

DIABLO CANYON
INDEPENDENT SAFETY COMMITTEE (“DCISC”)

(www.dcisc.org)

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

Wednesday & Thursday Point San Luis Conference Room
February 19-20, 2025 First and San Francisco Streets
Avila Lighthouse Suites Avila Beach, California

PUBLIC MEETING AGENDA

This public meeting will be webcast in real time at:

http://www.slo-span.org/local_webcast/DCISC/stream_index.htm and through <http://www.dcisc.org>.

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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, February 18, 2025. 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 - 02/19/2025 – 9:00 A.M.

I CALL TO ORDER - ROLL CALL

II INTRODUCTIONS AND COMMITTEE MEMBER COMMENTS

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 this 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 ACTION ITEM

- A. Receive PG&E's Response to DCISC 34th Annual Report on the Safety of Diablo Canyon Operations; July 1, 2023 – June 30, 2024.
Discussion/Accept
- B. Review of Future Meeting Dates and Documents Provided to the Committee
Discussion/Action

V 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 (Including Rod Drop Event), and Other Station Activities since the DCISC's October 2024 Public Meeting.
 - 2) Scope, Schedule, and Status of Preparations for Refueling Outage 1R25, Including the Implementation of Major Projects and Inspections (Including Capsule B Removal).
 - 3) Results of the 2024 Operating Plan and Key Elements of the 2025 Operating Plan.

VI ADJOURN MORNING MEETING

Afternoon Session – 02/19/2025 – 1:30 P.M.

VII RECONVENE FOR AFTERNOON MEETING

VIII COMMITTEE MEMBER COMMENTS

IX 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 this 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.*

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

- C. Consultant Richard D. McWhorter Jr.:
Fact-finding Topics; Report on and approval of
November 13-14, 2024, Fact Finding Report.
- D. Consultant R. Ferman Wardell, PE:
Fact-finding Topics; Report on and approval of
December 11-12, 2024, Fact Finding Report.
- E. Consultant Richard D. McWhorter Jr.:
Fact-finding Topics; Report on and approval of
January 21-22, 2025, Fact Finding Report.

XI ADJOURN AFTERNOON MEETING

Evening Session – 02/19/2025 – 5:00 P.M.

XII RECONVENE FOR EVENING MEETING

XIII COMMITTEE MEMBER COMMENTS

XIV 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 this evening'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.*

XV INFORMATION ITEMS BEFORE THE COMMITTEE

- B. Informational Presentations Requested by the
Committee of PG&E (Cont'd.):
 - 4) Explanation on How Changes to Seismic Hazard Evaluations (such as from the PG&E Updated Seismic Assessment or from recent comments by the Independent Peer Review Panel) Are Incorporated into and Affect Overall Plant Seismic Probabilistic Risk Assessment Calculations.

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

- F. Update on the DCISC's Review of Seismic Safety, Scope and Plans for Performing an Expert Review of Recent Seismic Hazard Concerns, Selection of Consultants, and Approval of Consulting Agreements. Discussion/Action

XVII ADJOURN EVENING MEETING

Morning Session – 02/20/2025 – 9:00 A.M.

XVIII RECONVENE FOR MORNING MEETING

XIX COMMITTEE MEMBER COMMENTS

XX 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 this 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.*

XXI ACCEPTANCE OF MINUTES

- G. Minutes of October 9-10, 2024, Public Meeting. Review/Accept

XXII ACTION ITEMS

- H Review of Open Items List. Discussion/Action

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

- I. Status of Governmental Agency Interactions, Responses to SB846 Directives, Administrative and Regulatory Matters, ratification of Amendment No. 5 to Consulting Agreement with Dr. Mark Kirk, Public Outreach, Financial Matters including Future Funding, and Other Committee Discussions. Discussion/Action

XXIV INFORMATION ITEMS BEFORE THE COMMITTEE

- C. Informational Presentations Requested by the Committee of PG&E (Cont'd.):
- 5) 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.
- 6) Recent and Future Changes to DCP's Procedures and Programs Based on the Use of Risk-Informed License Amendments Including Technical Specification Completion Times; Surveillance Frequencies; Mode Change Evaluations; Categorization of Systems, Structures and Components; and Inservice Inspections.

XXV ADJOURN MORNING MEETING

Afternoon Session – 02/20/2025 – 1:30 P.M.

XXVI RECONVENE FOR AFTERNOON MEETING

XXVII COMMITTEE MEMBER COMMENTS

XXVIII PUBLIC COMMENTS AND COMMUNICATIONS

Anyone wishing to address the Committee on matters not appearing on the Agenda may do so only at this time. (The public may comment on matters listed on this 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.*

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

- D. Informational Presentations Requested by the Committee of PG&E (Cont'd.):
 - 7) Overview of and Update on the Status of Performance Improvement Programs.
 - 8) Update on the Transition to Extended Operations including License Renewal (Application Review, Aging Management Inspections, and Interactions with the NRC), Staffing and Retention Programs, Major Project Planning, Funding Sources/Approvals, and Status of State and Local Permitting.

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 TENTH 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 accommodation.

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE	
AGENDA TRANSMITTAL FORM	
MEETING DATE:	February 19, 2025
AGENDA ITEM:	IV-A
AGENDA TITLE:	DCISC Receipt of PG&E's Response to its Thirty-Fourth Annual Report on Safety of Diablo Canyon Operations; July 1, 2023 - June 30, 2024.
CONSENT [☐] ACCEPTANCE [☒] INFORMATION [☐]	
The Restated Charter for the DCISC approved by the California Public Utilities Commission in Decisions 07-01-028 and 23-08-004 provides: <i>"The Committee shall prepare an annual report and such interim reports as it deems appropriate, which reports shall include any recommendations of the Committee. The report shall be submitted first to PG&E, and PG&E shall respond in writing within 45 days. PG&E's response is then included with the Annual Report."</i> Public Utilities Code §712.1, enacted on September 2, 2022, by Senate Bill 846 provides: <i>"(e) In addition to the duties and responsibilities set forth in commission decisions, the Independent Safety Committee for Diablo Canyon shall to both of the following:</i> <i>(1) Consult with and incorporate into its assessments and recommendations the independent peer review panel established pursuant to Section 712.</i> <i>(2) Transmit annually its findings and recommendations for improved safety, and any response required pursuant to subdivision (f), to the Legislature, the Governor, the commission, the Energy Commission, the United States Nuclear Regulatory Commission, and the company licensed to operate the Diablo Canyon Units 1 and 2. The report transmitted to the Legislature shall be in accordance with Section 9795 of the Government Code.</i> <i>(f) The company licensed to operate the Diablo Canyon Units 1 and 2 shall annually respond to the annual report provided for in paragraph (2) of subdivision (e) and distribute its response to the governmental entities specified in that paragraph."</i> The Committee made two recommendations to PG&E in its Thirty-Fourth Annual Report for the period July 1, 2023– June 30, 2024.	
RECOMMENDED COMMITTEE ACTION: Motion to accept PG&E's Response to the DCISC's Thirty-Fourth Annual Report and other action as may be appropriate.	



PG&E Letter DCL-24-115

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

Response to the Diablo Canyon Independent Safety Committee Thirty-Fourth
Annual Report on the Safety of Diablo Canyon Power Plant Operations - July 1, 2023,
to June 30, 2024

Dear Dr. Peterson:

On November 14, 2024, Pacific Gas and Electric Company (PG&E) received the Diablo Canyon Independent Safety Committee's (DCISC) Thirty-Fourth Annual Report on the safety of Diablo Canyon operations for the period of July 1, 2023, to June 30, 2024.

The report concludes that PG&E continues to operate Diablo Canyon Power Plant (DCPP) safely and provided two recommendations for PG&E and one recommendation to the California Public Utilities Commission (CPUC). PG&E appreciates the independent review DCISC performed on the plan for future plant upgrades and the associated recommendation to the CPUC included in the report. Responses to the two recommendations for PG&E are provided below.

Recommendation 23-1

During the DCISC July 2023 Fact-finding Meeting, it was found that DCP'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 to Recommendation 23-1

As stated in your report, the DCISC found that DCP initiated appropriate follow-up actions in response to Recommendation 23-1 concerning post-earthquake procedures. In response to the recommendation, PG&E revised Operations Procedure CP M-4, "Earthquake," and CP M-12, "Stranded Plant," to include assessment of post-earthquake FLEX equipment availability and transition points to use FLEX procedures should they be required.

PG&E considers Recommendation 23-1 closed which aligns with the DCISC conclusion documented in the 34th Annual Report.

Recommendation 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 to Recommendation 23-2

PG&E is in full compliance with regulatory standards and follows industry guidance regarding reactor vessel safety. Additionally, analysis has demonstrated that the reactor vessels for both Units 1 and 2 meet the NRC's acceptance criteria for current and extended operations. To support license renewal (operations for an additional 20 years), PG&E will withdraw and test Capsule B during the upcoming Unit 1 twenty-fifth refueling outage (1R25).

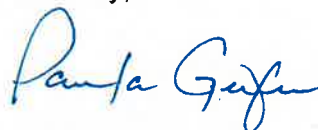
PG&E is currently working with industry experts to evaluate available options to safely remove Capsule B during 1R25. Lessons learned from previous attempts to remove the capsule are being considered in the planning process. During 1R25, the reactor vessel core barrel will be removed, and the access plug will be accessible from additional vantage points. Core barrel removal allows for consideration of several different approved physical extraction methods to retrieve Capsule B. Based on the various options available and the contingency plans being put in place, PG&E has high confidence that the capsule will be successfully removed during 1R25.

Once removed the capsule material will be sent for analysis to confirm/validate or revise previous analyses, including pressurized thermal shock (PTS) and upper shelf energy (USE) as necessary, and incorporate additional site-specific information. NRC regulation 10 CFR Part 50, Appendix H requires a summary technical report of the test results be submitted to the NRC within 18 months of the date of the capsule withdrawal. The capsule testing and analysis results will be publicly available once submitted to the NRC.

PG&E values the recommendations and the independent review and oversight provided by the DCISC, which contributes to the continued safe operation of DCCP.

As you are aware safety is always our highest priority, and we will continue to ensure that we fulfill this commitment. We understand we earn the right to operate each day, and we have no greater responsibility than operating, maintaining, and protecting Diablo Canyon with excellence on behalf of our customers and hometowns.

Sincerely,



Paula Gerfen
Senior Vice President and Chief Nuclear Officer

December 23, 2024

Date

cc/:
Dr. Robert Budnitz
Dr. Andrew Kadak
Richard McWhorter, Jr.
Dr. Najmedin Meshkati
Dr. Per Peterson
Robert Rathie
R. Ferman Wardell
Robert Wellington

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

AGENDA TRANSMITTAL FORM

MEETING DATE:	February 19, 2025
AGENDA ITEM:	IV-B
AGENDA TITLE:	Public Meetings and Site Visits - Scheduling of DCISC Activities During 2025-2026; Document Provided to the Committee

CONSENT [☐] ACTION [☒] INFORMATION [☒]

Staff Summary: It is expected that the Committee Members will hold a discussion and will confirm and schedule future activities of the Committee for 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.

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 October 2024.

RECOMMENDED COMMITTEE ACTION: As appropriate

DCISC FFPM (July 2024 – June 2025)

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)

1. Observe Nuclear Safety Oversight Committee Meeting
2. Meet with DCPD Senior Director
3. Program for Plant Changes Under 10 Code of Federal Regulations (CFR) 50.59
4. Meet with Nuclear Regulatory Commission (NRC) Resident Inspectors
5. Observe Plant Staff Review Committee Meeting
6. Meet with Geosciences Staff
7. Probabilistic Risk Assessment Program
8. Observe T-02 Weekly Scheduling Meeting
9. Chemical and Volume Control and Emergency Core Cooling Systems
10. World Association of Nuclear Operators Peer Review Results
11. Cause Evaluation for Auxiliary Saltwater Pump 2-2 Failure
12. Causes and Corrective Actions for Secondary System Steam Leaks
13. Causes and Corrective Actions for Dropped Rod Event
14. Plant Tour

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

15. Observe Plant Health Committee Meeting
16. Electronic Procedures and WiFi Expansion
17. Independent Spent Fuel Storage Installation Loading Campaign
18. Plans for a New Artificial Intelligence Process (Atomic Canyon)
19. Reactor Coolant System Process Control System Update
20. Workplace Seismic Safety Tour
21. Quality Verification Update
22. Meet with NRC Resident Inspectors
23. Meet with Senior Vice-President and Chief Nuclear Officer
24. Staffing for Long-Term Operations
25. License Renewal Update for the Independent Spent Fuel Storage Installation
26. Observe Operator Training: Extensive Damage Mitigation Guidelines

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

1. FLEX Program
2. Institute for Nuclear Power Operations Programs
3. Review of Recent Root Cause Evaluation and Cause Evaluations

4. Major Project Planning Update
5. Emergency Preparedness Plan and Facilities Tour
6. Plans for a New Artificial Intelligence Process (Atomic Canyon)
7. Meet with Nuclear Regulatory Commission (NRC) Resident Inspectors
8. Meet with DCPD Officer
9. Station Nuclear Safety Culture and Employee Concerns Programs
10. Human Performance Programs
11. Observe Listening and Learning Session
12. Tsunami Hazard Evaluations
13. Refueling Outage 1R25 Preparations
14. Corporate Nuclear Safety Culture

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

1. State of the Plant Update including Organizational Changes, Significant Past and Future Plant Activities, Power History, Significant Equipment Issues (Including Rod Drop Event), and Other Station Activities since the DCISC's October 2024 Public Meeting.
2. Scope, Schedule, and Status of Preparations for Refueling Outage 1R25, Including the Implementation of Major Projects and Inspections (Including Capsule B Removal).
3. Results of the 2024 Operating Plan and Key Elements of the 2025 Operating Plan.
4. Explanation on How Changes to Seismic Hazard Evaluations (such as from the PG&E Updated Seismic Assessment or from recent comments by the Independent Peer Review Panel) Are Incorporated into and Affect Overall Plant Seismic Probabilistic Risk Assessment Calculations.
5. 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.
6. Recent and Future Changes to DCPD's Procedures and Programs Based on the Use of Risk-Informed License Amendments Including Technical Specification Completion Times; Surveillance Frequencies; Mode Change Evaluations; Categorization of Systems, Structures and Components; and Inservice Inspections.
7. Overview of and Update on the Status of Performance Improvement Programs.
8. Update on the Transition to Extended Operations including License Renewal (Application Review, Aging Management Inspections, and Interactions with the NRC), Staffing and Retention Programs, Major Project Planning, Funding Sources/Approvals, and Status of State and Local Permitting.

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

TBD (March/April 2025) Fact-Finding Meeting (NM, TBD) (AR Exhibit D.10)

1. Review of DCISC Seismic Peer Review Consultants Questions with PG&E

April 23-24, 2025 Fact-finding Meeting (NM, RFW) (AR Exhibit D.8)

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

June 10-11, 2025 Public Meeting (AR Exhibit B.9) (Changed from June 11-12)

2025-2026

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 (RJB, RDM) (AR Exhibit D.3)

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

November 18-19, 2025 Fact-finding Meeting (RJB, RFW) (AR Exhibit D.4)

December 15-16, 2025 Fact-finding Meeting (PFP, RDM) (AR Exhibit D.5)

January 20-21, 2026 Fact-finding Meeting (NM, RFW) (AR Exhibit D.6)

February 18-19, 2026 Public Meeting (AR Exhibit B.6)

DCPP Key Dates

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

- March 20, 2025
- June 26, 2025
- December 11, 2025

Refueling Outages

- 1R25 Spring 2025
- 2R25 Fall 2025

September 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
9/3/2024	DCL-24-078	Pre-Notice of Disbursement from Decommissioning Trust
9/5/2024	DCL-24-084	Diablo Canyon Power Plant – Information on Grid Reliability and Once-Through Cooling Interim Mitigation Measures Payment Calculation
9/5/2024	DCL-24-085	Pre-Filing Meeting Request – Clean Water Act 401 Water Quality Certification – Diablo Canyon Power Plant License Renewal
9/9/2024	DCL-24-083	10 CFR Part 21 Notification: Commercially Dedicated Snubber Valve Not Properly Heat Treated
9/12/2024	DCL-24-086	Diablo Canyon Power Plant License Renewal – Historic and Cultural Resources Reference Documents (Non-Public)
9/12/2024	DCL-24-087	Diablo Canyon Power Plant License Renewal – Historic and Cultural Resources Reference Documents (Redacted)

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
9/6/2024	Acceptance Review: Diablo Canyon revision to Technical Specification 5.5.16 for permanent extension of Type A and Type C leak rate test frequencies (EPID: L-2024-LLA-0106)
9/6/2024	REQUEST FOR ADDITIONAL INFORMATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION DIABLO CANYON LRA SAFETY REVIEW PACIFIC GAS AND ELECTRIC COMPANY DIABLO CANYON, UNITS 1, 2 DOCKET NO. 05000275, 05000323 ISSUE DATE: 09/06/2024

D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title

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

Type	Doc. No.	Title
1 WGE	SAPN	
2 WGE	51230228	DA-QAAF: inadequate MA1.DC54 implementat
2 WGE	51225503	DA-QAAF: ATS Receipt Inspection Qual
2 WGE	51248357	DA-QAAF: Annunciator Response Trip Step
2 WGE	51245089	DA-NRC fingerprint Form 754 not retained
2 WGE	51225502	DA-QAAF- ATS Records

September 2024
List of Documents Transmitted Electronically

2 WGE	51232349	DA-1Q24 GNCV - Design Control - Scuppers
2 WGE	51226202	DA-NRC SRI question P-9/C-9
2 WGE	51205659	DA-Trend: Inaccurate Initial ENFs
2 WGE	51203011	DA-U1 Sys 25B-Backup Air/N2 Goal setting
CE	51230229	DA-TS 3.0.3 Entry and NOED
Eff. Eval		
09/30/2024		Significance Level 1 and 2 Work Group Evaluations Created 09/01/2024 - 09/30/2024
09/03/2024		List of DN 5.1 and 5.2 Created 09-01/24 - 09-30-2024
09/03/2024		DCPP 1 WGE and 2 WGE Notifications Completed 09-01/2024 - 09-30-2024
09/03/2024		Open LTCA DA Notifications Station Significance 3 as of 09/03/2024
09/03/2024		20 Oldest Non-LTCA DA Notifications as of 09/03/2024
09/03/2024		Open RCEs as of 09/03/2024
09/03/2024		Open LTCA DA Notifications Station Significance 1 & 2 as of 9/3/2024

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

Date	Doc. No.	Title
09/04/2024		Nuclear Quality Digest, September Edition 2024
09/09/2024	2024-IA-06	2024 Maintenance Audit Report

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-51247539	Cable User Group 2024 Benchmarking
	BNHI-51221298	Benchmark for confined space alarms
	BNHI-51229791	EPRI WPUG benchmark Report 2024
	BNHI-51247535	Benchmark NQA-1 Potential Transition
	BNHI-51249401	U2 AMSAC Quick Hit Self-Assessment
	BNHI-51252867	Benchmarking LRTF AUG 2024
	BNHI-51242980	STARs scoping meeting benchmarking trip
	QHSA-51246129	2024 71130.02 Pre-Insp. Self-Assessment
	BNHI-51249053	EPRI Nuclear Coatings Training Benchmark

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	BNHI-51203479	INPO Assist Streamline Exemptions
	QHSA-51252383	Self-Assessment IP 71130.09 PSP
	SAQH-50858501	track Cable program self assessment

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

Date	Doc. No.	Title
1/31/2022		Generation Operating Plan 2021 – 2025, No new updates this month.
8/30/2024		September 2024 Learning Services Performance Improvement Dashboard
9/1/2024		September 2024 Emergency Preparedness PI Dashboard
9/16/2024		September 2024 Industrial Safety Performance Improvement Dashboard
09/03/2024		September 2024 PI Status Summary
9/16/2024		September 2024 Project Services Dashboard
9/15/2024		September 2024 Operations Services Performance Improvement Dashboard
9/17/2024		September 2024 Maintenance PI Dashboard
9/12/2024		September 2024 Engineering Services Performance Improvement Dashboard
9/16/2024		September 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
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
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September 2024
List of Documents Transmitted Electronically

		There are no Significance Determination Process Calculations for this month.
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N. Miscellaneous

Date	Title
	There are no miscellaneous documents for this month.

