze information provided by PG&E to assess the safety significance of the event and the appropriateness of the actions taken by PG&E. This communication will be led and coordinated by the Committee's central point of contact with consideration of all applicable state requirements for the openness of public meetings.

d) The Committee will consider drafting and providing a press release or distributing a statement to members of the public on its distribution list regarding the particulars of the event and the Committee's evaluation of its safety significance.

e) The Committee will take any necessary actions to prepare for and respond to any requests from state and local agencies regarding providing technical assistance in evaluating the safety significance of the event and PG&E's actions.

f) The Committee will initiate efforts to provide onsite follow-up for reviewing the event's causes and corrective actions at its next regularly scheduled Fact-Finding Meeting. Alternatively, the Committee may initiate a special Fact-Finding Meeting to review the event in a more timely or more focused manner. In either case, information will be gathered and the Committee's review of the event will be documented in a Fact-Finding Report and discussed at the Committee's next Public Meeting.

B. Response to an SAE or General Emergency.

a) The Committee members and staff should enter an active monitoring posture. The Committee will provide a central point of contact for communications about the event to PG&E and request that PG&E similarly identify a central point of contact to the Committee who will provide the Committee with information relative to the cause of the event, actions taken by PG&E, recommendations made by PG&E to governmental

entities, and responses to Committee questions. The Committee should consider requesting periodic updates from PG&E including allowing the Committee to remotely participate in updates provided by PG&E to governmental entities.

b) As soon as possible following the emergency declaration, the Committee should designate a special Fact-Finding Team, preferably consisting of one member and one consultant, to respond in-person to the site. The Fact-Finding Team should focus on traveling to the San Luis Obispo County Emergency Operations Center as soon as reasonably possible following the event in order to independently and in-person gather information about the cause of the event, actions taken in response to the event, and interactions between PG&E and federal, state and local agencies. Once in the area, the Fact-Finding Team should assume the responsibilities as the central point of contact for the Committee to PG&E.

c) The Committee will communicate internally to independently review and analyze information provided by PG&E and the Fact-Finding Team to assess the safety significance of the event and the appropriateness of the actions taken by PG&E. This communication will be led and coordinated by the on-site Fact-Finding Team with consideration of all applicable state requirements for the openness of public meetings. The Committee will make recommendations to PG&E as warranted by its review of the event and PG&E actions.

d) The Committee will consider drafting and providing a press release or distributing a statement to members of the public on its distribution list regarding the particulars of the event and the Committee's evaluation of its safety significance.

e) The Committee will take any necessary actions to prepare for and respond to any requests from state and local agencies regarding providing technical assistance in evaluating the safety significance of the event and PG&E's actions.

f) Information gathered by the special Fact-Finding Team discussed above will be documented in a special Fact-Finding Report and discussed at the Committee's next Public Meeting.

g) The Committee should consider additional follow-up to review the event's causes and corrective actions at additional special or regularly scheduled Fact-Finding Meetings with subsequent follow-up Fact-Finding Reports to be discussed at future Public Meetings of the Committee.

(Adopted October 2024)

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE	
AGENDA TRANSMITTAL FORM	
MEETING DATE:	October 10, 2024
AGENDA ITEM:	XXIX-B
AGENDA TITLE:	DCISC 34th Annual Report on Safety of Diablo Canyon Operations; July 1, 2023 - June 30, 2024
CONSENT [☐] ACTION [XX] INFORMATION [☐]	
Staff Summary: The Settlement Agreement creating the DCISC provided “The Committee shall prepare an annual report and such interim reports as it deems appropriate, which reports shall include any recommendations of the Committee.” A draft report covering Fiscal Year 2023-2024 has now been prepared by Committee Members Budnitz, Lam and Peterson, with contributions from the Technical Consultants and Legal Counsel, and is presented at this meeting for consideration and adoption. This is the Committee’s thirty-fourth annual report. Upon adoption, Public Utilities Code §712.1(e)(2) directs the Committee to annually transmit its findings and recommendations for improved safety to the Legislature (in accordance with California Government Code §9795), the Governor, the California Public Utilities Commission, the California Energy Commission, the United States Nuclear Regulatory Commission and Pacific Gas & Electric Company and to include the response Public Utilities Code §712.1(f) directs Pacific Gas & Electric Company to annually provide. The Committee’s annual reports are available to members of the public on the Committee’s website (www.dcisc.org) and through the California Polytechnic University Library, Special Collections and Archives Department, and local public libraries.	
RECOMMENDED COMMITTEE ACTION: Motion to approve the DCISC 2023- 2024 Thirty-Fourth Annual Report on Safety of Diablo Canyon Operations and to transmit same in accordance with Public Utilities Code §712.1(e)(2).	