O. Functional Area Documents

Subcommittee	Date/Doc	Title
Maintenance	Week 202430	T+1 Performance Critique
	Week 202431	T+1 Performance Critique
	Week 202432	T+1 Performance Critique
	Week 202433	T+1 Performance Critique
	Week 202434	T+1 Performance Critique
	Week 202435	T+1 Performance Critique
	Week 202436	T+1 Performance Critique
	Week 202437	T+1 Performance Critique
	Week 202438	T+1 Performance Critique
	Week 202439	T+1 Performance Critique
	August	T+1 Monthly Performance Critique 2431-2435

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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
10/3/2024	DCL-24-091	Response to Request for Additional Information by the Office of Nuclear Reactor Regulation Diablo Canyon Safety Review Pacific Gas and Electric Company Diablo Canyon Units 1 & 2 (Set 1)
10/9/2024	DCL-24-098	DOE, Material Status Report for the Period Ending August 31, 2024
10/9/2024	DCL-24-096	DCL-24-096 DIL-24-009 (County) Annual Review of the Emergency Action Levels
10/9/2024	DCL-24-097	DCL-24-097 DIL-24-010 (State) Annual Review of the Emergency Action Levels
10/14/2024	DCL-24-092	Supplement and Annual Update: Diablo Canyon Power Plant License Renewal Application, Amendment 1
10/24/2024	DCL-24-103	PG&E's Voluntary Submittal of Information Related to 10 CFR 2.206 Petition Regarding Seismic Core Damage Frequency for DCP, Units 1 and 2

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
10/3/2024	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 - NOTIFICATION OF NRC INITIAL OPERATOR LICENSING EXAMINATION 05000275/2025301; 05000323/2025301
10/9/2024	DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 – AUTHORIZATION AND SAFETY EVALUATION FOR ALTERNATIVE REQUEST NO. REP-RHR-SWOL EPID L-2024-LLR-0043
10/23/2024	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 – SECURITY BASELINE INSPECTION REPORT 05000275/2024404 AND 05000323/2024404
10/24/2024	DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENT NOS. 246 AND 248 RE REVISION TO TECHNICAL SPECIFICATION 5.6.6, "REACTOR COOLANT SYSTEM (RCS) PRESSURE AND TEMPERATURE
10/30/2024	20241030, DIABLO CANYON POWER PLANT UNITS 1 AND 2 INTEGRATED INSPECTION REPORT 05000275_2024003 AND 05000323_2024003 AND INDEPENDENT SPENT FUEL STORAGE INSTALLATION REPORT 07200026_2024001
10/30/2024	REASSIGNMENT OF U.S. NUCLEAR REGULATORY COMMISSION BRANCH CHIEF IN THE DIVISION OF OPERATING REACTOR LICENSING FOR PLANT LICENSING BRANCH IV

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10/28/2024	DIABLO CANYON POWER PLANT – LICENSE RENEWAL REPORT 05000275/2024013 AND 05000323/2024013
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D. PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title

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

Type	Doc. No.	Title
1 WGE	SAPN	
2 WGE	51241485	DA-Report of Shoulder Strain
2 WGE	51248486	DA-Trend - Missed QC Hold Points
2 WGE	51188734	DA-MB-Cal Flat 230KV Line Relayed Out
2 WGE	51176817	DA 4Q23 GNCV RHR-8702 IST Classification
2 WGE	51227789	DA-timely NRC report not made f/OM7.ID11
2 WGE	51245373	DA-QAAF - Purchase Order RMS Timeliness
2 WGE	51253650	DA-U1 ICW Chloride Above Action Level 2
2 WGE	51245942	DA-Tagging Issue
2 WGE	51161238	LTCA - DA DEP Adverse Trend
CE	51240648	DA-XS-2-797 Steam Leak
Eff. Eval		
09/30/2024		Significance Level 1 and 2 Work Group Evaluations Created 09-01-2024 – 09-30-2024
10/01/2024		List of DN 5.1 and 5.2 Created 10/01/24 - 10/31/24
10/01/2024		DCPP 1 WGE and 2 WGE Notifications Completed 10/01/24 - 10/31/24
10/01/2024		Open LTCA DA Notifications Station Significance 3 as of 10/01/2024
10/01/2024		20 Oldest Non-LTCA DA Notifications as of 10-01-24
10/01/2024		Open RCEs as of 10012024

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

Date	Doc. No.	Title
10/02/2024		Quality Digest, October Edition 2024
10/8/2024	2024-IA-07	2024 Training and Qualifications Audit Report

G. Nuclear Safety Culture Monitoring Panel Reports

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

		There is no Nuclear Safety Culture Monitoring Panel Report for this month.
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H. Self Assessment/Benchmarking (SA/BM Reports/Schedules)

Date	Doc. No.	Title
11/7/24	BNHI-51247046	2024 NHUG Conference Lessons Learned
11/7/24	BNHI-51245126	Japan Benchmarking
10/16/24	BNHI-51258082	Benchmarking - NEIL Workshop
11/7/24	BNHI- 5122237	2024 MUG Conference Benchmarking
11/7/24	BNHI-51217421	Benchmarking - Operability Determination
11/7/24	BNHI-51247002	Benchmarking: August 2024 PWROG MSC
11/7/24	BNHI-51251333	DCPP NIRMA Symposium Benchmark Report
11/7/24	QHSA-51064486	2020 Quick-Hit SA for Fire Protection
11/7/24	QHSA-51237909	2024 PI&R Quick Hit SA
11/7/24	QHSA- 51180662	Sec Trng QHSA for 10CFR73 Appendix B
11/7/24	BNHI-51250558	Benchmarking to Seabrook
11/7/24	BNHI-51232611	Benchmark Ramp Offline for RFO
11/7/24	BNHI-51232539	OP1.ID7 ODM Enhancement Request
11/7/24	BNHI-51225497	Eval enhancement to OM7.ID3 and OM7.ID4

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.
10/7/2024		October 2024 PI Status Summary
10/14/2024		October 2024 Operations Services Performance Improvement Dashboard
10/1/2024		DCPP Emergency Preparedness Dashboard
10/21/2024		October 2024 Maintenance PI Dashboard
10/15/2024		October 2024 Engineering Services Performance Improvement Dashboard
10/21/2024		October 2024 Industrial Safety Performance Improvement Dashboard
10/15/2024		October 2024 Security & Emergency Services Performance Improvement Dashboard
10/22/2024		October 2024 Projects Dashboard
10/1/2024		October 2024 Learning Services Performance Improvement Dashboard
10/7/2024		October 2024 PI Status Summary

October 2024
List of Documents Transmitted Electronically

Station Initiative		There are no new Station Initiatives for this month.
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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 202440	T+1 Performance Critique
	Week 202441	T+1 Performance Critique
	Week 202442	T+1 Performance Critique
	Week 202443	T+1 Performance Critique
	Week 202444	T+1 Performance Critique
	September	T+1 Monthly Performance Critique 2436-2439
	October	T+1 Monthly Performance Critique 2440-2444

November 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
11/6/2024	DCL-24-095	10 CFR 50.46 Annual Report of Emergency Core Cooling System Evaluation Model Changes for Peak Cladding Temperature for 2023
11/18/24	DCL-24-105	Submittal of Updated Final Safety Analysis Report, Revision 28
11/18/24	DCL-24-106	Technical Specification Bases, Revision 15
11/20/2024	DCL-24-094	License Amendment Request 24-04, Application to Revise Technical Specifications (TS) to Adopt TSTF-589 to Modify TS 3.3.5 and 3.8.2
11/20/2024	DCL-24-104	NRC Submittal DCL-24-104, Diablo Canyon Quality Assurance Program Description, Revisions 5, 4, 3, 2, & 1

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
11/7/2024	DIABLO CANYON POWER PLANT UNITS 1 AND 2 SECURITY BASELINE INSPECTION REPORT 05000275_2024402 AND 05000323_2024402
11/7/2024	Diablo Canyon Power Plant Units 1 and 2 - Biennial Problem Identification and Resolution Inspection Report 05000275_2024010 and 05000323_2024010
11/6/2024	Diablo Canyon Power Plant Units 1 and 2 Independent Spent Fuel Storage Installation Security Inspection Report 07200026_2024401

D. PSRC Documents (PSRC Minutes)

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

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

Type	Doc. No.	Title
1 WGE	SAPN	
2 WGE	51249658	DA-Incorrect Significance for ABVS Failu
2 WGE	51245380	DA-QAAF-Main Warehouse Material Packagin
2 WGE	51222048	DA-System 23B Train A - Goal Setting
2 WGE	51235212	DA-RP2R24NRC - Green NCV Ident
CE	51238274	DA-Operations Clearance Adverse Trend

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List of Documents Transmitted Electronically

CE	51206375	DA-FWH 1-5A out of sight high_Rev1
Eff. Eval		
10/31/2024		Significance Level 1 and 2 Work Group Evaluations Created 10/01/2024-10/31/2024
11/30/2024		List of DN 5.1 and 5.2 Created 11-01-2024 – 11-30-2024
11/30/2024		DCPP 1 WGE and 2 WGE Notifications Completed 10-01-2024 – 11-30-2024
11/5/2024		20 Oldest Non-LTCA DA Notifications as of 11-05-2024
11/5/2024		DCPP CAP Station Index

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

Date	Doc. No.	Title
11/07/2024		Nuclear Quality Digest, November/December 2024
11/07/2024	2024-IA-01	2024 Radiation Protection Audit 9/23-24 – 10/14/24
11/18/2024	2024-AS-18	QV Assessment – Security Risk Informed Compensatory Measures

G. Nuclear Safety Culture Monitoring Panel Reports

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

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

Date	Doc. No.	Title
12/9/24	51209911	BNHI – Trip Report for RV Conference
11/15/2024	51185249	FSA – Formal SA for NRC LR Inspection in 1R24
11/24/24	51242768	BNHI - Palo Verde Benchmarking T-2
12/9/2024	51251178	BNHI - NEIL 2024 EAC Mtg. Trip Report
11/21/24	51158011	QHSA - 2024 Rx Management QHSA.PDF

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

Date	Doc. No.	Title
11/26/2024		November 2024 Diablo Canyon Power Plant Station Excellence Plan
10/2024		Diablo Canyon Power Plant; Plant Performance Snapshot October 2024
11/1/2024		November 2024 Learning Services PI Dashboard
11/1/2024		November 2023 Emergency Preparedness PI Dashboard
11/18/2024		November 2024 Industrial Safety PI Dashboard
11/20/2024		November 2024 DCPP Projects Dashboard

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11/12/2024		November 2024 Operations Services Performance Improvement Dashboard
11/14/2024		November 2024 Maintenance PI Dashboard
11/14/2024		November 2024 Engineering Services Performance Improvement Dashboard
11/13/2024		November 2024 Security & Emergency Services Performance Improvement Dashboard
11/5/2024		November 2024 PI Status Summary
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		There are no documents for this month.

December 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
12/4/2024	DCL-24-109	Alert and Notification System Siren 0820 Request to Relocate
12/13/2024	DCL-24-116	Diablo Canyon Power Plant Draft Supplemental Environmental Impact Statement Comment Letter
12/16/2024	DIL-24-012	Diablo Canyon Independent Spent Fuel Storage Installation Decommissioning Funding Plan
12/18/2024	DCL-24-120	Nuclear Material Transaction Report for New Fuel, shipment 1&2
12/23/2024	DCL-24-122	Nuclear Material Transaction Report for New Fuel, shipment 3&4
12/24/2024	DCL-24-111	License Amendment Request 24-05 Revision to Technical Specifications to Adopt Risk-Informed Completion Times TSTF-505, Revision 2, "Provide Risk-Informed Extended Completion Times – RITSTF Initiative 4b" for TS 3.3.1 and 3.3.2
12/24/2024	DCL-24-119	License Amendment Request 24-08 Application to Revise Technical Specifications to Adopt TSTF-541
12/31/2024	DCL-24-118	License Amendment Request 24-06 Revision to Technical Specification 1.1 and Addition of 5.5.21 to Use Online Monitoring Methodology
12/31/2024	DCL-24-121	License Amendment Request 24-07 Revision to Required Action Completion Times Consistent with NUREG-1431, Revision 5

C. NRC Incoming Correspondence (including Inspection Reports)

Date	Title
12/4/2024	REQUEST FOR ADDITIONAL INFORMATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION DIABLO CANYON LRA SAFETY REVIEW PACIFIC GAS AND ELECTRIC COMPANY DIABLO CANYON, UNITS 1, 2 DOCKET NO. 05000275, 05000323
12/5/2024	DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 – REQUEST FOR ADDITIONAL INFORMATION RE: ALTERNATIVE SECURITY MEASURES FOR THE EARLY WARNING SYSTEM (EPID L-2024-LLA-0048 AND EPID L-2024-LLE-0016)- PUBLIC REDACTED
12/11/2024	DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENT NOS. 247 AND 249 RE: ADOPTION OF 10 CFR 50.69,

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	"RISK-INFORMED CATEGORIZATION AND TREATMENT OF STRUCTURES, SYSTEMS AND COMPONENTS FOR NUCLEAR POWER REACTORS" (EPID L-2023-LLA-0137)
12/13/2024	DIABLO CANYON POWER PLANT, UNITS 1 AND 2 – SECURITY BASELINE INSPECTION REPORT 05000275/2024405 AND 05000323/2024405
12/30/2024	Acceptance Review_ Diablo Canyon revision to Technical Specification 3.3.5 and 3.8.2 to adopt TSTF-589 (EPID L-2024-LLA-0153)

D. NSOC/PSRC Documents (PSRC Minutes)

Date	Doc. No.	Title
12/3/2024		Nuclear Safety Oversight Committee Field Notes Diablo Canyon NSOC Meeting 2024-03
12/3/2024		Nuclear Safety Oversight Committee Chairman's Report Diablo Canyon NSOC Meeting 2024-03
12/19/2024	2024-014	1) DCL-24-111, License Amendment Request 24-05 2) License Amendment Request 24-08 (Walk-In) 3) License Amendment Request 24-06 (Walk-In) 4) Security Plan Change (Walk-In)
12/30/2024	2024-015	DCL-25-001, "Response to Request for Additional Information by the Office of Nuclear Reactor Regulation Diablo Canyon Safety Review Pacific Gas and Electric Company Diablo Canyon Units 1 and 2 (Set 2)"

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

Type	Doc. No.	Title
1 WGE	SAPN	
2 WGE	51201079	DA-Proposed 3Q23
2 WGE	51251306	DA-QAAF- Sustainable Corrective Actions
2 WGE	51196172	DA-DG 2-2 MW Fluctuations During STP M-9
2 WGE	51254426	DA-DG 2-2 MW Fluctuations During STP M-9
2 WGE	51225736	DA-Sys 17B Unavail. Exceeded - Goal Sett
2 WGE	51262769	DA-Lack of Documentation for NMOD instal
2 WGE	51260862	DA-M-20 Failed During Swap
2 WGE	51248355	DA-Fan S-34 Belt Dislodged
CE	51252837	DA-Earlier than Expected Pick & Dredge
Eff. Eval		
12/31/2024		Significance Level 1 and 2 Work Group Evaluations Created 12-01-2024 – 12-31-2024
12/31/2024		List of DN 5.1 and 5.2 Created 12-01-2024 – 12-31-2024
12/10/2024		Open LTCA DA Notifications Station Significance 3 as of 12-10-2024

December 2024
List of Documents Transmitted Electronically

12/31/2024		DCPP 1 WGE and 2 WGE Notifications Completed 12-1-24 – 12-31-24
12/10/2024		Open RCEs as of 12/10/2024
12/10/2024		Open LTCA DA Notifications Station Significance 1 & 2

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

Date	Doc. No.	Title
12/04/2024	2024-IA-03	Operations and Technical Specifications Audit.pdf

G. Nuclear Safety Culture Monitoring Panel Reports

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

December 2024
List of Documents Transmitted Electronically

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

Date	Doc. No.	Title
	BNHI-51257265	CSAT Benchmarking
	BNHI-51255542	RP Training Benchmark Trip August 2024
	BNHI-51253626	Benchmark Plant Vogtle – Supply Chain
	BNHI-51261729	Benchmark OE Processing Requirements
	BNHI-51254608	Benchmark 2024 RP ForumRSTF Meeting
	BNHI-51225484	Benchmark Spring 2024 INPO RPMRSTF Meet
	QHSA-51025263	Operability Determin – SA tracking 2024
	BNHI-51254506	Benchmark – Salem (FWHRX Vessel)
	FSA-51142703	2023 Nuclear Safety Culture SA
	BNHI-51265102	Informal Benchmark – PwrBi Wrk Mgmt
	QHSA-51249335	QHSA – Operations clearances
	BNHI-51261309	CMBG Benchmarking SDP Process
	QHSA-51227311	2024 Self-Assessment – OPW-SPO
	BNHI-51232089	(LR) Benchmark STP NRC 71003 SA

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

Date	Doc. No.	Title
12/12/2024		2025 Nuclear Generation, Roadmap to Generating Excellence
12/12/2024		2025-2030 Strategic Plan Nuclear Generation
12/2/2024		December 2024 PI Status Summary
12/17/2024		December 2024 Operations Services Performance Improvement Dashboard
1/9/2025		December 2024 Projects Dashboard
12/16/2024		December 2024 Maintenance PI Dashboard
11/18/2024		December 2024 Industrial Safety Performance Improvement Dashboard
12/17/2024		December 2024 Engineering Services Performance Improvement Dashboard
12/31/2024		December 2024 Emergency Preparedness Dashboard
12/16/2024		December 2024 Security & Emergency Services Performance Improvement Dashboard
Station Excellence	November 2024	Diablo Canyon Power Plant Station Excellence Plan

J. INPO

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

		There are no INPO documents for this month.
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K. Operational Documents (ODM Minutes, POAs)

Date	Doc. No.	Title
12/19/2024		High Swell Warning Condition
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 202445	T+1 Performance Critique
	Week 202446	T+1 Performance Critique
	Week 202447	T+1 Performance Critique
	Week 202448	T+1 Performance Critique
	Week 202449	T+1 Performance Critique
	Week 202450	T+1 Performance Critique
	Week 202451	T+1 Performance Critique
	Week 202452	T+1 Performance Critique
	November	T+1 Monthly Performance Critique 2445-2448
	December	T+1 Monthly Performance Critique 2449-2452

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE**AGENDA TRANSMITTAL FORM**

MEETING DATE:

February 19, 2025

AGENDA ITEMS:

X - C, D and E

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. 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 November 13-14, 2024, [Resolution 2025-01], on December 11-12, 2024, [Resolution 2025-02], and January 21-22, 2025 [Resolution 2025-03].

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

AGENDA TRANSMITTAL FORM

MEETING DATE:	February 19, 2025
AGENDA ITEM:	XVI - F
AGENDA TITLE:	Update on DCISC's Review of Seismic Safety, Scope and Plans for Performing an Expert Review of Recent Seismic Hazard Concerns, Selection of Consultants, and Approval of Consulting Agreements.

CONSENT [] ACTION [X] INFORMATION []

Staff Summary: During the Committee's meeting on October 10, in its approval of the Fact Finding Report for the August 27-September 24-25, 2024 fact finding visit to Diablo Canyon, the Committee recommended convening one or more experts with expertise in Neotectonics to further evaluate Dr. Peter Bird's seismic concerns.

For more than one year, a range of technical issues and questions on the seismic hazard at Diablo Canyon have been raised by Dr. Peter Bird, Professor Emeritus, Dept. of Earth, Planetary, and Space Sciences, UCLA, consulting to the San Luis Obispo Mothers for Peace, Friends of the Earth and Environmental Working Group. On May 16, 2024, Dr. Bird sent a letter to the DCISC, then he made presentations to the DCISC during the DCISC public meetings on June 21, and October 9, 2024. Subsequently, at the request of the Committee, on October 30, 2024, Dr. Bird provided a report entitled "High Seismic Hazard and Risk at Diablo Canyon Power Plant Due to Thrust Faulting Under the Irish Hills" summarizing arguments, data and citations previously submitted to the NRC in three Declarations and one oral presentation.

The Committee is expected to discuss this matter and consider engaging Dr. Thomas Jordan, Dr. Scott Marshall and Dr. Michael Oskin to work collaboratively in performing consulting services in order to provide to the Committee the following deliverables:

(i) A peer review of Dr. Bird's October 30, 2024 Report and to provide a written report to the DCISC; and

(ii) A presentation to the DCISC and the public on the findings of the peer review at the Committee's June 2025, public meeting.

A draft Agreement for Consulting Services is attached.

RECOMMENDED COMMITTEE ACTION: Discuss and consider approval of Agreements for Consulting Services with Dr. Jordan, Dr. Marshall and Dr. Oskin.

AGREEMENT FOR CONSULTING SERVICES

THIS AGREEMENT is made and entered into on February 19, 2025, by and between the DIABLO CANYON INDEPENDENT SAFETY COMMITTEE (hereinafter referred to as the "Committee") and _____ Ph.D. ("Consultant"), as follows:

Recitals

A. In December 1988 the California Public Commission ("CPUC") approved and adopted a settlement agreement between Pacific Gas & Electric Company ("PG&E"), the Division of Ratepayer Advocates of the CPUC, and the Attorney General of the State of California relating to Diablo Canyon Nuclear Power Plant ("DCPP"). The settlement agreement, among other things, established the three-member Committee to review PG&E's adherence to safety standards at Diablo Canyon, conduct site visits, review DCPP operations, and prepare reports and suggest any recommendations for safe operations. In its Decisions D.88-12-083, D.97-05-088, D.04-05-055, D.07-01-028 and D.23-08-004 the CPUC provided for continuing operations by the Committee in order that it might fulfill its responsibilities.

B. On September 2, 2022, Governor Newsom signed Senate Bill (SB)846 which allows for the potential extension of operations at Diablo Canyon beyond the current retirement dates, up to five additional years, under specific conditions as provided by the legislation including approval by the U.S. Nuclear Regulatory Commission (NRC) extending the operating licenses for Diablo Canyon.

C. On October 31, 2022, Pacific Gas and Electric submitted a letter to the NRC entitled "Request to Resume Review of the Diablo Canyon Power Plant License Renewal Application or, Alternatively, for an Exemption from 10 CFR 2.109(b), Concerning a Timely Renewal Application." PG&E has informed the Committee it has applied to the NRC for a twenty-year license extension of the operating licenses for DCPP which were scheduled to expire on November 2, 2024 for Unit 1 and August 26, 2025 for Unit 2.

D. SB846 required the CPUC to direct and authorize PG&E to take all actions by no later than December 31, 2023, that would be necessary to operate the powerplant beyond the current license expiration dates so as to preserve the option of extended operations until October 31, 2029 for Unit 1 and October 31, 2030 for Unit 2, conditioned on continued authorization from the NRC.

E. For more than one year, a range of technical issues and questions on the seismic hazard at DCPP have been raised by Dr. Peter Bird, Professor Emeritus, Dept. of Earth, Planetary, and Space Sciences, UCLA, consulting to the San Luis Obispo Mothers for Peace, Friends of the Earth and Environmental Working Group. On May 16, 2024, Dr. Bird sent a letter to the DCISC, then he made presentations to the DCISC during the DCISC public meetings on June 21, and October 9, 2024. Subsequently, at the request of the Committee, on October 30, 2024, Dr. Bird provided a report entitled "High Seismic Hazard and Risk at Diablo Canyon

Power Plant Due to Thrust Faulting Under the Irish Hills” summarizing arguments, data and citations previously submitted to the NRC in three Declarations and one oral presentation.