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

Thirty-Fourth Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations

July 1, 2023 - June 30, 2024

EXECUTIVE SUMMARY and 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 Pacific Gas & Electric Corporation's (PG&E's) Diablo Canyon Nuclear Power Plant (DCPP), owned by the corporation and operated by PG&E, with its two nuclear power plants, each of which produces about 1,100 megawatts. Unit 1 commenced commercial operations in May 1985 and Unit 2 in March 1986. 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 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 and as amended by subsequent CPUC decisions.

Unit 1 was initially licensed by the U.S. Nuclear Regulatory Commission (NRC) to operate until November 2024 and Unit 2 until August 2025. With the passage of California Senate Bill 946 (SB846) on September 2, 2022, PG&E was directed to take all necessary steps to seek extension of operations at Diablo Canyon beyond the current retirement dates, up to five additional years. That is, for Unit 1 until October 31, 2029 and for Unit 2 until October 31, 2030. SB846 invalidated the CPUC's approval of PG&E's retirement of Diablo Canyon by 2025.

On November 7, 2023, PG&E submitted an Operating License Renewal Application to the NRC for Diablo Canyon Unit 1 and Unit 2 to extend their current operating licenses for an additional 20 years, that is, until November 2, 2044 (Unit 1) and August 26, 2045 (Unit 2). On December 19, 2023, the NRC determined the Operating License Renewal Application to be complete, permitting the current Operating Licenses to remain in effect until the NRC's review of the Operating License Renewal Application is complete.

SB846 added Section 712.2 to the California Public Utilities Code to recognize the CPUC created the DCISC and conferred upon the DCISC a mandate to make recommendations appropriate to enhance the safety of the operation of DCPP. Public Utilities Code Section 712.8 (c)(2)(B), also enacted by SB846, provided that the CPUC shall review the reports and recommendations of the

DCISC. If the DCISC's reports or recommendations cause the CPUC to determine that the costs of any upgrades necessary to address seismic safety or issues of deferred maintenance that may have arisen due to the expectation of the plant closing sooner are too high to justify incurring, the CPUC may reestablish the current expiration dates or establish retirement dates that are earlier than 2029 for Unit 1 and 2030 for Unit 2. The recommendations of the DCISC in response to Public Utilities Code Section 712.8 were previously transmitted to the CPUC and are contained in this 34th Annual Report.

Additional details on the formation and matters governing the operation of the DCISC are contained in Volume I, Section 1.0 of this report.

The DCISC 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. 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.

The Committee continues to monitor, review, assess 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, continuing 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 Three Committee Members during the period of this thirty-fourth Annual Report 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. Dr. Budnitz was subsequently reappointed several times and on November 30, 2022, California Attorney General Rob Bonta announced the reappointment of Dr. Robert J. Budnitz to a sixth three-year term on the DCISC beginning July 1, 2022 and ending on June 30, 2025.

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. Dr. Lam was subsequently reappointed several times and 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. On February 3, 2024, Dr. Lam announced he would not seek another term on the Committee.

Dr. Lam served as DCISC Chair during this report period, July 1, 2023 through June 30, 2024.

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. Dr. Peterson was subsequently reappointed several times and on December 7, 2023 Governor Newsom reappointed Dr. Peterson to a seventh three-year term commencing July 1, 2023 and ending on June 30, 2026

Dr. Peterson served as DCISC Vice-Chair during this report period, July 1, 2023 through June 30, 2024.

On July 3, 2024, Najmedin Meshkati, Ph.D., was appointed by the Chair of the California Energy Commission Mr. David Hochschild to a three-year term on the DCISC commencing July 1, 2024 through June 30, 2027, to succeed Dr. Lam. Dr. Meshkati is a Professor of Civil/Environmental Engineering, Industrial & Systems Engineering; and International Relations at the University of Southern California (USC); and an Associate (ex-Research Fellow) with the Project on Managing the Atom at Belfer Center for Science and International Affairs at Harvard Kennedy School.

Additional details on the backgrounds of the DCISC Members, Consultants, and Counsel are contained in Volume I Section 1.0 of this report.

Overview of Activities during the Current Period

This thirty-fourth annual report covers the period July 1, 2023 - June 30, 2024. The DCISC held three public meetings on the following dates:

- September 13-14, 2023, Avila Beach, CA and remotely by Zoom
- February 21-22, 2024, Avila Beach, CA and remotely by Zoom
- June 20-21, 2024, Avila Beach, CA and remotely by Zoom

These public meetings are described in Section 2.0.

The Committee regularly performs the following activities:

- Three two-day public meetings each year as reported above.
- Nine or more fact-finding visits annually by individual Committee Members with one or more 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.

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 subsequently thirty-three annual reports covered the periods January 1, 1990 – June 30, 2023. This thirty-fourth annual report covers the period July 1, 2023 - June 30, 2024.

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 ten fact-finding visits, conducted by a single member and one or more technical consultants, held during this reporting period:

- Performance During the Units 1 and 2 24th Refueling Outages
- Spent Fuel Storage Planning and Technical Issues
- NRC Regulatory Matters
- Probabilistic Risk Assessment
- Human Performance
- Results of 2023 Operating Plan and Key Elements of the 2024 Operating Plan
- Nuclear Safety Culture
- Reactor Vessel Embrittlement
- Radiation Protection
- Intake Cove Sediment Dredging
- Cyber Security Program
- Air- and Motor-Operated Valves
- Corrective Action Program
- Radiation Releases to the Environment
- Post-Earthquake Procedures
- FLEX Equipment Procedures
- Emergency Preparedness
- Long-Range Project Planning to Support Extended Operations
- Corrective and Preventive Maintenance to Support Extended Operations
- Seismic Safety Reviews to Support Extended Operations

- Staffing and Employee Retention
- License Extension Preparations
- License Renewal Application
- Consultations with the Independent Peer Review Panel

Individual Committee Members and consultants reviewed many other items in ten 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).

DCISC Member Meetings with 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 staff members of the California Public Utilities Commission to provide background on and information regarding current activities of the Committee.

On August 28, 2023, Dr. Budnitz and Mr. Rathie met remotely with Chief Assistant Attorney General Ms. Danielle O'Bannon, Special Assistant to the Attorney General Ms. Jessica Gordon, Senior Assistant Attorney General (Environmental Section) Mr. Ed Ochoa, Supervising Deputy Attorney General Ms. Laura Zuckerman, and Deputy Attorney General Ms. Megan Hey to provide a progress report and to discuss the current status of the Committee's activities and plans for the future including the Committee's efforts to address its mandates under SB846.

On February 12, 2024, Dr. Lam and Mr. Rathie met remotely with the Chair of the California Energy Commission (CEC) Mr. David Hochschild, CEC Vice-Chair Mr. Siva Gunda, Dr. Justin Cochran, CEC Senior Nuclear Policy Advisor and Emergency Coordinator, Mr. Ken Rider, Chief Policy Advisor, Mr. David Erne, Deputy Director, Energy Assessments Division, Mr. Brett Fooks, Acting Branch Manager, Safety and Reliability Branch, and other CEC personnel to review the Committee's activities and to discuss the phenomenon of Reactor Vessel Embrittlement and its related technical and safety implications which was a subject of interest for the CEC representatives.