F. The Committee now requires and wishes to engage the Consultant, as one of three consultants engaged concurrently by the Committee, to work collaboratively with the two other designated consultants on the performance of consulting services in order to provide to the Committee the following deliverables (the “Project”) :

(i) A peer review of Dr. Bird’s October 30, 2024 Report and to provide a written report to the DCISC; and

(ii) A presentation to the DCISC and the public on the findings of the peer review at the Committee’s June 2025, public meeting. These tasks are more fully described in **Exhibit "A"** (the “Scope of Services”) attached hereto and by this reference made a part hereof.

G. Consultant is qualified to perform and wishes to provide those services requested by the Committee.

H. The Committee wishes to engage the services of Consultant for this *ad hoc* assignment and Consultant consents to provide such services upon the terms and conditions hereinafter set forth.

Terms and Conditions

In consideration of the mutual promises contained herein, the Committee and Consultant hereby agree to the following terms and conditions:

1. Scope of Services. Consultant shall provide to the Committee those services set forth in the Scope of Services, which is attached as **Exhibit "A"** to this agreement. Such services may be modified, from time to time, as required, by a written amendment to **Exhibit "A"** which shall be signed by both parties to this agreement.

2. Compensation. For the services to be provided by Consultant under this agreement, Consultant shall be compensated from the time Consultant began work on the Project at the hourly rate of \$_____.00 per hour, with the understanding that the total cumulative cost for the Project will not exceed \$_____.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 hereto as **Exhibit "B"** hereto.

3. Ownership of Work Product. Ownership of any reports, data, studies, surveys, charts, maps, figures, photographs, memoranda and any other documents which are developed, compiled or produced pursuant to this agreement, whether or not completed, shall be vested in the Committee. If the Consultant's working papers or deliverables include computer generated statistical material, the Consultant shall provide the material to the Committee in a mutually agreed upon computer-readable format and media. Any evaluation, assessment or report by Consultant shall be made in accordance with the Consultant Guidelines, **Exhibit "B"** hereto.

4. Delegation of Work. Consultant's professional qualifications and experience constitute a principal consideration for the Committee in entering into this agreement, therefore Consultant may not delegate the services to be performed by Consultant or utilize any sub-consultant, person or firm having applicable expertise to assist Consultant in performing the work authorized by this agreement without the prior written consent of the Committee Chair which may be withheld in the Chair's sole discretion.

5. Independent Contractor. The parties agree that Consultant, any sub-consultants and agents shall be independent contractors with regard to the providing of services under this agreement, and that Consultant and its employees, sub-consultants or agents shall not be considered to be employees or agents of the Committee for any purpose. The Committee shall make no deductions for payroll taxes or Social Security from amounts due Consultant for services provided under this agreement.

6. Conflict of Interest. Consultant covenants that he does not have and shall not acquire any interest directly or indirectly which would conflict in any manner with the interests of the Committee or which would in any way hinder or affect Consultant's performance of services under this agreement. The Committee understands and acknowledges that Consultant may have in the past and may be as of commencement of services under this agreement performing services unrelated to the Scope of Services herein.

7. Liability Insurance. Consultant shall, at its sole cost and expense, at all times during which services are performed under this agreement, maintain in force automobile liability insurance covering all vehicles used during such performance of services. Such insurance policy or policies shall be maintained on the minimum basis of \$100,000.00 for damage to property and \$500,000.00 for bodily injury or death in any one accident.

8. Indemnification. Consultant agrees to defend, indemnify and hold harmless the Committee, its officers, agents and employees from and against all claims, demands, damages or costs arising from Consultant's negligence with respect to services performed pursuant to this agreement. The Committee agrees to defend, indemnify and hold harmless Consultant and its employees and agents from and against all claims, demands, damages or costs arising from the Committee's negligence with respect to its duties pursuant to this agreement. .

9. Workers' Compensation Insurance. Consultant shall, at its sole cost and expense, at all times during the performance of services under this agreement, maintain in force and effect workers' compensation insurance on any employee of Consultant working pursuant to this agreement in an amount not less than the California statutory required minimum.

10. Compliance with Laws. Consultant and any employees and agents shall comply with all applicable state, federal and local laws and safety regulations while performing services pursuant to this agreement.

11. Confidential Information. In the course of performing this Agreement, the Consultant may receive confidential information. Federal law restricts disclosure of certain information; accordingly, Consultant shall seek approval of the Committee's Legal Counsel for access to such information and shall comply with all laws, regulations and policies, including policies of the Committee, applicable to access to, possession and use of such information. The Committee is subject to the California Public Records Act (Government Code Section 7920.000 et seq.). Consultant and all persons who receive confidential information in the course of or as a result of the performance of this Agreement shall have a duty to maintain the confidentiality of information so designated. No disclosure of confidential information shall be made to any person who does not have a need to receive the information in order to assist in the performance of this agreement and any person receiving such disclosure shall be required to execute a written agreement requiring the recipient to comply with the provisions of this Section 11.

12. Termination or Suspension. The Committee may terminate or suspend this agreement at any time and for any reason. Should the Committee elect to terminate or suspend this agreement, it shall be obligated to Consultant for any charges for services rendered by Consultant and properly substantiated by Consultant up to the date of termination or suspension.

Consultant may terminate this agreement upon giving Committee thirty (30) days' written notice in advance thereof. Should Consultant elect to terminate this agreement, Consultant shall give Committee all data, memoranda, reports, and other documents prepared in performance of this agreement.

13. Assignment. This agreement may not be assigned or otherwise transferred by Consultant without the prior written consent of the Committee.

14. Draft Documents Confidential. Consultant agrees that until final approval by the Committee all data, memoranda, reports and other documents are confidential drafts and will not be released to third parties without the prior written consent of the Committee Chair.

15. Notice. Unless otherwise mutually agreed upon in writing by the parties, all notifications, notices, demands, requests and other communications herein provided for or made pursuant hereto shall be in writing and shall be sent by (i) registered or certified mail, return receipt requested, and the giving of such communication shall be deemed complete on the third (3rd) Business Day after the same is deposited in a United States Post Office with postage charges prepaid, or (ii) reputable overnight delivery service, and the giving of such communication shall be deemed complete on the immediately succeeding Business Day after the same is deposited with such delivery service.

If to Consultant, addressed to the address set forth below, or at such other address in the continental United States as Consultant may furnish to the Committee in writing:

Telephone: _____
Email: _____

If to the Committee, addressed to the Committee, at the address set forth below, or at such other address in the continental United States as the Committee may furnish to Consultant in writing:

Diablo Canyon Independent Safety Committee
c/o Office of the Legal Counsel
SW 4th & Mission, Suite 2
P.O. Box 4523,
Carmel-by-the-Sea, CA 93921-4523
Telephone: (831) 647-1044; (800) 439-4688 (In CA only).

16. Attorney's Fees. In the event of any controversy, claim or dispute relating to this agreement, or the breach thereof, the prevailing party shall be entitled to recover from the other party reasonable expenses, attorney's fees and costs.

17. Amendment or Modification. This agreement is not subject to amendment, change or modification except by a writing signed by Consultant and the authorized representative of the Committee.

18. Counterparts. This agreement may be executed in two counterparts, each of which shall be deemed an original but both of which shall constitute one and the same instrument. Delivery of an executed counterpart with a party's signature by electronic imaging (pdf) shall be effective as delivery of a manually executed counterpart.

19. Effective Date. This agreement is effective on the date first shown above and shall continue until the scope of services provided for herein are completed unless terminated earlier as provided herein.

DIABLO CANYON INDEPENDENT
SAFETY COMMITTEE

By _____
Per F. Peterson, Chair

Name (print): _____

Date: February 19, 2025

Date: February __, 2025

EXHIBIT “A”

SCOPE OF SERVICES

Charge to the Seismic Review Team

The Diablo Canyon Independent Safety Committee (DCISC) charges the Seismic Review Team (SRT) to conduct a peer review of six reports submitted by Dr. Peter Bird to the DCISC, the California Public Utilities Commission (CPUC), and the U.S. Nuclear Regulatory Commission (NRC) regarding the seismic hazard at the Diablo Canyon Power Plant (DCPP):

1. *Opening Testimony of Dr. Peter Bird on Behalf of San Luis Obispo Mothers for Peace on Phase 1 Track 2 Issues* (R.23-01-007, 24 pp.), submitted to the CPUC on January 14, 2023.
2. *Declaration Of Peter Bird, Ph.D.* (50-275-LR, 26 pp.), submitted to the NRC by San Luis Obispo Mothers for Peace, Friends of the Earth, and Environmental Working Group on March 4, 2024.
3. *Response to PG&E SSC and 2024 Update* (8 pp.), letter from Dr. Peter Bird submitted to the DCISC on May 16, 2024.
4. *Supplemental Declaration of Peter Bird, Ph.D* (50-275, 50-323, 14 pp.), submitted to the NRC on June 7, 2024.
5. *Correcting 4 False Assumptions in PG&E’s Seismic Source Characterization [2015] and Update [2024] that Caused PG&E to Seriously Underestimate Seismic Hazard at Diablo Canyon Nuclear Power Plant* (27 viewgraphs), presentation by Dr. Peter Bird to the NRC Petition Review Board on July 7, 2024.¹
6. *High Seismic Hazard and Risk at Diablo Canyon Power Plant Due to Thrust Faulting Under the Irish Hills* (27 pp.), submitted to the DCISC on October 30, 2024.

These reports, which together constitute the “Bird critique”, challenge several major hypotheses made by PG&E in developing the Seismic Source Characterization (SSC) currently used to compute the seismic hazard at the DCPP. Report (6) summarizes Dr. Bird’s main conclusions and will be the focus of the SRT review. The SRT will evaluate Dr. Bird’s conclusions using what it judges to be the best science available from the published literature, public PG&E reports, and expert knowledge. In its review, the SRT will consider the information in public documents by PG&E and its consultants, such as the PG&E reports that describe the current SSC (references ² & ³) and those that address the Bird critique (e.g., references ³ & ⁴). The SRT will also consider relevant reviews available from the NRC (e.g. reference ¹). and the Independent Peer Review Panel for Seismic Hazard Studies of the Diablo Canyon Nuclear Power Plant (IPRP) (e.g. reference ⁵). It is anticipated that the SRT will need to request information from PG&E not contained in its public reports, and a mechanism for such requests will be provided.

¹ Transcript of the NRC Petition Review Board meeting of July 17, 2024.

² *Seismic Source Characterization for the Diablo Canyon Power Plant, San Luis Obispo County, California* (March 2015, 682 pp. & Appendices A-H).

³ *Diablo Canyon Updated Seismic Assessment, Response to Senate Bill 846* (March 6, 2024, 394 pp.).

⁴ *Phase 1 Review of the Tectonic and Geomorphic Setting of the January 1, 2024, M7.5 Noto Earthquake, Noto Peninsula, Japan* (LCI Project No. 1005.125, 54 pp.).

⁵ IPRP Report No. 16, *Initial Review of the PG&E “Updated Seismic Assessment, February 2024”*.

Scope of Independent Consultants' Review of Bird Seismic Concerns

Overview:

The adequacy of seismic safety of Diablo Canyon Units 1 and 2 has been challenged by Dr. Peter Bird, and to an extent, the Independent Peer Review Panel (IPRP). Additionally, the Nuclear Regulatory Commission's Petition Review Board (based on Dr. Bird's concerns) while initially denying San Luis Obispo Mothers for Peace, et al shutdown petition, ultimately, the NRC has now agreed to another round of review of Dr. Bird's contentions.

In order to provide more focus on the specific issues requiring the retention of certain subject matter experts, the following reports, documents, and letters were reviewed. This list may not be complete pending a search of relevant documents but should provide a basis for independent review.

List of documents reviewed:

1. Opening Testimony of Dr. Peter Bird on San Luis Obispo Mothers for Peace on Phase 1 Track 2 Issues, January 14, 2023
2. Declaration of Peter Bird, Ph.D. , US NRC, March 4, 2024
3. NRC email to Diane Curran, et al, Re: Petition Review Board Decision, May 15, 2024
4. Letter to DCISC, Peter Bird, Ph.D., May 16, 2024
5. Supplemental Declaration of Peter Bird, Ph.D., June 7, 2024
6. Letter to NRC Acting Deputy Director, from Diane Curran, Re: 2.206 Petition on Core Damage Frequency, September 11, 2024
7. Lettis Consultants International, Inc. Report to PG&E, "Phase 1 Review of the Tectonic and Geomorphic Setting of the January 1, 2024, M7.5 Noto Peninsula, Japan", September 30, 2024
8. **Peter Bird Report To DCISC, "High Seismic Hazard and Risk at Diablo Canyon Power Plant Due to Thrust Faulting Under the Irish Hills", October 30, 2024.**
9. IPRP Presentation to DCSIC, October 9, 2024, Dr. Johnson
10. IPRP Presentation to DCISC, October 9, 2024. Department of Conservation
11. "Updated Seismic Assessment " that PG&E performed, as mandated by SB 846. March 2024
12. IPRP Report 16 PGE DCSA Update Review (26 August 2024)
13. PG&E Response to IPRP Report 16 (14 January 2025)
14. PG&E Evaluations of Technical Questions on Seismic Safety, Presentation at October 9, 2024 DCISC Public meeting: https://www.dcisc.org/download/events/45_7-f-diablo-canyon-independent-safety-committee-20241009-informational-presentations.pdf (slides 18-68)

15. "Preliminary 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", June 19, 2024.
16. 2015 SSHAC seismic-hazard study: "Seismic Hazard Screening Report, Diablo Canyon Power Plant Units 1 and 2," submitted to the Nuclear Regulatory Commission as an attachment to PG&E letter DCL-15-035, "Response to NRC Request for Information pursuant to 10 CFR 50.54(f) Regarding the Seismic Aspects of Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident; Seismic Hazard and Screening Report," March 11, 2015, NRC ADAMS Accession Numbers ML15070A607 and ML15070A608.
17. 2018 seismic PRA study: "Seismic Probabilistic Risk Assessment for the Diablo Canyon Power Plant. Units 1 and 2 - Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding Recommendation 2.1: Seismic of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," submitted to the US Nuclear Regulatory Commission as an attachment to PG&E letter DCL-18-027, April 24, 2018, NRC ADAMS Accession Number ML18120A201.
18. NRC letter to Diane Curran, December 5, 2024, Expanding Petition Review Board scope and extending time to complete their review 120 days after December 5, 2024 (April 5, 2025).
19. PG&E's Voluntary Submittal of Information Related to 10 CFR 2.206 Petition Regarding Seismic Core Damage Frequency for DCCP, Units 1 and 2, to NRC, October 24, 2024, ML 24298A234
20. DCISC Fact-Finding Report - August 27, September 24-25, 2024, See Section 3.1 and 3.12.

Summary:

Based on the review of the documents, it appears that while Dr. Bird was invited to provide technical input to the original SSHAC Level 3 process in 2015 (Report # 15), his recommendations were not accepted by the assembled team which forms the basis of his original declarations which were not addressed by subsequent updates⁶ (2024). Dr. Bird also defines an "Inferred Coastal Thrust" (his term) which needs to be addressed since it is part of his case.

The primary focus for this review is Dr. Bird's declarations and communications with the DCISC and NRC. The most recent report submitted to the DCISC is report # 8 which was requested by the DCISC at its October 2024 public meeting. The others are supplemental explanations to his several concerns that should be reviewed as supporting material to his position. The IPRP report raises separate seismic source term characterization issues and are considered secondary to Dr. Bird's concerns for this review. We have listed other background

⁶ Opening Testimony of Dr. Peter Bird on San Luis Obispo Mothers for Peace on Phase 1 Track 2 Issues, January 14, 2023. Page 6

information that may be useful for the independent review such as references dealing with the SSHAC processes, NRC petition reviews and PG&E studies.

The Noto earthquake increased Dr. Bird's level of concern since he believes that the seismic setting of Irish Hills and Noto are sufficiently similar. The PG&E commissioned the Lettis Consulting report (#7) that addresses the Noto issue. Dr. Bird also proposes alternative modeling techniques (in contrast to standards used in the past) to make his case. These topics should be addressed as part of this independent review.

The IPRP did not address Noto but raised additional concerns about weighting that also should be evaluated. At present, there is no timetable for IPRP review of the applicability of the Noto earthquake to the Diablo Canyon site.

Thus, clearly a neotectonics expert(s) need to be retained to address the thrust fault vs strike/slip fault issue at the Irish Hills, other seismic source issues raised by Dr. Bird, and the overall modeling of seismic sources in the area of Diablo Canyon. Depending on the analysis conducted by the to-be-hired consultant(s), the DCISC may need to revisit the overall risk to the DCP, of which Core Damage Frequency would be one—albeit an important—component. At this time, the DCISC judges that it may not be necessary to retain such an expert(s).

Three intervening factors in DCISC's independent review are: (1) the NRC review of SLOMFP petition and (2) the eventual, not-yet-scheduled IPRP review of Dr. Bird's contentions which we are told will occur after NRC's review⁷. Given that NRC staff have twice addressed the contentions with a finding that there was insufficient technical basis to include the Noto earthquake in the Diablo Canyon seismic modeling, it is not clear how their review will impact DCISC's assessment, nor its timing relative to the DCISC independent review. The third (3) is what PG&E prepares as a response to Dr. Bird's additional declarations and reports. Highlights of their original response are found in #13.

Based on the review of these documents, the proposed scope of work is summarized as follows:

1. Review of Dr. Bird's latest report submitted to the DCISC (#8)
 - a. This review includes Dr. Bird's original criticism of the 2015 report⁸ (#1, #2, #4, #5))
2. Review of IPRP's reports addressing deficiencies in existing seismic source term development (#9, #10, #12). These issues, which are also alluded to by Dr. Bird, (such as items 1 and 6 in the IPRP section below) were prior to and do not address the recent Noto Japanese earthquake.

⁷ Communication from Dr. R. Budnitz

⁸ 2015 SSHAC seismic-hazard study: "Seismic Hazard Screening Report, Diablo Canyon Power Plant Units 1 and 2," submitted to the Nuclear Regulatory Commission as an attachment to PG&E letter DCL-15-035, "Response to NRC Request for Information pursuant to 10 CFR 50.54(f) Regarding the Seismic Aspects of Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident; Seismic Hazard and Screening Report," March 11, 2015, NRC ADAMS Accession Numbers ML15070A607 and ML15070A608

3. Review of PG&E's response to Dr. Bird (#13)
4. Review of the Updated Seismic Assessment, PGE, 2024" (11). This does not include Noto earthquake but the recent Lettis report (#7) addresses its applicability.
5. Review of the Lettis Consultants International report (#7) addressing the applicability of the Noto earthquake to the Diablo Canyon site specifically Irish Hills.
6. Review any additional documents from the NRC, IPRP and PG&E regarding Dr. Bird concerns.

The other listed reports are for background.

In Dr. Bird's earlier declarations, he questions the original SSHAC Level 3 study conducted in 2015 and the most recent update (#1, #2). He follows up these declarations with supplemental testimony including the Noto earthquake (#5). In most recent documents, Dr. Bird expands his review of the seismic hazard to include his analysis of seismically induced core damage frequency based on scaling contained in a previous seismic probabilistic risk assessment⁹ thereby triggering a 2.206 petition calling for the shutdown of Unit 1. (#3, #6). This petition is currently under review by the staff of the Nuclear Regulatory Commission.

Fundamental Technical Issues Raised by Dr. Bird

The list below comes from the admitted contentions by the NRC staff on Bird's fundamental concerns. There is a great deal of additional technical information in each of Dr. Bird's declarations which form the basis of his opinions.

1. Thrust faulting is neglected by Pacific Gas & Electric Company's (PG&E) 2012 Seismic Source Characterization (SSC) model because the model assumes that a majority of large earthquakes affecting Diablo Canyon are strike-slip and disregards the significant contribution of thrust faulting earthquake sources under the Diablo Canyon site and the adjacent Irish Hills. In addition, PG&E did not use a hanging-wall term for the modeling of potential ground motions from the Los Osos and San Luis Bay thrust faults.
2. The January 2024 magnitude 7.5 (moment magnitude) earthquake centered in the Noto Peninsula (Japan), with an average slip of 2 meters on the fault, is analogous to future potential thrust mechanism earthquakes beneath Diablo Canyon. Based on the slip rate of the Irish Hills adjacent to Diablo Canyon and the slip of the Noto earthquake, large thrust fault earthquakes will occur, on average, every 715 years near the Diablo Canyon site.

⁹ "Seismic Probabilistic Risk Assessment for the Diablo Canyon Power Plant. Units 1 and 2 - Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding Recommendation 2.1: Seismic of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," submitted to the US Nuclear Regulatory Commission as an attachment to PG&E letter DCL-18-027, April 24, 2018, NRC ADAMS Accession Number ML18120A201

3. PG&E's 2012 SSC model does not account for an inferred offshore thrust fault that has a slip rate of 2.8 millimeters per year (mm/yr) and the potential for producing a magnitude 7.5 earthquake.
4. Seismic core damage frequency, estimated by PG&E in 2018 to be 3×10^{-5} , should be 1.4×10^{-3} per year (about once every 715 years) based on this higher recurrence rate for thrust earthquakes.

Related Noteworthy Fundamental Technical Findings of the IPRP (#9, #10)

1. The current data set is not adequate to distinguish between competing fault geometry for the Irish Hills and the Los Osos fault.
2. Additional offshore seismic reflection data focusing in detail on the Los Osos and Casmalia faults may identify piercing that could yield rates of lateral slip
3. Additional offshore investigation is needed to better characterize the Los Osos fault and evaluate competing geologic models.
4. Results of a preliminary investigation by the U.S. Geological Survey indicated that the offshore Los Osos fault is a broad zone characterized by vertical strike slip faults.
5. Detailed offshore seismic reflection data could better characterize this fault zone and potentially quantify rates of lateral slip.
6. The Irish Hills uplift rate is approximately 0.1 to 0.2 mm/yr, indicating low vertical slip rates on the bounding faults. However, if detailed offshore investigation shows that the Los Osos fault has a higher lateral slip rate, the overall slip rate on this fault could be higher. Conversely, if the lateral slip rate for the Los Osos fault is low, then the overall slip rate could be relatively low.
7. The Cross-Hosgri slope slip rate best represents the hazard of the Hosgri fault. However, other slip rates used (in PGE's analysis) appear unrepresentative of current rates of tectonic deformation, and a bias towards the legacy 2015 model appears to be part of the reason. Thus, the Cross-Hosgri slip rate should receive full weight in seismic hazard models.