During this report period the DCISC has been in frequent contact during public meetings and fact finding with representatives of the California Department of Water Resources (DWR), a key agency in administering the statutory mandate created by the passage of SB846. DWR representatives with whom the DCISC Members, Technical Consultants and Counsel have met with remotely include Ms. Delphine Hou, Deputy Director Statewide Water and Energy, Messrs. Christian Arechavaleta, Manager Electricity and Strategic Reserve, and Eric Wulff, Manager, Power Markets Contracts Branch together with DWR Consultants Dr. Deb Luchsinger and Mr. Jerry Bishof. Some of these meetings have also included Mr. David Zizmor, CPUC Regulatory Analyst, Energy Division. The subjects of these meetings have included the DCISC's progress in its review of the Updated Seismic Assessment for DCPD and the independent assessment of maintenance which may have been deferred in expectation of the plant closing earlier which PG&E is required to conduct as a covenant of the loan provided under the provisions of SB846, as well as the DCISC's evaluation of the integrity of the Unit 1 reactor pressure vessel. DWR

representatives have attended each of the DCISC's public meetings conducted during this annual report period.

Overall Conclusion

The DCISC concludes that PG&E operated DCPD safely during the period July 1, 2023 – June 30, 2024.

Special Significant DCISC Conclusions

The DCISC addressed the following three major issues during this operating period:

1. Reactor Vessel Embrittlement (Volume I, Section 4.26)
2. Equipment Long-Range Planning and Maintenance ("Deferred Maintenance") (Volume I, Section 4.27)
3. Seismic Safety Update (Volume I, Section 4.28)

Included in SB846 was the above-cited direction for the CPUC to review the reports and recommendations of the DCISC including those related to seismic safety or deferred maintenance which may have arisen in expectation of the plant closing sooner.

In response to its mandate, the DCISC performed a comprehensive review of seismic safety at DCPD. The results of this review were included in its May 30, 2024, Fact-Finding meeting (Volume II, Exhibit D.10, Section 3.2). The DCISC will continue to review the results of any new seismic safety related information and other related reviews as they become available.

Also in response to this mandate, the CPUC requested that the DCISC review DCPD's equipment upgrade plans and maintenance programs to ascertain their sufficiency following the directional change from ceasing power operations in 2025 to extended power operations through 2030. The DCISC was requested to provide reports of its reviews to the CPUC no later than by August 31, 2023. The DCISC's evaluation of DCPD's long-range planning for equipment and its maintenance (i.e., "deferred maintenance") involved a series of reviews that began in January 2023 and concluded in its August 9-10, 2023 Fact-Finding meeting (Volume II, Exhibit D.2, Section 3.9). The information contained in that report is summarized in Section 4.27.2 below and provided the results of the DCISC's review as requested by the CPUC.

Pressurized Thermal Shock (PTS) refers to a condition that challenges the integrity of the reactor pressure vessel. The root cause of this phenomenon is the radiation embrittlement of the reactor vessel. This embrittlement leads to an increase in the reference temperature for nil ductility transition Nil ductility transition can increase to the point where the reactor vessel material can lose fracture toughness during overcooling events. The analyses of the risk of having a PTS for a specific plant includes the structural and fracture analysis of the reactor vessel wall. In context of the continued operation of DCPD, the DCISC reviewed and herein reports on the current status of Unit 1's Reactor Vessel embrittlement. During this report period there were extensive public comments by individuals and by non-governmental organizations on embrittlement, including some requesting the unit be shut down immediately. The DCISC engaged a recognized expert on

embrittlement as a Technical Consultant, Dr. Mark T. Kirk, and performed several in-depth reviews and analyses of DCP Unit 1 Reactor Vessel embrittlement. See Volume I, Section 4.26 for the report on Unit 1 embrittlement. Conclusions from that report are as follows:

1. Reactor Vessel Embrittlement

The DCISC concluded the following (Volume I, Section 4.26):