Potential Technical Issues for DCISC Consideration Upon Final Assessment of the Seismic Source

Given the final assessment of the seismic source characterization, the impact of the sources on core damage frequency (CDF) may need to be re-evaluated. This area requires special expertise not generally found in geoscientists or neotectonics experts. Depending on the analysis conducted by the to-be-hired consultant(s), the DCISC may need to revisit the overall risk to the DCP, of which CDF would be one—albeit an important—component. At this time, the DCISC judges that it may not be necessary to retain such an expert(s).

Schedule and Deliverables:

1. Provide the Committee with a *draft* formal evaluation of Dr. Bird's positions, claims, and conclusions with regards to whether any of them, based on the available and corroborating information and data reviewed by the consultant(s), significantly change existing evaluations of the seismic hazards at the DCPD site. Target completion date: April 30, 2025
2. Provide the Committee with a final/formal evaluation of Dr. Bird's positions, claims, and conclusions with regards to whether, based on the available and corroborating information and data reviewed by the consultant(s), they significantly change existing evaluations of the seismic safety of the DCPD plant. Target completion date: May 30, 2025.
3. Support the Committee as necessary to present and discuss the evaluation at the Committee's June 11-12, 2025, Public Meeting.

DIABLO CANYON INDEPENDENT
SAFETY COMMITTEE

CONSULTANT

By _____
Per F. Peterson

EXHIBIT B

Diablo Canyon ISC
Committee Policy No. 6

CONSULTANT GUIDELINES

The Diablo Canyon Independent Safety Committee (DCISC) may contract with consultants to perform various tasks in its review of the safety of operations of the Diablo Canyon Power Plant. The following are guidelines for consultant agreements and activities:

1) Prior to charges being made for services rendered, a consultant shall sign a written agreement that has been signed by the Chair or a designated DCISC member and approved by the affirmative vote of at least two-thirds of the members of the DCISC. A proposed standard form of Agreement is attached hereto.

2) Consultant work shall not commence without a specific scope of services description which shall be signed by the Chair or a designated DCISC member and approved by the affirmative vote of at least two-thirds of the members of the DCISC or attached as part of the signed agreement referred to in paragraph 1. A sample specific scope of services is attached.

3) The signed original of the Agreement and Specific Scope of Services shall be sent by the Chair or designated DCISC Member to the DCISC Legal Counsel for retention, with copies to the other DCISC members and the contracting consultant.

4) Any consultant recommendations in reports shall be made as recommendations to the DCISC which will review and decide on disposition. Consultant reports shall be marked and considered as drafts until approved by the affirmative vote of at least two-thirds of the members of the DCISC. The Chair or designated DCISC member shall review and approve for presentation draft reports prior to the Consultant's presentation at a DCISC public meeting.

Copies of draft reports shall be distributed to all DCISC members and the DCISC Legal Counsel prior to the Consultant's report at a public meeting and subsequent final approval by the affirmative vote of at least two-thirds of the members of the DCISC.

5) Consultant charges for travel expenses shall be for actual expenditures with receipts for charges of \$25.00 or more and for all lodging. The attached form is to be used for submittal for reimbursements.

6) Time reporting shall be as follows:

- a) Report time to nearest 0.25 hours.
- b) A "standard day" is defined as the normal eight-hour working day.
- c) All DCISC actual work-time and travel-time during the "standard day" is charged.
- d) All time on-assignment or on-location during the "standard day" is charged.
- e) DCISC actual work-time outside the "standard day" is charged at standard rates.
- f) DCISC travel-time outside the "standard day" is not charged unless it includes DCISC work.

7) Contracts entered into with consultants or experts for a particular project shall include an estimated total cost for such work, which amount shall not be exceeded without prior authorization by the Committee Chair and ratification by the affirmative vote of at least two-thirds of the members at a regular Committee meeting.

[Adopted June 1994; Revised October 2003]

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

AGENDA TRANSMITTAL FORM

MEETING DATE:

February 19, 2025

AGENDA ITEM:

XXI-G

AGENDA TITLE:

Minutes of October 9-10, 2024
Public Meeting

CONSENT []

ACCEPTANCE [X]

INFORMATION []

Staff Summary: Attached are the Minutes which have been prepared from the Committee's one hundred and ninth public meeting held on October 9-10, 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: Review and accept the Minutes by motion.

MINUTES
of the
DIABLO CANYON INDEPENDENT SAFETY COMMITTEE'S
OCTOBER 9-10, 2024, PUBLIC MEETING
[For Approval at the February 19-20, 2025, Public Meeting.]

Wednesday & Thursday
October 9-10, 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 of general circulation, and mailed and emailed to the media and those persons on the Committee's mailing list. The meeting agenda and the complete agenda packet for the meeting and the informational presentations made during the meeting together with the 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.

CALL TO ORDER - ROLL CALL

The October 9, 2024, public meeting of the Diablo Canyon Independent Safety Committee (DCISC), the one hundred and ninth public meeting of the Committee, was called to order by Committee Chair Dr. Per F. Peterson at 9:00 a.m. Dr. Peterson welcomed those present and he then introduced a new member of the Committee, Dr. Najmedin Meshkati, a Professor from the University of Southern California. Dr. Peterson requested Dr. Meshkati to say a few words concerning his background.

Dr. Meshkati stated he is a Professor of Civil/Environmental Engineering, Industrial Systems Engineering and International Relations and he has been at the University of Southern California for almost 39 years as a professor. He commented his research concerns safety culture, human systems, intervention and human factors of complex safety critical systems. He remarked he has worked in the field of nuclear safety for many years and in that work he visited the Three Mile Island Nuclear Generating Station in Pennsylvania, the Chernobyl Nuclear Power Plant in the Ukraine, and the Fukushima Daiichi Nuclear Power Plant in Japan. Dr. Meshkati reported he has also worked in the field of aviation safety and recently served on a Federal Aviation Administration panel investigating the Boeing Company and worked with the Deepwater Horizon accident investigation and Fukushima Daiichi lessons learned panels, as well as in the healthcare patient safety industry. Dr. Meshkati stated he has received and read a number of comments from members of the public and he expressed his thanks to California

Energy Commission Chair Mr. David Hochschild for his appointment and stated that he looks forward to leaning from his colleagues on the Committee and from those at Diablo Canyon Power Plant (DCPP or the plant) and at the Pacific Gas & Electric Company (PG&E).

Dr. Peterson then introduced and briefly reviewed the professional backgrounds and appointment to the DCISC for his fellow Member, Dr. Robert J. Budnitz, the appointee of the Governor of California. Dr. Budnitz then briefly reviewed Dr. Peterson's professional background and reported Dr. Peterson serves on the DCISC as the appointee of the Governor.

Present:	Committee Member Robert J. Budnitz Committee Member Najmedin Meshkati Committee Member Per F. Peterson
Absent:	None

II INTRODUCTIONS

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

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. Mr. Rathie reported this meeting is being livestreamed and broadcast on the internet and he welcomed and introduced the technicians for AGP Video who provide this component of the Committee's public meetings. He then reviewed the rules adopted to entertain public comment on an equitable basis for all as follows:

- Speakers should come to the podium and identify themselves;
- Speakers will be recognized by the Chair in order, first from among those present in the room and then among those attending virtually;
- Remarks will be limited to four minutes, but this may be varied for each session;
- Comments from public officials may be taken before those of members of the general public;
- Speakers may not cede their time to other speakers;
- Groups may be asked to appoint a spokesperson;
- Each speaker may only address the Committee once under either the time for items not on the agenda, but within the Committee's subject matter jurisdiction (i.e., the operational safety of DCPP) or when a matter listed on the agenda is heard;
- The DCISC Chair reserves the right to stop any speaker if he or she believes the speaker is out of order;
- The Committee reserved the right to modify the rules in the interest of conducting an effective meeting including granting extra time to certain speakers upon request;

- Writings used in conjunction with remarks should be provided to the Committee's Legal Counsel; and
- Email comments received will be read into the record subject to the time limit.

Mr. Rathie reported the Committee's public meeting agendas provide for comments on matters not on the agenda and within the Committee's subject matter jurisdiction at each session and for public comments on matters listed on the agenda to be heard at the time the matter is considered by the Committee. Mr. Rathie stated that when all the members of the Committee is present in the meeting room the hybrid component, which is the ability to participate via Zoom, is provided as an convenience and should the connection be lost the Committee will continue conducting business without the Zoom component. Finally, he remarked the Committee recognizes the technical nature of the matters under its consideration and he stated and the Chair confirmed the Committee welcomes and seeks to be as forthcoming as possible concerning public comment. Dr. Peterson observed the Committee records public comment in the meeting Minutes and in its Open Items List.

There were no comments from the public at this time.

Dr. Peterson then introduced Ms. Brandy Lopez, DCPD Strategic Initiatives Licensing Principal. Ms. Lopez play key roles on behalf of PG&E and DCPD 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. Peterson also introduced Mr. Tom Jones, DCPD Senior Director for Regulatory, Environmental and Repurposing, and asked him to introduce the first of the informational presentations requested by the Committee for this meeting.

IV INFORMATIONAL ITEMS BEFORE THE COMMITTEE

Mr. Jones introduced DCPD Station Director Mr. Justin Rogers to make the first presentation and reported Mr. Rogers leads a team of more than 500 nuclear professionals in the Operations, Maintenance, Chemistry Radiation Protection organizations and in other safety 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 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.

Mr. Rogers remarked this was his second time presenting to the Committee and he thanked Dr. Meshkati for joining the Committee. He stated he was honored to be representing PG&E and the DCPD team.

Mr. Rogers reported Unit 1 and Unit 2 are presently safely and reliably operating at 100% power with no challenges to safety or generation and all NRC Performance Indicators are Green. He reviewed the power history for both units and reported a refueling outage for Unit 2 was conducted in April and May 2024 and Unit 2 has been at 100% power since. Unit 1 has been at 100% power in 2024 except for a period in August and September when bio-fouling cleaning (also known as a “pick and dredge”) was performed in the tunnels to remove items off the condenser tube sheets and to dredge to remove material in the circulating water tunnels and accordingly power was reduced to 50%. Mr. Rogers remarked that DCPD has seen an increase in bio-fouling in 2024 and recently the units were curtailed to perform another pick and dredge. Mr. Rogers reported in timing the pick and dredge operations DCPD consults with the California Independent System Operator (CAL ISO) which manages the flow of electricity across high voltage, long-distance power lines, operates a competitive wholesale energy market, and oversees transmission planning. In response to Consultant McWhorter’s inquiry Mr. Rogers stated that typically a pick and dredge is required eight to twelve months after a refueling outage. In response to Consultant Kadak’s query Mr. Jones stated the sludge buildup is normal and is not a sedimentary product of the Intake Cove dredging project, but rather consists of shell products from mollusks. He remarked that the Intake Cove dredging project employed turbidity controls.

In response to Consultant Wardell’s inquiry Mr. Rogers stated capacity factor is calculated in different variations, but he confirmed Dr. Budnitz’ observation that 100% power is predicated on a particular temperature in the ultimate heat sink (the Pacific Ocean) and colder ocean water produces better thermodynamic efficiencies which can result in the plant exceeding the capacity factor.

In response to Consultant McWhorter’s request Mr. Rogers reported that following Unit 2’s recent refueling outage the unit experience a steam leak from a valve on the secondary system¹ and power was stabilized, with the turbine off line but with the reactor on line, to investigate the leak which required a power reduction to repair. A cause evaluation is being performed which will include review of the extent of condition to assess if broader corrective actions are necessary. Dr. Budnitz and Mr. McWhorter stated the DCISC would take an action to review the cause evaluation report when it is complete. In response to Dr. Meshkati’s question Mr. Rogers reported the leak was detected during rounds made in the Turbine Building by the non licensed operators.

Mr. Rogers reported the Quality Verification Director is taking a leave of absence and Mr. Chris Newport will be filling that role. He then provided and discussed an update on station activities as follows:

- June-July 2024: Intake Dredging Project
- July-Oct. 2024: Used Fuel Outage Campaign (on track to complete)
- June 10-13, 2024: NRC Age-Related Degradation Inspection

¹ 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.

- July-August 2024: Multiple License Renewal Inspections
- June 24-27, 2024: Nuclear Safety Oversight Committee (NSOC) On-site Observations
- July 15, 2024: NRC Operating Exam
- July 29-Aug 2, 2024: NRC Emergency Preparedness Exercise
- August 5-19, 2024: World Association of Nuclear Operators (WANO) Peer Review
- August 12-25, 2024: NRC Radiation Protection Inspection
- August 24, 2024: Annual Siren Test
- September 9-13, 2024: NRC Problem Identification & Resolution Inspection

Mr. Rogers reported the NRC inspections for license extension are primarily related to age-related degradation and no items of significance have been identified. He reported six reactor operators were licensed from the July 15, 2024 examinations and ten senior reactor operators were licensed. There were no failures as a result of the July 2024 examinations. In response to Dr. Meshkati's query Mr. Rogers reported the World Association of Nuclear Operations (WANO) peer review found no significant issues from its review of the Operations, Training, Maintenance, Engineering organizations, configuration control and management, emergency preparedness, fire protection and performance by supervisors and leadership. In response to Consultant Kadak's query Mr. Rogers reported the DCPD Nuclear Safety Oversight Committee (NSOC) found the plant has a strong nuclear safety culture. He reported the NSOC visits the site three times each year. Mr. Rogers remarked the NSOC and the DCISC both provide quality reviews with similarities, but the NSOC is focused on ensuring nuclear safety is maintained from the NRC standpoint. He confirmed the NSOC reviews the reports by the DCISC. Dr. Budnitz observed the DCISC representatives attend the NSOC exit meetings with plant management and review on a confidential basis NSOC's reports and this represents, together with the similar review of the reports of the Institute of Nuclear Power Operations (INPO) and WANO, a valuable opportunity for the DCISC. Dr. Peterson remarked as the DCISC identifies new issues from its review of NSOC, INPO and WANO reports the DCISC follows up on those issues independently. Dr. Budnitz observed the NSOC and INPO reviewers consist of leading nuclear engineering and safety experts.

Mr. Rogers reviewed upcoming activities as follows:

- Nuclear Safety Oversight Committee (NSOC) - October 21-24, 2024
- Diesel Generator 1-3 Maintenance Outage Window (MOW) - October 13-21, 2024

Mr. Jones then introduced the DCPD Director of Risk and Compliance Mr. Jordan Tyman to make the second 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 for PG&E's power generation facilities as well as for Regulatory Services, Nuclear Cyber Security and Emergency Planning at DCPD. Mr. Jones reported Mr. Tyman has been employed by PG&E for more than eight 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 is a member of the California Polytechnic University at San Luis Obispo (Cal Poly)

Cyber Security Program Advisory Board and 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 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/Request.

Mr. Tyman reported in his presentation he would cover the period in 2024 from July to September during which DCPD continued to perform at the top of the industry from a regulatory perspective and in which the NRC performed 1,500 hours of inspection activity. This inspection activity included inspections by the two NRC resident inspectors as well as seven routine programmatic evaluation inspections. In response to Consultant McWhorter's question Mr. Tyman reported the routine inspection cycle activity for DCPD was consistent with industry norms with some inspections such as for Problem Identification and Resolution having larger inspection teams. **Mr. Tyman and Mr. Jones stated they did not know the number of inspection hours expended by inspection teams in furtherance of license renewal but Mr. Tyman remarked this was consistent with industry norms for license renewal and he offered to subsequently provide that information to the Committee.**

Mr. Tyman reported all violations received during the period of his report were of very low safety significance and DCPD continues to be in the highest performance category as assessed by the NRC Reactor Oversight Process (ROP) which uses 16 separate indicators to evaluate performance. He stated all indicators meet expected performance levels and are in Green² status. Mr. Tyman reported the violations received fell within two themes, one of which was the effective use of some procedures and the other the opportunity to improve configuration control.

In response to Dr. Peterson's request Mr. Tyman stated a fan which tripped off but was not declared to be inoperable immediately was an example of lack of configuration control. Dr. Budnitz observed that for the period the fan was inoperable the plant was in an off-normal configuration, a configuration which was not known to all plant personnel. To which Mr. Tyman replied this had extremely low safety significance from a probabilistic risk assessment (PRA) perspective and the Operations Department and the Control Room personnel were aware of and understood the condition. Consultant McWhorter observed this represents more than a procedural issue, as it involves an untimely recognition of entry into Technical Specification³ (TS) 303 as equipment configuration on opposite trains⁴ were in different situations not covered

² 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.

³ 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.

⁴ Train in this context means a series of parts or elements that together constitute a system or produce a result.

by Technical Specification which adds specific timing requirements for dealing with the situation in shut down. Mr. Tyman reported the other fan was in service, but as the emergency diesel generator (EDG) was out of service for a planned maintenance window there was no backup power for the other fan and the Technical Specification cited by Mr. McWhorter was entered and the delay in recognizing this was part of the NRC's concern. Dr. Budnitz remarked this off-normal configuration represents a safety compromise in the sense that there are some accident sequences that might arise where having the extra equipment would be important and it is necessary to work out the probability of such sequences and their important and he observed Mr. Tyman reported that probability was calculated and found to be very small. Mr. Tyman, in response to Dr. Peterson's query reported plant personnel identified and self-reported the problem and Dr. Peterson observed it is important that low level problems continue to get reported and this willingness to report problems is a sign of a healthy nuclear safety culture. Dr. Budnitz reported qualitative judgements as to safety significance are something that each person makes each day and in certain industries, including nuclear, there are qualitative methods for quantifying many of these decisions as to their safety significance and for a plant such as DCPD this process requires use of those quantitative analytic methods and judgment based on experience.

Mr. Tyman reported during this report period there were no Licensee Event Reports (LERs) issued by DCPD and there are two NRC inspections coming in the next reporting period for the Independent Spent Fuel Storage Installation (ISFSI) security and for Security organization access control, both scheduled for October 2024. In concluding his presentation Mr. Tyman reported License Amendment Requests (LARs) have been submitted for NRC review including for 10 CFR⁵ 50.59 classification of structures, systems and components and for industry improvements to the Technical Specifications using industry standard submittals.

In response to Consultant McWhorter's inquiry Mr. Tyman reports all items on the Cross-Cutting Matrix⁶ for DCPD are within NRC reporting thresholds and each has considerable margin.

Following Mr. Tyman's presentation, Ms. Linda Parks, a local resident, was recognized and in response to her request for other examples of issues with configuration control Dr. Budnitz referred Ms. Parks to the Committee's fact finding reports where examples are often documented.

A short break followed.

PG&E Evaluation of Technical Concerns on Seismic Safety of DCPD Provided by Dr. Peter Bird in His Letter to DCISC Dated May 16, 2024, and His Presentation to the DCISC on June 21, 2024.

⁵ "CFR" Code of Federal Regulations.

⁶ Cross-Cutting Matrix is a report on the performance characteristic or aspect of a violation that is either the primary cause of the performance deficiency or the most significant contributing cause.

Dr. Peterson asked PG&E Senior Director, Regulatory, Environmental and Repurposing, Mr. Tom Jones to introduce the next speaker.

Mr. Jones introduced Dr. Jeff Bachhuber, Director of the PG&E Geosciences Department, and reported that Dr. Bachhuber and his team have responsibility for seismic safety across the 48 counties in California in which PG&E has assets including buildings, dams, and the nuclear facility. Dr. Bachhuber has 38 years of experience in nuclear and critical facility geohazard and seismic evaluations and joined PG&E in 2016. Dr. Bachhuber is a California professional geologist and certified engineering geologist. He's a member of the National Institute of Building Sciences Lifelines Panel, and an advisor to the National Science Foundation on the geotechnical extreme event team, and he is also a geohazard lead for the American Society of Civil Engineers..

Dr. Bachhuber stated this presentation was developed at the request of DCISC to walk through the PG&E's review and response to contentions filed by the local group San Luis Obispo Mothers for Peace (Mothers for Peace) and Mothers for Peace consultant Dr. Peter Bird regarding the PG&E 2024 Updated Seismic Assessment developed in response to the mandate of California Senate Bill 846⁷ (SB 846). He reported to date his team has received and reviewed the various contentions and declarations and also attended some of the presentations that Dr. Bird has delivered. Dr. Bachhuber noted that the information PG&E has received has been a series of declarations of proponent views and postulations. PG&E has yet to receive a detailed report backed by data that has been peer reviewed and this has impacted the level of detail in PG&E's response. But he stated PG&E has seriously considered all the contentions and comments received. He reported he would be joined in the presentation by Dr. Albert Kottke and Dr. Chris Madugo.

Dr. Bachhuber reported the 2024 Updated Seismic Assessment was completed and submitted in February 2024 and followed the NRC's Senior Seismic Hazard Analysis Committee (SSHAC) process including developing the center, body and range of technically defensible interpretations for the datasets reviewed. The Technical Integration Team and Participatory Peer Review Team were comprised of known experts in the area of nuclear project seismic studies, seismic research, and also the Central California coast geology of seismic sources. Dr. Bachhuber stated the 2024 Updated Seismic Assessment went beyond the SSHAC process in that an additional third party review by members of the B. John Garrick Institute for the Risk Sciences at the University of California at Los Angeles was conducted. He reported key findings of the 2024 Updated Seismic Assessment were that in reviewing the information and work from the 2015 comprehensive SSHAC Level Three seismic update only one minor change was identified, that being in the source characterization of seismic hazard-significant sources with no

⁷ 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.

resulting significant increase in seismic risk to the plant. The 2024 Updated Seismic Assessment found no new information that would significantly change the 2015 Seismic Source Characterization study's conclusions and the 2024 Updated Seismic Assessment confirms the seismic safety of DCP.