- i. The NRC's embrittlement screening criteria are expressed for PTS events in 10CFR50.61 and 10CFR50.61a, and for normal operations in Appendix G to 10CFR Part 50. Compliance of a plant with these NRC screening criteria assures the safety of vessel operation because the criteria take into consideration the frequency of challenge events (rare for PTS, planned for normal operations), the stresses produced by these events (higher for PTS, lower for planned operations), and the NRC's acceptance guidelines for core damage frequency and large early release frequency as expressed in Regulatory Guide 1.174. Both PG&E and the DCISC's technical experts have concluded the DCP Unit 1 reactor vessel is compliant with these limits, and therefore safe to operate. Specifically:
 - a. As detailed in the License Renewal Application to the NRC [DCL-23-038], PG&E's technical experts on embrittlement have concluded that the DCP Unit 1 reactor vessel embrittlement is acceptable not just for 40 years but for 60 years. This assessment is currently under review by the NRC.
 - b. As detailed in the {Kirk Report #2}, the DCISC's technical expert on embrittlement has concluded that the DCP Unit 1 reactor vessel is acceptable not just for 40 years but for 60 years.
- ii. Even though the DCISC recommends the removal and testing of Capsule B from Unit 1, all currently available information suggests the acceptability of Unit 1 to 60 years and beyond. The DCISC assessment of acceptability will be re-visited once data from Capsule B becomes available.
- iii. A sensitivity study of the possible outcomes of the testing of Capsule B shows that if the data is "credible"¹, the unit can safely operate up to 100 years from an embrittlement perspective. Should the data not be credible, after 50 years of operation, additional analysis is required to justify operation. In no cases would results from Capsule B testing change the DCISC conclusion that Unit 1 is safe to operate during the 5-year extension mandated by SB-846; instead, the primary role of Capsule B data would be to inform any potential future decision by the state to further extend the operating life of Unit 1.

¹ The term "credible" in this context simply means that plant specific surveillance data follow expected trends (credible), or they deviate from these trends to some extent (not credible). It does not mean the data is not valid or accurate.

- iv. Upon researching the basis of the USE² finding in the supplemental analysis of Part 2 of the Kirk report, it was found that Diablo Canyon Unit 1 will not fall below the NRC's USE screening criteria until beyond 60 years of operation.
- v. In summary, the DCISC endorses the Kirk Report Parts 1 and 2 which conclude that not only does Diablo Canyon Unit 1's Reactor Vessel meet all NRC requirements, but from an embrittlement perspective is currently acceptable for 20 years of operation beyond the original license term, which exceeds the 5 years of additional operation directed by SB 846.

2. Equipment Long-Range Planning and Maintenance ("Deferred Maintenance")

The DCISC concluded the following (Volume I, Section 4.27):

- i. DCPD developed an extensive, logical, and formal process for effectively capturing and prioritizing possible plant upgrade projects following the passage of SB846. The DCISC found that DCPD's resulting plans for future plant upgrades to support extended operations were appropriate to ensure nuclear safety and a high standard of equipment reliability. The DCISC recommends that the CPUC and all other necessary California state authorities support the funding of the plant upgrade projects recommended by DCPD. The DCISC did not find any upgrades necessary to ensure nuclear safety that were not already being planned by DCPD.
- ii. DCPD properly reviewed all Preventive Maintenance Program changes made since 2018 and appropriately reinstated or otherwise modified the previous changes to support extended operations. The results of DCPD's Preventive Maintenance Program review were prudent and would ensure that nuclear safety and equipment reliability were appropriately maintained during a period of extended operations.
- iii. DCPD did not defer any Corrective Maintenance of components important to safety or reliability due to the previous plan to cease power operations in 2025. DCPD developed an extensive, logical, and formal process for identifying and evaluating all Corrective Maintenance activities on non-quality related equipment that DCPD chose not to perform or to perform on a revised schedule over the last few years given the planned cessation of power operations. The results of DCPD's Corrective Maintenance Program reviews were prudent and would ensure nuclear safety and equipment reliability were appropriately maintained during a period of extended operations.
- iv. SB846 mandated PG&E conduct an independent review of DCPD "Deferred Maintenance" which independent review concluded that "DCPD has not experienced any deferred

² In accordance with NRC regulation, reactor vessel beltline materials must demonstrate upper-shelf energy (USE) through testing of irradiated sample material, in the transverse direction for base material and along the weld for weld material, according to Code criteria established by the American Society of Mechanical Engineers (ASME). A vessel must maintain upper-shelf energy throughout the life of the vessel, unless it is demonstrated in a manner approved by the NRC's Director, Office of Nuclear Reactor Regulation, that lower values of upper-shelf energy will provide margins of safety against fracture equivalent to those required by the ASME Code.

maintenance that would create a vulnerability to future plant operation or warrant any remediation actions.” The DCISC reviewed the report and concluded that the review process was extensive and intrusive, and the review’s conclusions were appropriately substantiated.

3. Seismic Safety Update

The DCISC concluded the following (Volume I, Section 4.28):

After reviewing the new and updated information presented by PG&E during several Fact-Finding visits and in Public Meetings, supplemented by information in the PG&E License Renewal Application, the Diablo Canyon Updated Seismic Assessment of March 6, 2024, (performed in response to Senate Bill 846), information from the Probabilistic Seismic Hazard Assessment performed in 2015 and the Seismic Probabilistic Risk Assessment performed in 2018, information from the State of California Independent Peer Review Panel, information in submittals by Dr. Peter Bird, and other new information from various sources, the DCISC concluded that the seismic safety of the DCPD reactors is currently fully adequate and required no additional upgrades or improvements. The DCISC also concluded that no upgrades or improvements to seismic safety would be needed to assure that the seismic safety of the DCPD reactors will be adequate for extended operations beyond 2025, if so authorized. The DCISC will continue to review any additional new technical information related to seismic analyses as it becomes available.

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 two during this one-year period. This represents good regulatory performance. (3.6)

The Committee notes that, although the NRC concluded that DCPD operated acceptably, it identified six Non-cited Violations and received two License Event Reports. All Non-cited Violations were of “very low safety significance.” This is good regulatory performance. (3.6)

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

2. DCPD’s Operations Department performed well overall and performance indicators were predominantly Green (good). The number of Plant Status Control Events remained very low.

DCPP's Reactivity Management Program and Operational Decision-Making Process were effective. (4.1.3)

3. DCPP Maintenance overall performance appeared satisfactory based upon reviews of its programs and observations of its activities. (4.2.3)
4. The DCPP Engineering organization continued to provide excellent performance in supporting the plant. Staffing had been reduced in planning for cessation of operations in 2025; however, staffing was increased in expectation of extended operations to 2030. (4.3.3)
5. DCPP's Human Performance has been excellent over the last two years based on data and trends in Human Performance events. DCPP had no events classified with the highest significance of a Station Level Event since April 2021, and the numbers and significance of Department Level Events remained very low. (4.4.3)
6. The DCPP Nuclear Safety Culture appears healthy and effective in assuring nuclear safety. Additionally, NRC inspections of DCPP's Safety Culture conclude that DCPP has a Safety Conscious Work Environment and an effective Employee Concerns Program. (4.5.3)
7. DCPP's Performance Improvement Program and Corrective Action Program were performing well. Problems at the station were effectively identified and evaluated with corrective actions appropriately initiated and tracked for resolution. (4.6.3)
8. The DCPP Emergency Preparedness Program and Emergency Response Organization appeared to be effective and ready to respond to any plant emergencies. (4.7.3)
9. The DCPP Probabilistic Risk Assessment (PRA) group's work was emphasizing the support of various PRA applications, some driven by NRC regulations, especially for license extension (severe accident analysis and aging management), and others driven by internal plant needs, such as the impacts on safety of equipment removal from service. The use of the PRA for these purposes continued effectively. The DCISC concluded that the PRA group is doing excellent work. (4.8.3)
10. Regular nuclear oversight of DCPP by nuclear industry organizations has proved positive for DCPP in reporting positive performance results and by providing helpful input for improved performance in achieving excellence. (4.9.3)
11. The DCPP Radioactive Effluent Release Program and the Radiological Environmental Monitoring Program were satisfactory in calculating, monitoring, and measuring radioactivity in the environment. During 2022, there were no abnormal releases of radioactivity and DCPP site operations had no significant radiological impact on the health and safety of the public or the environment. DCPP continued to properly maintain and use the Meteorological Information and Dose Assessment System (MIDAS) software system for predicting the magnitude and path of airborne radioactive plumes from the plant in the event of an emergency. (4.10.3)