Dr. Bachhuber reported PG&E's team remained available to the DCISC consistently through the review process to clarify and respond to questions including concerning the scope of the 2024 Updated Seismic Assessment. The DCISC and representatives from the State of California Department of Water Resources (DWR) participated as observers during the working meetings in the summer and fall of 2023. He reported the DCISC and DWR received the final report February of this year, and during the review PG&E has interfaced with and addressed questions including those from San Luis Obispo Mothers for Peace and also reviewed comments from the CPUC Independent Peer Review Panel. Consultant McWhorter observed and Dr. Bachhuber agreed the DCISC representatives very intentionally participated in the process only as observers and waited until the 2024 Updated Seismic Assessment was complete before commenting on the process or the adequacy of the results.

Dr. Bachhuber introduced Dr. Chris Madugo and stated Dr. Madugo has been a principal seismic geologist in the PG&E Geosciences Department since 2014 and he has over twenty years' experience on fault studies and seismic source characterization. Dr. Madugo holds Masters and Doctorate Degrees in Geology from Central Washington University and Oregon State University respectively. He has performed numerous global earthquake reconnaissance missions and is well known in the research community because of his extensive collaboration in support of research. Dr. Madugo manages the PG&E U.S. Geological Survey Cooperative Research Agreement which is focused on seismic sources. In the SB846 program Dr. Madugo served as co-sponsor addressing seismic source characterization issues.

Dr. Bachhuber then introduced Dr. Albert Kottke who will continue the presentation and stated Dr. Kottke has been a principal geotechnical engineer in the PG&E Geosciences Department since 2017 and has worked in nuclear site specific ground motions and seismic hazards since 2012, and holds a Doctorate Degree in Civil Engineering from University at Texas, Austin Texas. Dr. Kottke is a licensed professional engineer in California and worked as a post-doctoral researcher at the Pacific Earthquake Engineering Research Institute and as a peer for development of components of the NGA (Next Generation Attenuation) West Two and NGA East projects⁸. He also participated in seismic hazard studies as a SSHAC technical integration team member for the Idaho National Laboratory and is a resource expert for the Sodium Project in Los Alamos National Lab. For the SB 846 project Dr. Bachhuber reported Dr. Kottke was a co-sponsor addressing ground motion issues.

Dr. Madugo stated his part of the presentation will focus on primary source characterization, characterization of faults, where they are, how fast they are moving, the rate of

⁸ The Pacific Earthquake Engineering Research (PEER) Center signed a major research contract with the California Earthquake Authority (CEA) to carry out multi-disciplinary, multi-year research programs to improve Next Generation Attenuation models for active tectonic regions such as California..

earthquakes, the size of earthquakes and the Dr. Kottke will discuss ground motions and the seismic hazards process.

Dr. Madugo observed regarding the contentions raised by Dr. Bird in his May 16, 2024, letter to the DCISC and these may be understood as: (1) is there evidence for a previously uncharacterized thrust fault beneath Diablo Canyon, one that has not been identified before? (2) Is there evidence that model slip rates for faults bounding the Irish Hills located behind Diablo Canyon are higher than have been presented in models? And (3) does the Noto earthquake that happened on January 1, 2024, in Japan indicate that there's an increased seismic hazard and risk for Diablo Canyon?

Dr. Madugo provided a preview of the findings, based on the technical issues raised by Professor Bird, which include the conclusion that there's no evidence that's been provided to support the existence of an inferred new fault offshore of Diablo Canyon. The novel slip rate approaches proposed by Dr. Bird are not validated and have poorly characterized uncertainties and are not yet accepted by the seismic hazard community compared to the methods that PG&E has used in its seismic report. He reported the slip rates modeled by PG&E for reverse faults are consistent with rates modeled using geodetic method including those by Dr. Bird. With respect to the Noto earthquake in Japan Dr. Madugo stated PG&E evaluated this earthquake and provided an internal report [by Lettis Consultants International] which was provided to DCISC and Dr. Madugo stated PG&E does not feel that there is a direct analog for seismic hazard assessment at Diablo Canyon, based on differences in geology, seismicity/activity rates, and the scale of the two regions and it is not applicable to estimate core damage. He reported the PG&E hazard model captures the center, body and range of technically defensible interpretations and it has been reviewed at multiple levels, including acceptance by the NRC.

Dr. Madugo stated with respect to the contentions is the tectonic environment along Central California coast the contentions focus on convergence or contraction across the Irish Hills at Diablo Canyon, but the region is characterized by both strike slip lateral motion where the earth isn't going up, similar to the San Andreas Fault which he described as the primary mode of deformation in California. He reported on the California Central Coast there are localized areas where you also have compression or contraction and the ground is going up. He stated in the Diablo Canyon region both styles of deformation exist and this is informed by observing faulting from decades of studies, stress inversion, and from data from the San Simeon earthquake in 2003 which he stated had both types of deformation involved in the primary shock and in the aftershocks.

Dr. Madugo stated concerning the model elements the first part of a source characterization is to identify the faults around the site and he displayed a map of faults around DCPD for which most have been mapped in detail based on multiple different methods, subsurface investigations, and surface mapping. Sensitivity studies show that the faults that are most important to seismic hazard at the plant include the Hosgri, Los Osos, the San Luis Bay, and Shoreline Faults which were labeled on the map. He pointed out the overlay lines representing the source characterization which are used to model the size of earthquakes and also the distance from the plant which he described as an important metric. Dr. Madugo explained seismic faults aren't just lines on the surface, they are planes and the planes are directly

correlated to the magnitude of earthquakes. The faults extend into the ground, and they can have earthquakes in areas down to about twelve kilometers depth. He commented there is some uncertainty in how these faults project down into the subsurface and in the 2015 and 2024 models three different geometry models on how the faults project into the earth were used.

Dr. Madugo described and indicated on a map the first model as the outward vergent model. He stated if one were to look into the earth's surface under the Irish Hills the profile would show the projections of the fault into the subsurface to the base of the seismogenic zone, the base of the zone where earthquakes occur. He reported with this model the San Luis Bay fault on the southwest and the Los Osos fault on the northeast work together to uplift the Irish Hills, together with a bit of lateral movement, together with additional lateral movement on the vertical Hosgri and the Shoreline Faults. Dr. Madugo stated the geometry of these faults are consistent with multiple datasets, geomorphology, surface characteristics of the earth, geophysics, seismicity, stress and analog models. By analog models he stated he means other places in the world where similar geology and tectonics occur, and where this kind of geometry exists. He reported one model that was an anchor for these three geometry models was the San Simeon earthquake with a magnitude of 6.6, and a 30 kilometer long rupture in the subsurface. Below are the different geometries that were observed through profiling across that rupture which showed two faults with geometries very similar to what was seen in San Simeon. He observed there are multiple lines of evidence that show what the dip or the angle that the faults go into the subsurface from the San Simeon earthquake and there is a focal mechanism data first movement of the rupture that showed a dip of 46° . Moment tensor showed dips of 32° , 50° and 58° and then detailed seismic modeling of aftershocks going along these fault surfaces showed dips of 60° and changing to 35° , then all the way up to 90° . Dr. Madugo stated he highlighted this data as that in one of Dr. Bird's contentions it was claimed that dips in the range of 50° or greater were impossible in the area of DCCP due to the type of bedrock and Dr. Bird says dips up in the 70° to 80° degree range were ridiculous and Dr. Madugo stated PG&E based its model on observed dips in the same tectonic environment.

Dr. Madugo remarked that because PG&E was trying to capture the center, body and range, alternative models that explore uncertainty in the different dips were studied. They describe what he termed the southwest vergent model for which the San Luis Bay fault is the main driver, and the Irish Hills are uplifting primarily on that San Luis Bay fault, and the Los Osos fault in the northeast is a secondary structure. He contrasted this with the northeast vergent model which has the Los Osos fault driving the uplift of the Irish Hills and the San Luis Bay fault as a secondary structure. In response to Consultant Kadak's question Dr. Madugo replied all three models are weighted as part of a logic tree.

Dr. Madugo reported that in terms of how fast the faults are moving vertically on either side of the Irish Hills there is good datum which consists of marine terraces. These terraces were carved during periods of sea level change during high sea levels, and they ring the Irish Hills. There is a suite of coastal marine terraces and which wraps around the "nose" of the Irish Hills, and there are other terraces on the other side, on the northeast side of the Irish Hills. He described a map showing the elevations and where those terraces are crossed by the San Luis Bay fault. He stated that as one continues to the northwest and around the nose of the Irish Hills, the elevations within the uncertainty generally stay the same as there are no other faults cutting

those terraces. He reported those profiled faults are turned into uplift rates and used to estimate slip rates for the San Luis Bay and Los Osos Faults. He reported for this kind of data, the terraces are 125,000 years old or younger and for low slip rate faults, he remarked these are considered the gold standard. He remarked measurements on both sides of the fault has produced really good age dates and a timeframe that considers multiple earthquakes in the earthquake cycle which results in an average slip rate that's applicable to the current seismic hazard.

Dr. Madugo observed once one understands where the faults are and their geometries and their rates, then you need to consider what kind of earthquakes can occur on those faults, which he stated is structurally related to the length and the width of the area of the fault that is rupturing. He displayed a map showing the surface extent of the fault and the fault's extending the depth, and he observed that is the part of the fault that would rupture during an earthquake. As part of the development of the model one finds all the different earthquakes that could occur on a fault. For the San Luis Bay Fault, Dr. Madugo stated one could have magnitude sixes, or if linked to other faults all the way up to magnitude eight seismic event and the slip rate allocated to different ruptures which is termed "topologies." For different geometry models Dr. Madugo stated many different variations of the different types of earthquakes that you can have been proposed. He remarked this is important because it is directly related to the Noto Earthquake. He reported one can see ruptures of the San Luis Bay Fault, ruptures of connected faults to the southeast, connections to the Hosgri Fault, the Shoreline Fault, so many different rupture scenarios and Dr. Madugo state the reason that this is considered in the model is that there isn't a long enough seismic record to see which ones are the dominant ruptures that occur. These are all the possible ruptures that could happen and data showing what happened in the past needs to be considered relative to what will happen in the future.

In response to Consultant Kadak's query Dr. Madugo stated the scenarios he described were all weighted and considered in the model and if one were to choose one scenario that would be a deterministic scenario based hazard assessment, but the scenario he described was of a probabilistic scenario which is logic tree based and considers all the different scenarios.

Dr. Madugo observed if one looks at the data he presented there are two earthquakes, magnitudes, 6.2 and 6.4, related to the two different lengths between the node he indicated on a map he displayed and he remarked the map identifies larger scenarios with a magnitude 7 for what is termed a characteristic earthquake of magnitude 7.4 for what the study would term the maximum earthquake for this series of faults interconnecting together. He stated there are other scenarios where the faults could link up with the Hosgri, which is offshore and goes all the way up to the Oregon border, for which the study indicates could produce earthquakes greater than magnitude 8 but these have a very low probability of occurring. He explained these events are assessed on the maximum magnitude and for these scenarios maximum magnitude is defined in PG&E's distribution. Dr. Madugo stated PG&E knows the slip rate from its fault study, and so can use that to develop a magnitude frequency distribution of the variation small magnitude to large magnitude event varies for the characteristic event for that fault. In reply to Dr. Kadak's question Dr. Madugo confirmed the slip rate defines how much moment is accumulate with time because moment is related to how much slip is occurring, or building up, which is a constant and the question is how is that slip then turned into earthquake and the different alternatives represent the terms of what the largest magnitude event could be to consume that slip and the probability

of occurrence, he stated this information is contained in the 20215 Seismic Source Characterization, a SSHAC Level Three study, and in the 2024 Updated Seismic Assessment.

Dr. Madugo observed he had described different potential options for earthquakes and what is termed characteristic earthquakes for the Diablo Canyon area. He remarked for the Noto earthquake the contentions based on Dr. Bird's work state that there's one earthquake that is magnitude 7.5 that's occurred in another part of the world, and that is the earthquake that is appropriate to use for DCP. He remarked the scale of the two sites is different and the faults that are closest to DCP are very likely going to generate in the magnitude 6 range. He acknowledged the events can get up to 7 magnitude but there is no basis for saying that a magnitude 7.5 earthquake. He reported the scenarios can get up to a magnitude 7.4 for the maximum possible earthquake but there is no basis for a claim that a magnitude 7 earthquake is the characteristic, the typical, large earthquake that happens offshore at the plant and that is what his review of the model shows, that is, if one doesn't have information for the earthquakes that have happened in your area, one cannot say what that characteristic earthquake will be and this is true even for Japan where they have a lot more earthquakes. For the Noto event he stated there is a range of magnitude 6 to 7, and if one were to do a seismic hazard model for a nuclear plants in the vicinity of the Noto Peninsula one would need to consider the range of possible earthquakes and not just assume that magnitude 7 represents the characteristic large earthquake.

Dr. Madugo reported that in addition to mapping and characterizing the fault PG&E also has a background seismicity model. This model accounts for seismicity on faults that either have not been identified as they are beneath the ground's surface and don't have a surface expression, or they are faults that we've identified and found to have a very, very low rate such that they are not suitable to be put in a source model as an independent source. These could potentially have smaller earthquakes. This seismicity model was done through a local area source zone around the plant, and he displayed a map. Dr Madugo stated these are all inferred faults and they have varying dips and angles beneath the ground surface. Many of them go beneath the plant. Again, he stated, through the logic tree the range of geometry in dips is considered and this accounts for seismicity on faults that PG&E does not know about or which have not been characterized very well.

Dr. Madugo stated he wanted to highlight that everything that he mentioned in the background information he provided was based on reports dating back to the 1980s including the Long Term Seismic Program in 1988 and 1990, and included the 2011 Shoreline Fault Report and the AB 1632 Report. Work was done in support of each of these reports on mapping, geophysics, bathymetry and each was a long multi-year project with experts and was peer reviewed and followed the process he outlined for the Committee, that is, mapping the faults at the surface, estimating the projections of the fault at depth based on analog models or data, developing different rupture scenarios and slip rates, and then going on to assess hazard and risk. These data reports and the seismic hazard reports have multiple levels of review and acceptance by the NRC, the Independent Peer Review Panel (IPRP), the Diablo Canyon Independent Safety Committee, and the State Department of Water Resources. He reiterated Dr. Bachhuber's observation that contentions are usually from one person, one expert, without a full technical report to support them. They have no review, no regulatory review as of this point and this is a contrast that should be considered.

In response to Consultant Kadak's query concerning the IPRP's research Dr. Madugo replied their research was with respect to the geometry of the fault beneath the Irish Hills and the IPRP has explored the weighting of the scenarios and the confidence level attributed to them and believes that there are new methods that could contribute to this potential research to better constrain the models. He remarked PG&E has had discussions with the IPRP. He stated that in terms of the broader question of why after all the work that's been done we do not have a better constraint on some of these geometries the answer is the work is really difficult and what the IPRP is arguing is that PG&E could do more work to further reduce those uncertainties including in terms of the geometries for the models and in terms of assessments of how those geometries impact the hazard at the plant. Dr. Madugo observed these uncertainties do not have as much of an impact as ground motion uncertainty and accordingly PG&E has prioritized a lot of its work on ground motion attenuation models and slip rates on faults close to the plant. The geometries in the PG&E models do not impact the hazard as much as those topics and PG&E has prioritized its research based on what's most impactful to hazard. In response to Consultant Kadak's question Dr. Madugo stated concerning the uncertainties identified by the IPRP, this includes work done on the Los Osos Fault to see if it could be more of a strike slip fault. Dr. Madugo stated PG&E has looked at that through time and does not see a lot of evidence of it being a strike slip fault on shore and he agreed there are geophysics data that suggests there could be a component of strike slip, but a strike slip component has already accounted been for in the southwest vergent model and giving that model a higher weight would not have a significant impact on hazard.

Dr Budnitz provided his view and remarked no one knows which of the three models for the uplift of the Irish Hills presented by Dr. Madugo; the outward vergent, the southwest vergent, and the northeast vergent is correct and it could be that there's some other model will emerge somewhere along the way that more accurately captures the situation. But Dr. Budnitz stated whatever model is proven correct and therefore worthy of 100% weight, the plant is still adequately safe and that judgment remains whichever of those turns out in the end to be right. So until research produces a resolution that either chooses among them or perhaps primes a different weight, or maybe there's new information, that safety judgment remains robust. Dr. Budnitz stated now the key question to ask about that safety judgment is whether it is true even in spite of the uncertainties and in Dr. Budnitz' judgment in this particular case as none of them produce a ground motion that threatens the plant that is significantly important compared to the ground motions that have been dealt with right along and therefore the plant's safety is not challenged by which of them is right.

Dr. Madugo stated he organized and would address the contentions raised by Dr. Bird's work as follows: there's a thrust fault at shallow depth under Diablo Canyon with a slip rate of one millimeter a year; fault slip rates were selected subjectively in isolation; seismicity from unexpected, undetected, and subterranean ruptures is a topic; and the analog of the Noto Earthquake applies directly to Diablo Canyon and has an impact on hazard and risk.

Dr. Madugo stated in its review PG&E considered new data methods, models, technically defensible for use in seismic specific hazard assessment, and whether the existing model captures

the goal or the intent of the proponent's models, what is the standard of practice and are there other groups that do seismic hazard assessment considering the same type of data or models?

Dr. Madugo stated relative to the first contention, despite several arguments for a thrust fault at shallow depth of a kilometer or less beneath the plant and which then comes up to the surface offshore of the plant with a slip rate of one millimeter per year, no such seismic source was included. As mentioned there are no technical reports to show the basis for this fault. He noted that the previously identified Shoreline Fault has been studied in detail and is now shown to be a dip slip or a fault that moves the ground vertically. There is also a note about a topographic scarp on the southwest side of the Irish Hills that would be consistent with this type of fault. He reported during Dr. Bird's presentation to the DCISC, a map was provided that indicates the location of this previously unidentified fault as between the coast and the Shoreline Fault.

Dr. Madugo stated there were extensive investigations done as part of the 2011 Shoreline Fault Report including offshore, geophysics, dosimetry and in the AB 1632 studies that looked at the issue of whether there any faults that have been missed offshore of the plant and for the faults that have been identified, are they vertical, are they strike slip, are they dip slip, are they low angle and onshore drilling, mapping, geophysics do not show a fault at the base of the Irish Hills between the marine terraces and the hill and there is evidence to show that there are undeformed strata crossings that are a hundred thousand years or older which would indicate there is no fault located there. Evidence was found for the Shoreline Fault and the indicators are that it is a strike slip vertical fault, but no evidence has been found of a reverse fault which Dr. Madugo stated would be indicated by a large vertical scarp. He displayed dosimetry data from off the coast of Noto, Japan, where a dark line can be identified that is possibly a thirty foot high scarp on one of these reverse faults. He observed the scarp from the January 1, 2024 Noto earthquake is apparent and it is approximately two meters high and offshore of DCPD the equivalent type of data is not seen. He stated Dr. Bird is arguing not only for a reverse fault that should have expression near the surface, if it's a shallow fault, but also for a relatively fast moving fault. He remarked fast slipping would mean that it has lots of earthquakes and it would be producing these types of features, but over multiple studies and in the contentions themselves here is no evidence for this fault.

In response to Dr. Kadak's question Dr. Madugo stated a reverse fault moves one side of the fault up relative to the other and for a really big reverse fault one would expect a basin, a big sedimentary basin, on one side and a hill on the other side, and just with a simple dosimetry the topography on the bottom of the ocean one can see that scarp in Noto, Japan, that hill has been created to a height of about 30 feet but nothing like that is seen offshore of Diablo Canyon.

Dr. Madugo reported Dr. Bird has proposed two different ways, aside from geodesy, to assign a slip rate to that fault including looking at the flow of the Obispo Formation, which is a geologic unit, over the last five million years. In a paper that Dr. Bird published in 2007 he said that slip rates over time scales of three to five million years are appropriate for hazard studies. Dr. Madugo observed the NRC, the United States Geological Survey (USGS) and others who perform seismic hazard assessment and fault development and slip rate determination consider rates that are that old not to be of high quality or relatable to current seismic hazards and PG&E

concur. The marine terrace is over a hundred thousand years old and is well defined and well dated and the offsets are well constrained. Dr. Madugo remarked PG&E has a very high quality dataset on the offsets of the faults, or the slip rates on the faults that are there and he does not understand why PG&E would need to consider a five million-year slip rate. Also, without the faults being there, and the correlations of the units across where Dr. Bird says the faults could be, that is not a unique solution. He stated PG&E does not believe that is a technically defensible slip rate unless there is a technical report that provides more information on why that would be a defensible slip rate.

Dr. Madugo observed another way that Dr. Bird argues for high slip rates on the inferred fault is using Airy isostasy, which he described as a very technical concept, but involves the crust beneath the Irish Hills, and this model will be very weak. It postulates the Irish Hills are floating like an iceberg, with a lot of their mass below the surface and therefore any time the Irish Hills grow by faulting or other means they would have to grow by a factor of 6 below the surface. Mr. Madugo observed Dr. Bird contends that all PG&E is recording relative to those marine terraces is the rise of the growth of the hills, but PG&E is not recording that additional growth of that crustal root. Dr. Madugo stated that for this model to work, one needs a very, very weak crust without rigidity.