12. DCP's Quality Verification Department evaluated station performance as strong and on a stable trajectory. Audit and assessment reports were found to be appropriate and indicative of a well-functioning Quality Verification Department. (4.11.3)
13. The DCISC did not review specific DCP nuclear fuel attributes during the current operating period July 1, 2023 to June 30, 2024; however, it did follow fuel performance along with its review of refueling outages. DCP fuel performance has been good. (4.12.3)
14. DCP's Equipment Reliability program has been effective, and station reliability has improved over the last two years. With the transition to extended operations, the station is focusing on implementation of future equipment replacements and upgrades to maintain and improve Equipment Reliability. (4.13.3)
15. DCP's Management Observation Program was being properly implemented. A large number of observations were being completed, and the observations provided valuable insights into human performance strengths and opportunities at the station. (4.14.3)
16. DCP has dealt effectively with equipment and system problems and is focused on improving system health. DCP's Plant Health Committee effectively focused on system/component health, and overall system health has improved. (4.15.3)
17. Although the DCISC did not review DCP Steam Generators during this reporting period, the DCP Steam Generators (SGs) have been performing well since their replacements in 2008 and 2009, and no problems have been reported. (4.16.3)
18. DCP's preparations for Refueling Outages 1R24 and 2R24 were performed well with recovery plans used for some planning activities that were behind schedule. The Outage Safety Schedules appeared to be comprehensive and effective for maintaining an appropriate safety margin during planned outage activities. DCP's Refueling Outages 1R24 and 2R24 were executed well with the successful completion of all planned major scope of work activities. Outage performance goals were met during both outages except for the Refueling Outage 1R24 radiation dose and post-outage reliability goals. (4.17.3)
19. DCP's Cyber Security Program appeared to be effectively managed, and efforts are continued to ensure that the program was successfully sustained. DCP's safety/security interface appeared effectively implemented. (4.18.3)
20. DCP's procurement of a new spent fuel storage system from Orano was continuing but under a longer timetable than previously planned to support a cessation of power operations in 2025. Additionally, 12 new Holtec Multi-Purpose Canisters were procured to support a spent fuel offload campaign planned to be performed during the period from July to November 2024. DCP's plans and actions in preparation for these campaigns appeared appropriate. The License Renewal Application for the existing Independent Spent Fuel Storage Installation was amended to reflect the possibility of extended operations and reviews by the NRC were continuing. (4.19.3)