Dr. Madugo reported PG&E developed a simple model, as Dr. Bird didn't provide any technical report on this or technically supporting data, to see what would be seen if this were actually what was happening at the Irish Hills. So one has a block, and it has a fault that would be similar to the inferred coastline fault, and over time as the Irish Hills grew that crustal root would be growing downward. But he stated what ultimately happens is that entire mass, even though the Irish Hills are going up, where the fault is it would be going down beneath the subsurface and he displayed a graphic showing this and stated at a minimum a basin should be seen in the area that is going down and no such basin has been observed off of the Irish Hills on either side. He remarked PG&E does not believe the model for Dr. Bird's contention is applicable at the scale of the Irish Hills as that type of model is used to explain fluency of large mountain ranges, like the Himalayas not a small set of hills. He reported there is a reviewed paper from 2019 on the methodology and it concludes that, given the noted shortcoming of the local isostatic models, one must question their continued use. Dr. Madugo stated that to check if PG&E was missing anything, PG&E reached out to USGS, reviewed site specific hazard studies, other SSHAC studies, slip rate data bases including one that's in a published paper by Dr. Bird. The result of these inquiries was that no one considers this method because at the scale of hills like the Irish Hills one must assume that the crust is rigid, that it doesn't have this low rigidity. No one uses it in their models and no one is considering using it. Dr. Madugo observed any new method needs a lot of work before it can be considered and at the present time PG&E does not consider it to be technically defensible.

Dr. Madugo reported fault slip rates were selected subjectively and in isolation, without modern deformation-modeling (as used by USGS) to guarantee that all fault slip-rates and rates of distributed permanent deformation are self-consistent, and also consistent with geodetic velocity and stress-direction data. This is the geodetic rates on the faults and then geodetic rates of deformation between faults and he stated he would address both and commented these are determined from highly accurate stations located on the ground surface and modelers looked at

how these stations are moving relative to each other to estimate slip rates or deformation on faults between those stations. These data were mentioned in the 2024 Updated Seismic Assessment and were not fully addressed in the rebuttal contentions, but given the density of fault sources near Diablo Canyon, there's low confidence that geodetic data could resolve rates in kinematics of individual faults. In an ideal geodetic model one needs to have a single fault and stations far enough away to capture the full deformation on the ground surface and relate that to deformation at depth and PG&E has low confidence in any rate that one could get from geodetic models and also, the uncertainties on these models are currently poorly understood and this further reduces confidence. Accordingly PG&E does not use geodetic slip rates directly in its seismic hazard model, but does consider them as a check. Dr. Madugo stated these are regional models, they are used by USGS, but PG&E does not believe they are useful for site specific evaluations but they are compared to PG&E's geologic rates. He stated slip rates are checked against the geodetic models that are used in the USGS model that came out in 2023 and also against their geologic model and he showed a table from the 2024 Updated Seismic Assessment that shows the slip rates for these bounding reverse faults, the Los Osos and San Luis Bay Faults, with the Los Osos Fault of .2 to a little over .4 millimeters a year which he described as fairly consistent with geologic model and also with the geodetic model. He remarked PG&E's range captures the mean rates for the geodetic models. He stated there are three different geometry models with a range of .16 to .22 and he observed the model by Dr. Bird has a lower rate than PG&E's model.

In his letter to DCISC\ Dr. Bird said that all PG&E does in its comparison is look at the Hosgri Fault and does not consider the Los Osos Fault and San Luis Bay Fault. So while the results from the Hosgri Fault are encouraging, it doesn't matter, because those two faults are not considered.

Dr. Madugo stated another of Dr. Bird's contentions involves seismicity from unexpected, undetected or subterranean ruptures between known faults and this was modeled based upon projections of a few decades of micro-seismicity and ignores globally calibrated relationships between long-term tectonic strain rate and tectonically higher long-term mean seismicity, which includes seismic crises.

Dr. Madugo stated Dr. Bird is essentially saying that the standard method that PG&E used and that USGS used and that other SSHAC projects use is wrong. He remarked what Dr. Bird is promoting is part of these geodetic models which produce rates on faults and he remarked you can also get information for deformation between the faults, but he stated that at this time PG&E does not believe that this data is appropriate for use and the USGS agrees. He reported the USGS has stated that for the off-fault deformation portion of the geodetic model it is not clear how much of the implied rates or features are real, versus artifacts with model assumptions and approximations and accordingly USGS decided not to use this element in their model and this is consistent with recommendations of a review team. For the first time for this model, USGS had independent reviews of all the deformation models that went into their hazard model and they have geodetic reviewers, geologic reviewers and they published their reviews and concluded for the off-fault deformation the uncertainties are really high and the model results are really different and the USGS does not know exactly what is being reported and so it was dropped from the USGS model, and PG&E also does not consider it presently and has reached out to USGS to

do research, to understand the uncertainties in the models, how they can be applied because as a part of the seismic scientific community Dr. Madugo observed PG&E is interested in how this data can be used to understand off-fault deformation, or the deformation between faults.

Dr. Madugo reported what PG&E does use is a background seismicity model which looks at seismicity in the seismic catalog and uses that to develop rates of earthquakes. He reported this method has been used for decades and it is understood that there are some uncertainties with this method and the model has been adjusting to account for those uncertainties and understand those uncertainties and this is the standard peer reviewed model that PG&E used and which is used by everyone else in the community. He commented at some future time PG&E may use the geodetic off-fault models, but again PG&E does not have a report that describes how to apply the geodetic off-fault deformation model, what the uncertainties are, and what they are actually recording. Dr. Madugo commented what Dr. Bird says in his presentation to the DCISC and in some of the contentions is that one of the reasons that these background models are wrong, or they're incorrect, is that they wouldn't capture seismicity from a fixed fault like the San Andreas which can produce magnitude 7 to 8 earthquakes. But Dr. Madugo observed that is not the point of a background seismicity model. For that, he stated, one does detailed work and identifies all the faults, and then the background model is used to capture anything that you may have missed. The high slip rate faults will typically have some sort of expression and one can map them at the ground surface and he displayed a map showing a fault sourced model and commented USGS and others would use the same thing.

Dr. Madugo then stated for the Noto Earthquake, a magnitude 7.5 earthquake that occurred January 1, 2024, in Japan, in March 2024 the San Luis Obispo Mothers for Peace, Dr. Bird, and others filed a petition to the NRC saying that this earthquake is the earthquake that would happen offshore of the plant on an inferred fault that PG&E sees no evidence for and that the ground motion that happened in Japan, which were quite high and expected for an earthquake like the Noto Earthquake, would also be expected for the dipping reverse faults in the vicinity of the plant. The petitioners claim the Japanese ground motions should be applied directly to the plant, and the petitioners also claim to be able to develop a return period and risk numbers based on that. Dr. Madugo reported under the Long Term Seismic Program, PG&E looks at large notable earthquakes around the world, regardless of whether there are contentions involved, including visiting the sites to determine if there is anything that can be learned for Diablo Canyon or the rest of the PG&E system and in that effort developed a report for the Noto Earthquake which has been provided to the DCISC and is focused primarily on the geology and tectonics. He reviewed in brief the five different things PG&E looked at as including the tectonic setting, fault characteristics, seismicity, deformation patterns, and characteristic earthquakes.

Regarding the tectonic setting, Dr. Madugo reported that Japan has a large subduction zone which experiences frequent large earthquakes. The area of the Noto Peninsula is not along a subduction zone and it is far away from that what he stated is considered a back arc basin. Dr. Madugo observed the central coast of California has quite a different tectonic environment. It has this lateral shear and compression which he stated was discussed at the beginning of his presentation. Dr. Madugo acknowledged some elements are similar, at a very high level, because in the Noto Peninsula area, the area extended and a basin was formed and now it's contracting. There is what he termed an inverted basin and those basin deposits are being uplifted. Dr.

Madugo stated that is also happening locally in the central coast area of California due to transgression, a combination of contraction and strike slip movement. He acknowledged that at the very highest level there are some similarities, but there are also a lot of differences in the tectonics of the two regions.

Dr. Madugo reported PG&E next looked at scale of the two areas and characteristics of the fault and he displayed a map of the Noto Peninsula which he observed is much larger than the Irish Hills, with a long axis of 45 miles versus 10 miles for the highest uplifting part of the Irish Hills. He reported there are faults offshore of the Noto Peninsula, with reverse faults on the northwest that are dipping underneath the peninsula and faults on the southeast side of the peninsula also dipping the same direction and the Noto site does not have the wedge model similar to the Irish Hills and he commented this is a significant difference. Also, he stated around the Noto Peninsula there are multiple main active faults which have been shown to rupture independently or together. Dr. Madugo observed at the DCPD site there are not as many faults offshore of the Irish Hills.

Dr. Madugo stated in terms of seismicity, since the 1990s there have been multiple greater than 6 magnitude earthquakes in the vicinity of the Noto Peninsula and these have been reverse thrust events. There was one magnitude 7, which was the January 1, 2024, earthquake. In the Irish Hills and the central coast, there has been one magnitude 6.6 earthquake and no other earthquake greater than magnitude 5 in the same timeframe.

Dr. Madugo remarked concerning the deformation pattern, because all the faults in the Noto Peninsula or the most active ones are in the northwest side, one see this block uplift and tilting.. Whereas, in the Irish Hills, you see that block uplifting together symmetrically and Dr. Madugo stated this is why PG&E's preferred model is one where both faults do the work to uplift the hills.

Dr. Madugo pointed out again that offshore of the Noto Peninsula there is evidence of multiple past reverse fault ruptures with one side of the fault going up relative to the other side. He reported there is a rupture from the most recent earthquake and offshore of DCPD, where this inferred coastline thrust should be according to Dr. Bird, PG&E does see that pattern of deformation.

In concluding his part of the presentation he stated at this point PG&E does not have enough data to say whether that 7.5 magnitude earthquake on the Noto Peninsula is the characteristic earthquake. The Noto Earthquake strung together, ruptures on all the faults offshore and then it extended another 30 kilometers offshore, and the aftershock pattern goes another 50 kilometers beyond that. For the Irish Hills and around the plant PG&E has considered models like that, but cannot say which one is the characteristic earthquake. Dr. Madugo stated when Dr. Bird argues that a magnitude 7.5 earthquake offshore of the Noto Peninsula is the earthquake that PG&E needs to consider on this inferred fault offshore of Diablo Canyon, PG&E has seen no basis for that argument. He remarked if Dr. Bird were to provide a technical report with supporting evidence that would assist in understanding his contentions, but at this point PG&E does not think those contentions can be supported. In conclusion he stated with the tectonic settings between the two areas, there are different mechanisms and styles of

deformation, the faults are different, there is a different seismic history, different regional and local uplift patterns, and there's a range of characteristic earthquakes for both areas, but the areas are dissimilar enough that you cannot take parameters from this Noto Earthquake and just substitute them for what's happening in the vicinity at Diablo Canyon.

Dr. Kottke began his portion of PG&E's presentation by observing Dr. Bird's first contention concerns the rate of failure and Dr. Bird takes the ground motions from the Noto Peninsula event and estimates that the severe accident rate is 47 to 70 times higher. He reported the core damage frequency that Dr. Bird provided is not based off an accepted practice and, as Dr. Madugo stated, the Noto Earthquake is not a direct analogy for an event off the California central coast and direct application of ground motion in this manner has not been standard practice for over two decades. He remarked when observed ground motion data is available the data needs to be corrected for side effects, source to site distance, and earthquake event terms and this established practice that has been in use for a long time for hazard modeling. As a result of the ground motion data and the probability distributions that PG&E used in its seismic hazard analysis, this produced ground motions that are higher than Noto event and those are used in the fragility assessment for the plant. Dr. Kottke observed the core damage frequency estimate does not take into consideration the structural response or the fragility of the system and therefore the approximation of the hazard suggested by Dr. Bird is not founded in practice.

In response to Consultant McWhorter's query Dr. Kottke stated Dr. Bird relates the ground motion and estimates a slip rate and amount of slip consumed by the event to come up with a return period of that event and Dr. Bird claims that given that ground shaking, damage would be certain and Dr. Kottke confirmed Mr. McWhorter's impression that Dr. Bird has based the order of magnitude of core damage frequency on the order of magnitude change of the ground motion and concluded damage would be certain. That is, Dr. Bird came up with a return period of the Noto event on an assumed slip rate and his claim is if that ground shaking were to occur, then core damage would occur. The only estimate of frequency that he provides is the rate of occurrence of the earthquake, and from that Dr. Bird claims that the earthquake is so strong, the plant would fail. Dr. Budnitz observed that in Dr. Bird's model it is not that the earthquakes are larger, it is that these large earthquake come around much more frequently in his model.

Dr. Budnitz remarked when the seismic community started doing seismic probabilistic assessments 35 years ago, those approximate assumptions were used as a first round of the analysis, but since then they have been superseded by much more detailed and a better understanding and those approximate assumptions are simply not used anymore. Dr. Budnitz reported in the late 1990s he was the author of a report and then participated and chaired a committee in writing an American National Standards' (ANS) standardized methodology for seismic probabilistic risk assessment and at that time it was recognized the use of approximate assumptions were embedded with significant errors and uncertainties.

Dr. Kottke confirmed Dr. Kadak's observation that Dr. Bird has not done any seismic analysis of the plant itself and Dr. Kadak questioned how Dr. Bird developed his core damage number without having done a structural failure analysis. Dr. Kottke remarked there is only one sentence in Dr. Bird's report that states if the ground motion is high that high core damage must occur based apparently on direct numerical scaling.

In response to Consultant McWhorter's question as to whether PG&E has used Dr. Bird's numbers in its model to produce a change in core damage frequency that is based on a seismic analysis of the plant, Dr. Kottke replied that to do so would not make any sense for the reasons described by Dr. Madugo and because the data Dr. Bird offers on recurrence rates are not backed by any supporting process. In response to Dr. Kadak's observation Dr. Kottke confirmed Dr. Bird's method relates to recurrence of the event versus the event, and does not make a distinction in terms of the evaluation of core damage.

Dr. Kottke reported Dr. Bird also contends that PG&E did not use a hanging-wall term for modeling the potential ground motion from Los Osos and San Luis thrust faults. He stated this is an inaccurate assertion, as Section 6.3 of the 2015 Seismic Source Characterization report developed five alternative hanging-wall factors developed from established models. He reported PG&E has considered hanging-wall factors for a long time as the issue is important not only to DCCP, but it is also important to PG&E's dam facilities and he reported PG&E funded the original hanging-wall study that was used in NGA-West 2 and PG&E has continued to invest in simulations that extend its database of hanging-wall modeling and this work continues in NGA-West 3. Dr. Kottke reported not only is PG&E using hanging-wall models in its models, PG&E is supporting and developing those models and he displayed information on five alternative branches relative to published models.

In conclusion Dr. Kottke stated no evidence has been provided for support of the existence of the inferred coastal thrust, the novel slip rate approaches proposed by Dr. Bird have been not validated, there are poorly constrained uncertainties that are not yet accepted by the seismic hazard community. He stated modeled PG&E slip rates for reverse faults are consistent with those using geodetic methods, including the Shen and Bird approach and the Noto Earthquake is not a direct analogy for a seismic hazard underneath the plant due to differences in geology, seismicity and scale and therefore it is not applicable to estimate core damage frequency given the ground motions and the return period of such an event. He remarked the PG&E hazard model continues to capture the center, body and range of the technically defensible interpretation and it's been reviewed at multiple levels. He remarked PG&E in its assessments has taken each of Dr. Bird's contentions very seriously and PG&E continues to work on characterizing ground motion and the source characterization near the plant and has been reviewing the use of new geologic dating methods to assess deformation style and rates in the Irish Hills with the USGS and is considering vetting and publicizing or publishing structural models for the Irish Hills. Dr. Kottke remarked this was done previously in PG&E's Seismic Source Characterization report and PG&E is looking at doing it in a more public manner with external teams.

Dr. Kottke concluded his comments and reported PG&E is going to look at an evaluation of the Casmalia Hills regarding the dating and uplift rates and will perform further assessment of on-fault and off-fault geodetic modeling for the Irish Hills, including applicability, constraints and uncertainty. He commented PG&E is doing ongoing work on precariously balance rock studies and continues to work on NGA-West 3, which is a new round of ground motion modeling and will be applying those results when they are prepared.

Dr. Meshkati observed the 2024 Updated Seismic Assessment Participatory Peer Review Panel included Drs. Norman Abrahamson and Thomas Rockwell and Dr. Meshkati remarked a colleague had identified those two gentlemen as the best in the field and he further observed the external peer reviewers consisted of the B. John Garrick Institute for the Risk Sciences together with Drs Ali Mosley, Yousef Bozorginia, and Ralph Archuleta and Dr. Meshkati stated he knows and respects Drs. Mosley and Bozorginia and he asked whether those parties would be requested to review any study PG&E performs on Dr. Bird's contentions. Dr. Budnitz responded and he observed Chapter 6 of the 2024 Updated Seismic Assessment deals with Dr. Bird's evaluation and conclusions with the sole exception of the Noto Earthquake which had not yet occurred and both peer review teams concurred with the conclusions stated in Chapter 6 concerning Dr. Bird's evaluations and conclusions which were consistent with the reports just presented by Drs. Madugo and Kottke. Dr. Kottke responded PG&E is considering a formal report documenting its response to Dr. Bird's contentions, but he remarked the contentions are set forth in many different documents and have evolved over time. He observed that a single document laying out Dr. Bird's contentions in full would be helpful in this regard. **In response to Dr. Meshkati's request Dr. Kottke offered to provide Dr. Meshkati with the basis used by Dr. Bird in his work setting forth Dr. Bird's basis for connecting ground motion to core damage frequency.** Dr. Budnitz reported the Committee will hear more on this topic during the afternoon session. Consultant Wardell commented he would like to hear more about the extent of peer review relative to what PG&E has done and what Dr. Bird and others have done.

The Chair then recognized Dr. Peter Bird.

Dr. Bird stated he wanted to begin his comments by briefly responding to misstatements about his work. He observed the first misstatement concerned PG&E's assertion that he had no basis for converting the ground motions in the Noto Earthquake to a certainty of core damage at DCP. He stated his basis for the conversion was stated very clearly in his declaration to the NRC, and it is the 2018 Seismic Probabilistic Risk Assessment (SPRA) published by PG&E and accepted by NRC. Dr. Bird reported there are tables in that report which show the likelihood of core damage at various levels of spectral acceleration and this provides a firm basis for his conversion.

Dr. Bird stated a second misstatement concerned mention of the Shannon/Bird published model showing rather low slip rates on the stress faults which PG&E recognizes around the site. He remarked that while technically true, it's seriously misleading. He reported the published model, as required by his and Dr. Shannon's contract with USGS, requires the use of both geologic slip rates and geodetic data. He stated the geodetic data in the area of Diablo Canyon were rather weak because PG&E has not released the velocity that it has measured at the site. Therefore, the result was largely dictated by the geologic slip rate and if one looks at the geologic slip rate in the fault and fold database, that data comes from PG&E and they are based on PG&E's very questionable steep dips for those two faults. Dr. Bird remarked that while it is technically true that that report showed low slip rate, it is purely an "echo chamber effect" and does not represent new information.

Dr. Bird stated he would not address some omissions from today's presentation by PG&E. On the subject of whether we know all the important stress faults under the Irish Hills, he

stated PG&E first omitted, when his inferred coastline thrust fault was presented, to mention that he has maintained it is probably a blind thrust fault.⁹ That is, it probably terminates at the base of the Obispo formation or somewhere about that level producing a forced fold. He stated the southwest topographic slope of the Irish Hills is that fold, and the extreme definition of bedrock that is seen right in the foundation of the plant is deformation associated with that forced fold.

Dr. Bird stated a second serious omission was PG&E not addressing his point that the bedrock under the sedimentary rocks of the Irish Hills is the Franciscan Complex which is basically made of thrust faults consisting of thin sheets of oceanic sediment, continental sediment and ophiolites and such that were stacked up during the subduction of the Farallon Plate in the cretaceous and early tertiary times. Dr. Bird observed any one of those faults could continue to be active or could be reactivated and the fact that we have no evidence about the location of those faults or their hazards is representative of the principal that lack of evidence is not evidence of lack.

Dr. Bird observed on the question of the slip rate in the Irish Hills region broadly that PG&E has attempted to create a false controversy about whether there is isostasy in the Irish Hills and to assert the Irish Hills have a crustal strength that would preclude isostasy. Dr. Bird claimed this assertion can be disposed of using PG&E's own data published in the 2024 Updated Seismic Assessment that includes an updated isostatic gravity map of the Irish Hills which shows that not only are the Irish Hills compensated by crustal root, but the crustal root is actually larger than you would predict from a simple isostatic area calculation. Therefore, he stated the factor of six that he used to convert from uplift rate to crustal thickening rate was actually probably a bit too small, but he remarked we don't know exactly how much too small.

Dr. Bird stated he already alluded to the question concerning the net rate of thrusting in the Irish Hills if we knew the rate of crustal shortening across the Irish Hills in the horizontal direction. He commented PG&E has in its power to resolve that question by releasing their GPS velocity data from Diablo Canyon and any adjacent sites on the southwest side of the Irish Hills but has chosen not to do so.

In concluding his comments, Dr. Bird stated he would speak to the question of the applicability of the Noto Earthquake. He observed it was pointed out that the Noto Earthquake is part of the Japanese Arc¹⁰ that was created adjacent to a subduction zone. Dr. Bird observed the coast of California was engaged in a subduction zone in cretaceous and early tertiary time up to 28 million years ago. The same rocks are present in both places and the same structures are present in both places, and that is why it's a reasonable analog. He remarked the fact that the Irish Hills have a lower seismicity than the Noto Earthquake site is very natural because the Noto Peninsula is in the middle of the seismic crisis, and currently the Irish Hills are not, but he stated one has to look forward and consider the possibility that the Irish Hills may in the future be engaged in such a seismic crisis.

⁹ A "blind" thrust fault is a fault that does not reach the earth's surface.

¹⁰ Growth of the Japanese arc system, which has mainly taken place along the continental margin of Asia since the Permian, is the result of subduction of the ancient Pacific ocean floor.

Dr. Bird thanked the Committee for the opportunity to make his comments.

The Chair thanked Dr. Bird and stated it would be highly valuable if this could be documented in the form of a report that could then be subject to review.

Dr. Kottke reported PG&E is in the process of developing a memorandum on Airy isostasy which he described as a very technical topic. In terms of the geodesy and the GPS stations, Dr. Kottke reported PG&E does not run those stations which are run by USGS. PG&E funds the USGS to run those stations, including one at the plant or in the vicinity of the plant. Dr. Kottke reported the USGS is not allowed to act as a consultant to PG&E or anyone, so the data that USGS generates has to be publicly available and the data from the semi-permanent and the continuous stations and the campaign stations, which are visited from time to time, are available online at the USGS site. Dr. Kottke stated he recently reviewed the USGS website for these stations and those data are available and were used in the geodetic model for the USGS seismic hazard assessment so Dr. Kottke said he is not certain what Dr. Bird meant when he stated the data are not available.

Dr. Kottke comment that in terms of modeling those data, PG&E has not yet developed new models and he mentioned there are multiple reasons why PG&E believes there are issues with modeling geodetic data at a coastal site. He remarked a lot of the faults are offshore where there are no stations. He reported PG&E has talked with USGS about undersea stations, whether those are feasible and they are but they are very expensive and it would take decades to get information on the low slip rate faults that PG&E is looking for but it has been considered. Dr. Kottke commented PG&E is in the process of determining with geodetic experts what modeling could be done to provide some sort of meaningful constraint given the limitations of all the faults in the vicinity, the limited number of stations at a coastal site, and as part of the DCCP Long Term Seismic Program PG&E talks with USGS regularly.

Dr. Kottke observed with reference to the Franciscan Complex Dr. Bird mentioned during his presentation, in some of Dr. Bird's contentions Dr. Bird has said because there is all these shallow dipping ancient faults in the Franciscan Complex, those are the most likely active faults to host large earthquakes and Dr. Kottke stated PG&E disagrees. Dr. Kottke stated in his presentation he tried to point out the San Simeon example where the Dr. Bird's preferred dip for faults in Franciscan is 25° and none of the data from the San Simeon Earthquake occurred on faults that were dipping 25° . They were all more than 25° , and most of them were in the 40° , 50° , or higher range, and so this is the impossible range that was mentioned by Dr. Bird in his contentions. He commented there is other data to support the steeper dips as well in other models.

Dr. Kottke observed that in terms of the surface expression of Dr. Bird's inferred coastline thrust, a deep line thrust would still have some sort of surface expression while a shallow line thrust would have much more of a surface expression. But he reported Dr. Bird is arguing that the folding in the bedrock of the Irish Hills is reflecting that shallow thrust. But he commented PG&E does not see tilting of the 100,000 year old marine terraces or the offshore coastal platforms like was seen at the Noto Peninsula. At the Noto Peninsula the faults came up to the surface, but if those ruptures died out below the surface, instead of seeing a sharp scarp

one would see a broad scarp and PG&E does not see that reflected in much younger data than that ancient, folded rock and does not see it where those terraces wrap around the Irish Hills. The Irish Hills are intensely folded by older bedrock, but the terraces aren't folded at all and this is why PG&E argues for block uplift, no significant thrust fault that's deforming.

Dr. Budnitz reported the DCISC met with Dr. Kottke and his colleagues at the end of August 2024 and received PG&E's interpretation of the Irish Hills as being bounded on the north side by the Los Osos Fault and on the other side by another fault and Dr. Kottke showed figures today that those two faults in PG&E's interpretation provide the extent of the Irish Hills. So the Irish Hills cannot be, for example, 50 miles in extent because they're bounded in that way and at that meeting PG&E explained that its interpretation was that that bounding limited the amount of the length of a fault that might get one into trouble under the Irish Hills and how much energy it could develop because it's related to how long it could be, and that it is shorter than would support such a large motion. Dr. Budnitz comment he read the 2015 Seismic Source Characterization study about that issue, and then read what was touched on in the 2024 Updated Seismic Assessment. He asked if Dr. Kottke could explain whether and how firm that evidence is for eliminating the very high possibility of a much bigger feature there in the Irish Hills. Dr. Kottke replied and said first in terms of lower angle thrusts that could dip down to 35°, that's in PG&E's background model to account for some slippage on those plains in the Franciscan, and in terms of the extent of the main bounding fault one is talking about length. He remarked what PG&E is really interested in concerning what Dr. Budnitz was referring to, is the width of the fault going from the surface down to the base of the seismogenic zone, which is 12 kilometers deep. Dr. Kottke stated PG&E did consider other models including the model that Dr. Bird shows in his cross sections with a very low angle fault going down and passing beyond the surface expression of the Irish Hills. But Dr. Kottke observed it would run into other faults and PG&E's sees no evidence of a fault doing that and does see from the San Simeon Earthquake that the faults that were involved did not extend beyond the extent of that surface expression of the hill. He stated the Noto Earthquake is useful in some aspects and although one cannot take the exact characteristics of that earthquake and apply them to Diablo Canyon it can inform PG&E's model as when one looks at all the seismicity, there are aftershock patterns in big earthquakes and they have all occurred on faults that don't extend beyond the Noto Peninsula and one does not have very low angled faults in a similar type of bedrock extending at 25° beyond the extent of the Noto Peninsula. He reported all the dips are higher than 30° with some in the 50° range, but all those widths do not extend beyond the Noto Peninsula which supports some of PG&E's modeling decisions.

Dr. Bird stated he is aware of PG&E's argument that basically one cannot reproduce the Noto Peninsula rupture under the Irish Hills because the Irish Hills are too small, but his response to that is that the shaking at the plant is not primarily determined by the length of the rupture, it is primarily determined by the stress drop immediately underneath the plant. That is, how fast the fault slips and how far it slips immediately underneath the plant and for that reason Dr. Bird stated he would contend that in fact the actual seismograms from the Noto Peninsula Earthquake should be used in modeling and if the industry standard is to exclude those then the industry standard is corrupt.

Dr. Budnitz stated his understanding of Dr. Bird's comment is that Dr. Bird believes that the stress drop is significantly larger it overrides what would otherwise be the geometrical constraint because of the width of the Irish Hills. Dr. Bird stated magnitude is not everything and he agreed with Dr. Budnitz statement.

The Chair stated the Committee would at this time adjourn for lunch and will return to the same topic area during the afternoon session and members of the public will have the opportunity to make comments at that time.

V ADJOURN MORNING MEETING

The Chair adjourned the morning meeting of the DCISC at 12:10 p.m..

VI RECONVENE FOR AFTERNOON MEETING

The afternoon meeting of the DCISC was convened by the Chair at 1:15 p.m.

VII COMMITTEE MEMBER COMMENTS

There were no comments by any member at this time.

VIII PUBLIC COMMENTS AND COMMUNICATIONS

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

Dr. Gene Nelson representing Californians for Green Nuclear Power was recognized. Dr. Nelson stated he recently wrote to the NRC in response to the 10 CFR 2.206 Petition filed by San Luis Obispo Mothers for Peace. He read from a section of his letter wherein he stated his disagreement with the assertion by Dr. Bird that there were significant similarities between the setting of the Noto Peninsula in Japan and DCP. Dr. Nelson's letter stated that during the largest earthquake near the site of DCP, the 2003 San Simeon Earthquake with the epicenter located approximately 20 miles north northwest of DCP which ruptured to the southeast for 20 miles, DCP operations were unaffected and the plant continued to operate at full power. Dr. Nelson stated that essentially all the active earthquake faults in the immediate vicinity of DCP are strike-slip.

Ms. Diane Curran, an attorney for Mothers for Peace was recognized. Ms. Curran stated her concern with an apparent lack of transparency by the DCISC based on the meetings held with PG&E in August and September of 2024 to discuss Dr. Bird's work to which neither Dr. Bird or a representative of Mothers for Peace were notified or invited. Ms. Curran observed there have been at least two written reports provided to the DCISC by PG&E of which her clients were unaware and she requested to be provided with any written reports provided by PG&E to the DCISC which the DCISC is considering in its deliberations. Ms. Curran commented Mother for Peace were unaware the GPS data which is of concern was publicly available and she requested a reasonable opportunity to respond to that significant information. Ms. Curran closed her remarks

with the request that if there are further deliberations that the Mothers for Peace and Dr. Bird be included.

Drs. Peterson and Budnitz and Assistant Counsel Rathie responded and reported that when the DCISC routinely meets with PG&E or other parties in fact finding only one DCISC member together with one or more consultants is present and participates and therefore there is not a quorum such that the meeting would constitute a public meeting requiring notice and the opportunity for the public participation. The authorship of the fact finding reports remains with the member and consultant until the report is presented and approved by the Committee at a public meeting. Fact finding reports are made publicly available on the Committee's website www.dcisc.org prior to each public meeting. In response to Ms. Curran's observation that an invitation to Dr. Bird would not have violated the Committee's fact finding protocol, Dr. Budnitz replied the Committee often meets with PG&E to discuss reports prepared by others and in this case the purpose of the meeting was for PG&E to address questions posed by Dr. Budnitz.

Ms. Linda Parks, who identified herself as a member of Mothers for Peace, was recognized. Ms. Parks stated she would appreciate access to the DCISC fact findings. Ms. Parks stated her concern was with previously uncharacterized thrust faults beneath DCP and the lack of validation of the existence of such faults. She remarked she is concerned the issues raised by Dr. Bird are not being reviewed and she appreciates the concept of having a peer review of Dr. Bird's report and suggested this might be done by the same individuals who reviewed PG&E's report and she observed as the Noto Earthquake occurred after PG&E's report was peer reviewed there was no ability to determine if an equivalency exists between Noto, Japan, and DCP. Ms. Parks remarked when one speaks in terms of structural damage caused by seismic events when the structure is a nuclear plant one does not see the effects of radiation that can spread for hundreds of miles. She encouraged the DCISC to look at unbiased consultants' reports of Dr. Bird's work by persons not paid by PG&E and commented his claims as to a possibility of core damage being much greater and Dr. Bird's professional credentials warrant the DCISC's review.

Ms. Linda Seeley of Mothers for Peace as recognized. Ms. Seeley asked the members of the DCISC to think about whether they would endorse building a nuclear power plant where DCP is now located knowing today that there are at least four active earthquake faults and other faults in the vicinity. Ms. Seeley said she read an article by Mothers for Peace expert the late Mr. Dave Jackson who claimed the most powerful earthquakes in history occurred on faults that were not located.

PG&E Senior Director Tom Jones was recognized. Mr. Jones observed that SB 846, which modified the California Public Resources Code, was quite vague and lacked specificity as to the requirements for PG&E to conduct and update its seismic assessment as a covenant of the contract between the DWR and PG&E. He observed this made the task challenging for PG&E and PG&E explored with the Independent Peer Review Panel (IPRP)¹¹ developing a consensus around PG&E's approach to doing the work required by SB 846.

¹¹ In 2006, the California legislature enacted Assembly Bill 1632 which directed the California Energy Commission (CEC) to assess the potential vulnerability of the state's nuclear plants to major disruptions, including seismic events. The CEC's resulting AB 1632 report recommended that the utilities perform enhanced seismic studies with two- and three-dimensional seismic surveys in the areas onshore and offshore from DCP and SONGS. In D.10-

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

Dr. Peterson requested Dr. Gordon Seitz of the Independent Peer Review Panel and the California Geological Survey to make the next presentation.

Dr. Seitz reported he has worked with the IPRP since 2011 and the focus of his research is on seismic source characterization. Dr. Seitz observed the Hosgri Fault is the primary source for seismic hazard at the DCPD site and he reported the slip rate for the Hosgri has increased based primarily upon one study for which he reported there is now much greater confidence due to several research papers published since the 2015 Seismic Source Characterization report.

Dr. Seitz stated there are four sites used by PG&E to estimate the slip rate on the Hosgri Fault, those being the San Simeon, Point Estero cross-Hosgri, Southern Estero Bay, and Point Sal sites. Dr. Seitz commented the IPRP agrees with much of the 2024 Updated Seismic Assessment, however, the IPRP disagrees with how the slip rate was weighted in the final determination for the entire slip rate for the Hosgri Fault. He reported the cross-Hosgri slope study at Point Estero has the highest weight now and had a lower weight in the 2015 Seismic Source Characterization but with the new confidence the slip rate used at a higher rate is 2.6 millimeters (mm), plus or minus 0.8 mm. Dr. Seitz described the data as consisting of an offset marker that has been dated by several sediment cores using two different methods, those being by radiocarbon and by optically stimulated luminescence to produce a well-defined slip rate close to DCPD.

Dr. Seitz stated the key is the weighting of the for slip rate sites and the IPRP agrees there is greater confidence now than in 2015 the geological interpretation of the site is correct and that the slip rate from the site is a reliable estimate of the slip rate for the Hosgri Fault near the plant. He reported one measures the age of the feature and the distance it has been displaced by the fault, the location of the slip rate site in proximity to DCPD, and the confidence that the interpretation of the site provides toward a reliable result. He displayed and described a table summarizing the data for each of the four sites he identified including the San Simeon site which he stated is not well defined and is a complicated feature some 200,000 year old and was weighted in 2015 at 30% and in the 2024 Updated Seismic Assessment at 25% with a slip rate of 1.8 mm. The Point Estero cross-Hosgri site is unique in that it is 12,000 years old which he stated is the best age for determining the hazard today and its rating has gone from 20% in 2015 to 50% today. Dr. Seitz remarked all these sites are fairly close to DCPD except for Point Sal and confidence is high for each. He commented that for all four sites the slip rate is considerably higher at the cross-Hosgri slope and he stated this is a concern for the IPRP as the Southern Estero Bay and Point Sal sites are 700,000 years old which is not well defined and dated by correlation and thus have lower weight. He referred to a NRC contracted independent evaluation

08-003, the CPUC approved funding for DCPD seismic studies and established the Independent Peer Review Panel (IPRP) to review them. The IPRP is tasked with providing expertise to the Commission while also assuring the public that the studies are being performed in an appropriate manner. 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.

of the Hosgri Fault slip rate based on a structural analysis of the Pull-Apart Basin¹² linking the Hosgri and the San Simeon fault systems that was not considered in the 2024 Updated Seismic Assessment which looked at unconformities in the subsiding basin and correlated to unconformities to sea level stand which determined the slip rates were low at less than 500,000 years while today the slip rates have increased dramatically and he commented if that is the case then using an older slip rate is not representative of the current hazard. Dr. Seitz referred to the two offsets, Southern Estero Bay and Point Sal, at 700,000 years old which he stated lack detail in how the unconformities offshore were modeled and he reported there is detail in the 2015 Seismic Source Characterization but the issue in that report is one that can only be addressed well when one has angular unconformity relationships and accordingly there is a lot of uncertainty, but the takeaway is that the slip rates in the NRC-contracted independent evaluation were much slower in the past and then increased.

Dr. Seitz commented when one looks at what the slip rate is for the different sites, the one the IPRP has the highest confidence is the Point Estero cross-Hosgri slope and he displayed a graph showing the cumulative probability against the slip rate for the 2015 Seismic Source Characterization and 2024 Updated Seismic Assessment and the Point Estero cross-Hosgri data. He stated the IPRP believes a better representation of the data would be the full rate of the Point Estero cross-Hosgri slope as shown on the graph and even though it has been upweighted from 20% to 50%, half of the 2024 Updated Seismic Assessment estimate is based on data the IPRP does not believe to be technically defensible because it is too old and not representative of the current tectonic regime. In response to Dr. Kadak's inquiry Dr. Seitz stated one can imagine all the tectonic blocks in California are like pieces in a puzzle and they move and then get locked up and new faults form and therefore the lifetime of a fault is not infinite. He observed most faults in California are not active and while certain faults may look very dramatic they are not moving. He remarked it gets difficult when one sees old faults that have an orientation similar to active faults because then you cannot use the orientation of the criteria to know if they are moving. He remarked the IPRP has separate data to show that in the past it appears the Hosgri Fault was moving slower. He commented the biggest primary seismic source near DCP is the Hosgri Fault and it is a big regional fault that can generate large magnitude earthquakes, but the Hosgri Fault is not as long-lived as the San Andreas Fault and it is still evolving and the possibility that its slip rate is changing needs to be addressed.

Dr. Seitz commented there is a bit of a legacy bias in the way data is looked at because in 2015 the situation was different. There were four slip rate sites and only one had an initial study published, but it wasn't dated or well characterized. Now there are two more publications and the Point Estero site is well characterized and well dated and this has caused the other three to lose value and there is now new data to show the slip rate was slower in the past and is no longer representative of the current hazard. He stated there may be a feeling that these three sites need to be weighted in some manner but the IPRP would say no because it does not believe the other three should be included in any weighting scheme.

¹² The Hosgri fault pull-apart basin" refers to a geological depression formed between the Hosgri Fault and the San Simeon Fault in offshore California.

In summary Dr. Seitz stated the IPRP agrees with PG&E that the cross-Hosgri slope slip rate best represents the hazard on the Hosgri Fault, however, the slip rate sites used appear unrepresentative of the current rates of tectonic deformation and biased toward the 2015 Seismic Source Characterization model appears to be part of the reason. He stated the IPRP believes that the cross-Hosgri slope slip rate should receive full weight in the seismic hazard model. He reported if one looks at the geodetic model it also more closely matches this slip rate determination. He described the geodetic model as akin to a decade long measurement of fault slip rates so that would make sense that they are also more closely representative of the current seismic hazard.

Dr. Peterson introduced Dr. Philip Johnson, a geologist with the California Coastal Commission and a member of the IPRP to make the next presentation.

Dr. Johnson displayed a map showing what he described as the unique region of the coast ranges where DCPD is located, with the Hosgri Fault located to the west of the power plant. He observed most of the faults are very much northwest striking with a more westerly trend and uplifts. He pointed out the location of the Irish Hills and the Casmalia Hills to the south and stated these form the scene for the IPRP review of the tectonic setting and the seismic hazard. He explained the Los Oso Fault is on the north side of the Irish Hills and extends offshore to where it meets with the Hosgri Fault. On the south side of the Irish Hills there are a series of faults including the San Luis Bay and Wilmar Avenue Faults which is referred to as the South Boundary Fault System. He remarked the Casmalia Hills have the Casmalia Fault on the north side and the Lion's Head Fault to the south and further south there is an east-west trending fault system which Dr. Johnson remarked rotated into place and created a greater north-south impression.

Dr. Johnson stated the current dataset is not adequate to distinguish between competing fault geometry models for the Irish Hills and the Los Osos Fault and there exists uncertainty as to the slip rate. He stated offshore data may be productive in this regard and the IPRP is hoping offshore investigation will be pursued. He stated the vertical uplift on the Los Osos Fault is relatively small but there is potential for lateral slip. He displayed a map of the area offshore of the Los Osos Fault which he stated shows some indications of vertical strike slip faulting offshore and he observed the assumption has long been that the Los Osos Fault is a reverse type fault and he commented if it is strike slip that this changes the calculation. He reported the marine terraces that can be traced around the Irish Hills are 100,000 years old and the uplift rate is 0.1 to 0.12 mm per year and if the faults bounding the Irish Hills are purely vertical slip there is good data on the uplift of the Irish Hills and the seismic hazard would not be as great, but if there is considerable lateral slip on these faults the hazard would have to be upgraded. He stated the IPRP will be recommending that additional offshore seismic reflect data be collected to characterize the fault zone and potentially quantify rates of lateral slip on the Los Osos Fault as well as looking at offshore from the Casmalia Hills and he stated this would provide two good hypotheses to test, that is, very little lateral slip means the hazard is relatively low, however if there is a great deal of lateral slip than previously thought the concern about the Los Osos Fault is greater.

Dr. Johnson, in response to Dr. Peterson's comment confirmed that a proposal to perform high energy seismic reflection measurement was made some time ago which was denied due to the potential impact on marine species, but the IPRP will be proposing use of low energy seismic reflection techniques that have been very successful with investigation of the Hosgri Fault and has proven itself as effective in looking at sediments close to the surface. He remarked low energy reflection is not very effective to look deeper and he commented he did not believe the California Coastal Commission would approve the use of high energy investigative technique due to the impact on aquatic species. PG&E Senior Director Tom Jones confirmed the high energy techniques PG&E applied for were rejected by the Coastal Commission and the cutoff was given as 2,000 joules of energy. He reported complete low energy testing was performed in the region in 2013 and 2014. Dr. Seitz observed low energy techniques produce a much higher resolution and have gotten much better in the last 15 years. Dr. Kottke stated low energy investigative techniques have proven to be very effective for the Hosgri cross-slope work and this work was funded by PG&E. As part of that work USGS suggested doing preliminary work using low energy techniques along the Los Osos Fault and there was evidence of strike slip and reverse faulting found, but this preliminary work has not been published in an official paper but has been presented to the IPRP. In response to Consultant McWhorter's question Dr. Seitz stated that these efforts to refine the understanding of the seismic hazard have the potential to significantly change the seismic hazard. Dr. Seitz commented the update on the slip rate for the Hosgri Fault moved on the order of 20% by the 2024 Updated Seismic Assessment and could potentially move another 20% higher. Dr. Seitz stated the change in the ground motion response spectrum (GMRS) from between 2015 and the 2024 Updated Seismic Assessment increased by approximately 3% and he commented this could increase by 6%. Dr. Budnitz remarked that in his presentation later today he would be providing an explanation on his evaluation of the significance of such an increase.

Dr. Johnson next discussed data that was not included in the 2024 Updated Seismic Assessment including work on the Casmalia Fault performed by Dr. Nathan Onderdonk and Dr. Ian McGregor in 2021 on the Orcutt Formation which Dr. Johnson described as a very young sedimentary unit related to the Casmalia thrust fault which gave a slip rate of 5.6 to 6.7 mm per year for the Casmalia Fault. Dr. Johnson reported the IPRP is recommending that PG&E conduct a comprehensive review of all fault studies in the region surrounding DCPD performed within the last ten years.

Dr. Johnson reported members of the IPRP have met with members of PG&E's Geosciences Group and the meeting was productive and allowed for clarification of portions of the IPRP's report and he observed continued discussions should be fruitful. He commented PG&E may need additional time over the IPRP's timeline to respond to the IPRP's report.