21. DCP's assessment of DCP seismic safety analysis is that it was comprehensive and effectively performed. The DCISC review of the assessment concluded that, unless new seismic information is found in the future, including but not limited to information generated by the Independent Peer Review Panel in its reports or otherwise, the seismic safety of the DCP reactors is fully adequate now and requires no additional upgrades or other changes to bring it up-to-date or to improve it. (4.20.3)
22. DCP's Fire Protection Program and Fire Protection Systems were in good health overall. (4.21.3)
23. DCP's training programs for new engineers were well organized and appropriately focused to maintain an adequate level of technical knowledge within the Engineering Department. A Licensed Operator simulator training session was professionally conducted by the training staff, and Operators performed well in responding to the simulated off-normal events. Learning Services Department overall performance was good, and the Department was appropriately focused on ensuring that staff were properly trained and qualified to support extended operations. (4.22.3)
24. Although the DCISC did not review any specific beyond design basis items per se in this reporting period, it reviewed closely related areas, which indicated that there were no problems or issues with DCP's Beyond Design Basis activities or programs. (4.23.3)
25. Due to the focus on license renewal, the level of decommissioning activities was reduced to continued monitoring of needed permits and approvals from state regulatory authorities. While the plant continues to operate pending review of PG&E's License Renewal Application and should the plant's operation be extended for another five years, as provided in the legislation, there would be sufficient time to resume needed decommissioning planning activities. (4.24.3)
26. DCP's successfully prepared and submitted its new License Renewal Application on November 7, 2023, and the application was deemed sufficient and accepted by the NRC on December 14, 2023. In support of license renewal, DCP successfully completed approximately 182 Aging Management Plan inspections during Refueling Outage 1R24 and a similar number in Refueling Outage 2R24. Overall, there were no findings of any significant aging-related challenges to any Structure, System or Component's ability to perform its intended functions. The DCISC considered the inspection results to be excellent performance which provided a strong assurance of continued safety during a period of extended operations. (4.25.3)
27. The regular meetings between DCISC Members and DCP Officers and Directors continued to be beneficial for both organizations. (4.29.3)

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:

The DCISC believes it important that every possible effort and any necessary time be expended towards removing the Unit 1 Reactor Vessel embrittlement sample Capsule B during Refueling Outage 1R25 in the Spring of 2025 and completing the subsequent sample testing within one year. (See Recommendation 2, below.)

The DCISC strongly believes that the seismic safety of the DCPD reactors is currently fully adequate and requires no additional upgrades or improvements to assure that the seismic safety of the DCPD reactors will be adequate for extended operations beyond 2025. The DCISC is concerned that there remains seismic-safety related information from external parties under review and will continue to review all additional technical evaluations related to seismic analyses as they become available.

Recommendations:

The DCISC makes the following recommendations to PG&E and to the California Public Utilities Commission for this report period:

Recommendations to PG&E:

PG&E Recommendation No. 23-1:

During the DCISC July 2023 Fact-finding Meeting, it was found that DCPD's post-earthquake response procedures were generally comprehensive; however, the primary earthquake response procedure CP M-4 did not include assessing FLEX equipment availability or transitioning to FLEX procedures should this be needed following a seismic event.

It was recommended that PG&E review and update its post-earthquake response procedure, CP M-4, and supporting procedures, to include assessment of post-earthquake FLEX equipment availability and transition points to use FLEX procedures should they be required.

PG&E Response:

During the December 2023 and May 2024 Fact-finding Meetings, the DCISC found that DCPD initiated appropriate follow-up actions in response to its recommendation concerning post-earthquake procedures. Procedure changes to Operations procedure CP M-4, "Earthquake," and CP M-12, "Stranded Plant," were satisfactorily completed. The DCISC considers this recommendation closed. PG&E should formally briefly respond to definitively close this DCISC's recommendation following issuance of the DCISC's 34th Annual Report.

PG&E Recommendation No. 23-2:

Recognizing that Capsule B test results are not necessary to assure Unit 1 Reactor Pressure Vessel embrittlement acceptability, the DCISC recommends that the Capsule B be removed at the next

outage in 2025 and that a re-evaluation of reactor vessel integrity, including both PTS and USE, be performed once the new data from Capsule B become available.

PG&E Response: The PG&E response will be reviewed by the DCISC when it is completed during the next reporting period.

Recommendation to the California Public Utilities Commission:

CPUC Recommendation No. 1:

DCPP developed an extensive, logical, and formal process for effectively and positively capturing and prioritizing possible plant upgrade projects following the passage of SB846 and considering the possibility of extending power operations through 2030. The DCISC found that DCPP's resulting plans for future plant upgrades to support extended operations were appropriate to ensure nuclear safety and a high standard of equipment reliability.

The DCISC recommends that the California Public Utilities Commission and all other necessary California state authorities support the funding of the plant upgrade projects recommended by DCPP.