In response to Dr. Meshkati's inquiry Dr. Johnson reported the tsunami hazard comes from offshore landslide activation during any earthquake or from a far traveled tsunami occurring from a subduction zone area such as the Cascadia Subduction Zone in northernmost California, Oregon and Washington. He replied the IPRP has not delved into a tsunami analysis in context of its current review but will be looking at it more in the future. He remarked there have been preliminary studies offshore of the Los Oso Fault and with additional work, information on paleo shorelines that could be offset would reveal additional information on

lateral slip on that fault. Dr. Bachhuber confirmed PG&E has periodically performed a series of tsunami evaluations, with an update in 2024 which do consider nearby offshore faults and submarine landslides as well as large events from Alaska and Japan. Dr. Bachhuber reported the evaluations show that DCPD has sufficient freeboard between the safety related plant components for even the highest extreme tsunami event. He observed the DCPD evaluations are more conservative than the State's tsunami models

In response to Consultant Kadak's inquiry Dr. Johnson replied that there were some fault studies performed in the last ten years which PG&E did not review in the 2024 Updated Seismic Assessment and the IPRP wants to make sure any relevant regional fault studies, such as that by Drs. McGregor and Onderdonk, are included even if the impact to DCPD is negligible. Dr. Bachhuber stated in 2015 PG&E did sensitivity studies for what seismic sources affect DCPD and he reported more than 90% of the hazard was from primary fault sources and background sources, minus the San Andres Fault which contributed 2-3%, in the aggregate, contributed 1% to the hazard. He reported in those studies Casmalia Fault was discussed but at the time it was decided not to do an in-depth evaluation because it was not hazard significant, even if the slip rate on the Casmalia Fault increased to 5-6 mm per year the distance from DCPD precludes a significant hazard increase.

The Chair called for public comments related to presentations by Drs. Seitz and Johnson

Dr. Gene Nelson of Californians for Green Nuclear Power was recognized. Dr. Nelson commented Dr. Johnson referred to the work of Drs. McGregor and Onderdonk and gave a reference [to the Casmalia Fault slip rate] of 5.6 to 6.7 mm per year and he stated he understood the cross-Hosgri slope to have a rate of 2.6 mm per year and the San Andreas Fault of 4.8 mm per year and he commented the reference Dr. Johnson gave seemed like an outlier, Dr. Seitz responded and stated the San Andreas Fault moves close to 30 mm per year and one cannot compare rate estimates as you have to look at the whole structure of the fault. He commented the Casmalia Fault study has been peer reviewed and cannot be dismissed.

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

A. The Chair requested Consultant Mr. Wardell to provide a summary report on the August 27-September 24-25, 2024, fact-finding visit with Dr. Budnitz. Dr. Budnitz and Mr. Wardell reviewed the topics discussed with PG&E during that visit as follows. He stated Dr. Budnitz would be presenting the first two topics:

➤ Recent Report by IPRP and its Implications for Site Seismic Hazard – Dr. Budnitz reported with Consultant Wardell on September 25, 2024, the DCISC Fact Finding Team (FFT) met at the plant with the PG&E Geosciences Group and the discussed the IPRP's most recent report, Report #16 entitled "Initial Review of the PG&E February 2024 Updated Seismic Assessment" which was issued by the IPRP on August 26, 2024. He reported the FFT agreed with each recommendation for additional data gathering made by the IPRP in its report.

The topics selected by FFT for review included an IPRP recommendation concerning the Hosgri Fault slip rate, IPRP comments concerning uplift of the Irish Hills, and IPRP comments on using the Casmalia Hills as an analog or as a connecting fault to the Hosgri system.

Dr. Budnitz reported the IPRP recommends giving 100% weight to one of four data sets as discussed at this meeting by Dr. Seitz and PG&E does not agree with this recommendation Dr. Budnitz stated it is important to know that whatever the slip rate is among the options, the understanding of the overall seismic safety of the plant is not affected because the plant's seismic safety is adequate with significant margin. He observed if 100% weight is given to one model that means the earthquakes at issue will come around more frequently than with previously models, possibly 20 to 25% more frequently. He commented the GMRS may be a 3 to 5% greater but this is uncertain. But the plant has margin such that it can survive earthquakes twice as large and the frequency increase is still in the range of 10^{-4} or 10^{-5} . Dr. Budnitz stated his evaluation was that the safety of the plant is not much affected by a change in the slip rate because the seismic safety risk is acceptably low and even if one accepts the higher range of frequency the plant remains seismically safe. He reported concerning the motion produced by a seismic event that the motion propagates through the soil and into structures and certainty in the loads produced isn't known within 10% but the plant remains safe.

Dr. Budnitz stated he reviewed the 2015 Seismic Source Characterization and the IPRP's statement about uncertainty in the best models concerning the uplift of the Irish Hills. He observed Dr. Madugo identified three different models with differing implications. This has to do not only with the geometry, but also the slope and the rate and Dr. Budnitz stated he agrees that further research and analysis is required to resolve the issue. But he observed that whichever model is correct, the plant has adequate margin because the motion produced by those different configurations effect on equipment damage do not differ very much and not to a degree that is significant.

Concerning the Casmalia Hills, Dr. Budnitz stated his belief the IPRP is correct that this area located to the south of the plant could be a useful analog to the Irish Hills. He commented the Casmalia and Hosgri Faults could be linked. He reported PG&E believes that while active research is underway the understanding is too premature to provide useful enough information to support a modified model of the Irish Hills. Dr. Budnitz remarked while he agrees, it does not appear that even the most pessimistic interpretation and its implication would challenge the current overall conclusion about the adequacy of the plant's safety.

Dr. Budnitz remarked while the IPRP Report provides valuable insight there is nothing in its recommendation that challenges the overall safety of DCP. But Dr Budnitz added there is a significant caveat in this conclusion as the IPRP Report does not address Dr. Bird's contentions. Dr. Budnitz observed that if Dr. Bird is correct then Dr. Bird is correct that there is a significant safety challenge. Dr. Budnitz reported a very comprehensive evaluation of the entire seismic safety understanding of the plant was developed and approved by the Committee last year which concluded the plant was safe with a lot of margin. However this evaluation did not include Dr. Bird's concerns because they had yet to be received.

➤ Meet with PG&E Geosciences Group in Oakland on August 27, 2024 – Dr Budnitz stated with Consultant Wardell the FFT attended this meeting with PG&E's Geosciences Group. Dr. Budnitz attended in person while Mr. Wardell listened in remotely from another location. Dr. Budnitz reported this meeting focused on seven matters raised by Dr. Peter Bird on which Dr. Budnitz stated he needed to more fully explore or understand. He reported the DCISC concluded in May 2023, based on engineering analyses, that the seismic safety achieved by the plant was fully adequate and acceptable and in response to the mandate of SB 846 requires no additional upgrades or other changes for extended operations and that conclusion was reiterated by the Committee in June 2024. **Dr. Budnitz commented the DCISC is again revisiting this conclusion based on its evaluation of Dr. Bird's analysis.** He then discussed those issues as follows:

- The Noto Earthquake – the PG&E representatives presented several reasons why treating information from the Noto Earthquake as directly applicable to DCPD is inappropriate and Dr. Budnitz stated Dr. Madugo discussed these earlier in his presentation. Dr. Budnitz reported Science magazine recently published two articles on the Noto Earthquake which were peer reviewed and these articles do not challenge the current understanding and do not support Dr. Bird's assertion that the Noto Earthquake is an analog. However, he acknowledged that investigations by experts are ongoing and as new insights emerge the DCISC will review them to see if they challenge the current understanding.

- Geodetic and velocity modeling and why geodetic based deformation models are useful but not determinative and should not replace universally used geological slip rate models. The PG&E representatives expressed complex geodetic models are not mature.

- Seismicity from unexpected or undetected rupture between known faults including a thrust fault under DCPD with a slip rate of approximately 1 mm per year. The PG&E representatives explained they do not believe that wide area or global models are appropriate as site-specific analysis for the coast of California is required and wide regional models are not applicable. The issue of a thrust fault under the plant was addressed in the 2011 Shoreline Fault Report which was peer reviewed and accepted by the NRC. Dr. Budnitz reported using offshore data there was no evidence found of significant thrust or reverse faulting in the wave cut platform.

- Use of micro seismicity rates under the Irish Hills. Dr. Budnitz reported this approach has not been found to be a reliable way to define fault plains as it ignores background sources.

- Applicability of information going back a few million years, Dr. Budnitz reported this issue was just explained by Dr. Seitz in his presentation as to why such information should not be given much weight. The PG&E representatives confirmed much of their research supports that there has been a lot of evolution. Dr. Budnitz observed the fact the tectonic environment today is not the same as then does not mean the information should be discarded but it should be used judiciously.

- Dr. Budnitz observed Airy isostasy hypothesizes that the Irish Hills are floating, similar to an iceberg at sea, and changes require adjustments. The PG&E representatives

explained the model of the Irish Hills uplift is not consistent with the understanding of their origin and development and using isostasy principles to calculate fault slip rates are not credible.

Dr. Budnitz stated he has not found any reason to question the adequacy of the seismic safety of DCPD as nothing in any of the new information changes the broad understanding that there is a lot of margin in the plant's design. He stated since Dr. Bird first advanced his set of explanations, evaluations and data more than one year ago it has been reviewed by numerous persons and to date no one has agreed with Dr. Bird position. Dr. Budnitz stated he retains an open mind but he bases his conclusions in part on the lack of support in the community for Dr. Bird's position, on its own research and knowledge and from what he has heard from PG&E representatives.

Dr. Budnitz reported when PG&E developed the 2024 Updated Seismic Assessment the Noto Earthquake had yet to occur but PG&E devoted an entire chapter, Chapter 6, in the 2024 Updated Seismic Assessment which addressed each of Dr. Bird's concerns except the Noto Earthquake and he observed the 2024 Updated Seismic Assessment was peer reviewed by some of the world's most prominent experts, none of whom agreed with Dr. Bird.

Dr. Budnitz remarked he has found no reason to question the adequacy of the seismic safety of DCPD because none of the interpretations he has seen so far challenge the conclusions that the plant is strong enough and the earthquakes that matter do not come around frequently enough or are of a size to challenge plant safety. **He observed the DCISC should continue to review any new seismic related information that may be forthcoming concerning Dr. Bird's evaluations including information from the NRC, from the IPRP and from PG&E or anywhere else.** Dr. Budnitz stated that his conclusion, which he recommended the Committee adopt, is there is nothing that has the credentials and the backup to change the broad understanding that the plant is adequately safe against earthquakes.

The Chair asked for public comment on Dr. Budnitz' presentations.

Ms. Linda Seeley was recognized. In response to Ms. Seeley's query Dr. Budnitz confirmed the article in the magazine Science made no comparison between the Noto Earthquake and Diablo Canyon and he confirmed his statement that the two peer review teams for the 2024 Updated Seismic Assessment, including the chapter on Dr. Bird's contentions which did not include Dr. Bird's assessment of the Noto Earthquake, did not agree with Dr. Bird's position and the 2024 Updated Seismic Assessment provides an evaluation and analysis of why the report does not agree with Dr. Bird and the peer reviewers agreed. Dr. Budnitz reported the IPRP has also produced a report on the 2024 Updated Seismic Assessment but their report does not include a review of Dr. Bird's contentions. Ms. Seeley stated she believed Dr. Budnitz to be eager to endorse the safety of DCPD and she observed Dr. Madugo in his report discussed the possibility of the Hosgri Fault in concert with another fault producing an earthquake with a 8.0 magnitude. Dr. Budnitz confirmed this was a part of the model described by Dr. Madugo but he stated that this event has a low probability and he remarked that the event could be some distance from the plant. He commented that one should not consider magnitude as the figure of merit for an earthquake, rather it is the size of the motion at the plant or other engineered structure arising

from an earthquake and the frequency of the event which are considered to be the figures of merit.

Dr. Gene Nelson of Californians for Green Nuclear Power was recognized. Dr. Nelson referred to his letter to the NRC which he commented from earlier in this meeting wherein he claimed DCPD has favorable site conditions which attenuate or dissipates earthquake energy over relatively short distances. Due to these conditions the primary earthquake forces at DCPD would be dominated by nearby earthquake sources and by the small section of earthquake rupture closest to the plant. His correspondence cited overall plant ruggedness and seismic hazard insight as supporting safe operation of DCPD with generous safety margins during anticipated earthquakes.

Ms. Linda Parks of Mothers for Peace was recognized. Ms. Parks inquired if there has been a peer review of Dr. Bird's work and she requested the DCISC not to defend but rather to be open minded and to consider having a peer review done of Dr. Bird's work. She remarked it is up to the DCISC to make sure of the confidence level in Dr. Bird's information, She commented she finds it unusual to have a public process where PG&E can meet with members of the Committee in private, particularly when meetings include topics specific to Mothers for Peace's expert, and she inquired whether the DCISC provided suggestions to PG&E for PG&E's presentation at this meeting. Dr. Budnitz responded and stated that with the exception of Dr. Bird's concerns on the Noto Earthquake there have been five separate individuals doing peer review of Dr. Bird's work. Dr. Budnitz remarked that a Committee member and consultant frequently meet with PG&E to discuss a myriad of issues relative to the operation of DCPD and without these opportunities to review issues the Committee could not accomplish its work. Mr. Rathie observed that individual members of the Committee have met privately with members of Mothers for Peace and have held open houses in the local community to meet with any concerned citizen but he remarked these open houses have not been well attended. He confirmed that state law prevents more than one member from meeting privately with PG&E, an interest group or a member of the public to discuss issues relative to the Committee's charge to review operational safety at DCPD.

Mr. David Weisman of the Alliance for Nuclear Responsibility was recognized. Mr. Weisman commented a Report by the CEC prepared in 2008 in accordance with the mandate of Assembly Bill 1632 recommended that PG&E provide a report on a deterministic basis of the full effects of a San Simeon-type earthquake occurring directly below the plant particularly for non-safety-related plant components and reliability. Mr. Weisman reported the CEC AB 1632 Report has a table of source characteristics for deterministic ground motion evaluation for the Shoreline, Hosgri, San Luis Bay and Los Osos Faults, but no deterministic evaluation for a blind thrust fault such as produced the San Simeon event directly beneath the plant. He stated his question is has such a deterministic study been done and if so where can it be found? He commented PG&E received \$64,000,000 of ratepayer funds to complete these AB 1632 studies and if the study he cited has not been done when might PG&E plan to fulfill the recommendation? He observed if the study has not been done it remains an open item from the 2008 CEC AB 1632 Report and he commented the CEC has just appointed the newest member of the DCISC.

Mr. Robert Sarvey was recognized. Mr. Sarvey commented the NRC Petition Review Board has accepted the Mother for Peace Petition to review the contentions raised by Dr. Bird, which are supported by the Independent Peer Review Committee which Dr. Budnitz just dismissed based on PG&E's position. Mr. Sarvey recommended rejecting Dr. Budnitz conclusions as Dr. Budnitz is not a seismic expert and wait for the NRC's determination on whether Dr. Bird and the Independent Peer Review Committee are correct.

A short break followed.

The Chair requested Consultant Mr. Wardell to continue with the report on the August 27-September 24-25, 2024, fact-finding visit which he conducted with Dr. Budnitz.

- Meet with DCPD Officer Maureen Zawalick – Mr. Wardell reported the FFT met with PG&E Vice President for Technical and Business Services Ms. Maureen Zawalick to discuss the fact finding meeting agenda and findings and other items of mutual interest.
- License Renewal Update – Consultant Wardell reported PG&E filed its License Renewal Application in November 2023 which he described as focused upon aging management. He reported after a sufficiency review the NRC approved the application and oral arguments were held on contentions raised and Mr. Wardell described this as an ongoing process. He reported PG&E remains in communication with NRC staff and responding to requests for additional information.
- Unit-1 Capsule B Withdrawal – Mr. Wardell reported DCPD has made several unsuccessful attempts to remove surveillance Capsule B¹³ and for refueling outage 1R25 the removal tool has been resized to better fit the opening on the door to the capsule compartment and during 1R25 the core barrel will be removed which will afford PG&E better access. Mr. Wardell reported a contingency plan is in place to cut out Capsule B as other removal techniques proved to be unsuccessful. In response to Dr. Meshkati's subsequent question whether cutting out Capsule B could affect its structural integrity or testing properties DCPD Director Philippe Soenen replied the contingency concerns cutting out the capsule plug which is the access point for the removal tool and this would not result in any damage to surveillance Capsule B.
- On-Line Maintenance – Consultant Wardell reported while much maintenance occurs at DCPD during refueling outages, some maintenance such as corrective maintenance needs to be done between outages. He reported on-line maintenance is first reviewed and approved by the shift supervisor and then by the Daily Review Team. He reported if the task is urgent it is referred to a Fix It Now Team (FIN) which is a group dedicated to getting the work done in a short period of time. Mr. Wardell reported other on-line maintenance work is referred to in a

¹³ 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.

twelve-week rolling matrix and then it is scheduled and a risk determination is made by the Integrated Risk Review Team as to personnel and overall risk and the work is then scheduled and completed. The FFT concluded the process was a very tight prescriptive process which gets on-line work done at the right time at the right risk.

➤ Observe Licensed Operator Training: Reactor Physics – Mr. Wardell reported the FFT observed licensed operator training which he stated takes place continuously for the five operation teams for refresher and continuing training. The training observed concerned an exercise regarding reactor physics which focused upon reactivity and how neutrons behave in the reactor core. Consultant Wardell commented the instructor was qualified, the materials were good and the operators were engaged.

➤ Pressurizer Safety Valve Root Cause Evaluation – Consultant Wardell reported the Pressurizer, which maintains pressure on the primary system, has several relief valves some of which are spring loaded, and open under pressure, and others are power operated relief valves. Following refueling outage 1R24 during startup, one of the safety valves was found to be leaking as the pressure was increased. Mr. Wardell reported the corrective action procedure was to drop the pressure, let the valve reseal and then increase the pressure and this was tried but it did not work in this instance. DCPD conducted an outage to replace the valve and the replacement valve was found to be leaking on restart. The reseal procedure was followed and the valve did successful seat. A root cause evaluation was initiated to determine the cause of the leak which determined the issue was not with the valve but rather was due to a seismic support around the valve that expand as the system heated up and this caused the seismic support to contact the valve and prevented the valve from resealing. Mr. Wardell reported the corrective action was to modify the seismic support which was successful in addressing the issue. Unit 2 was inspected as part of the extent of condition review and it was determined Unit 2 has a different design for the seismic support and did not experience leak problems. Mr. Wardell reported each corrective action which arises out of a root cause evaluation is monitored long term for effectiveness.

➤ Current Campaign Moving Spent Fuel from Spent Fuel Pool to Independent Spent Fuel Storage Installation (ISFSI) – Consultant Wardell reported that to date there are currently 1,856 fuel assemblies in 58 casks at the ISFSI. He reported the eighth loading campaign began in June 2024 and it is planned to load 192 fuel assemblies in six casks for each unit, with 32 assemblies in each cask. Mr. Wardell reported this loading campaign was based somewhat on problems experienced at the San Onofre Nuclear Generating Station (SONGS) in southern California and employed more experience workers from the Holtec firm, more robust procedures including improved training, a readiness review, and a challenge board. Mr. Wardell reported the eighth loading campaign has gone smoothly with no problems. Mr. Wardell reported the license for the ISFSI from the NRC is in the process of being renewed with DCPD's application having been submitted in 2022 and the process is ongoing at this time with the technical review expected to be completed in November 2024.

➤ Results of July 31, 2024 Evaluated Emergency Preparedness Exercise -Mr. Wardell reported on July 31, 2024, with Dr. Peterson the DCISC representatives observed an emergency exercise but given time constraints the FFT was not able to review the subsequent critique of the

exercise. During the September 24-25, 2024, fact finding the Emergency Response organization personnel reviewed the results of the exercise which found personnel adequately demonstrated reasonable assurance to protect the health and safety of the public and the plant employees. Mr. Wardell reported the results of the exercise included 60 out of 60 objectives met, 163 out of 164 facility objectives met, and 707 out of 724 demonstration criteria met. The FFT concluded the emergency exercise was self-designed and well-implemented.

➤ Meet with NRC Senior Resident Inspector and New Resident Inspector – the FFT met with the NRC Senior Resident Inspector to review issues and items under review by the NRC and by the DCISC.

➤ Fire Protection Update – Consultant Wardell reported the Fire Protection Program was reviewed by the FFT and they met with the Program Manager and Program Engineer. He stated the Fire Protection Program has features for detection, suppression and separation of nuclear safety-related structures, systems and components. The Program was in Green¹⁴ health status. Regarding the program cornerstones, three were in Green status and one was in Yellow status for work orders older than 100 days and for the incipient fire detection system reliability not meeting targets. Consultant Wardell reported DCPD has plans to resolve these issues and achieve Green status by February 2025. The FFT concluded the Fire Protection Program and systems were satisfactory and improving.

➤ Observe Work in Progress: Calibration of Nuclear Instrumentation – Mr. Wardell stated the FFT observed work in the power block¹⁵ which included calibration of nuclear instrumentation in the Control Room. The FFT observed the technicians using “circle and slash” place keeping techniques and numbered procedural steps along with three-way communication, use of the phonetic alphabet and independent verification, The technicians were also wearing proper protective equipment.

Mr. Wardell requested the Members to consider approval of the August 27-September 24-25, 2024, Fact Finding Report. Dr. Peterson remarked concerning the sections of seismic response and geosciences studies and the concerns raised by Dr. Bird he is unsure if sufficient information is available to reach a definite conclusion, although he commented the recommendations are formulated such that the Committee anticipates reviewing additional information when it becomes available. Dr. Peterson stated his belief that it would be very valuable to have Dr. Bird’s concerns documented in a report that could be the subject of external peer review and he commented that in the interim there is he does not believe there is an action the Committee needs to take specific to Dr. Bird’s report. Dr. Meshkati stated he has some questions about the review of Dr. Bird’s comments and concerns and he concurred in the value

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.

¹⁵ "Power block" or "block" is synonymous with the word unit, meaning a combination of a nuclear reactor and its generating system.

of that having Dr. Bird's theories subjected to peer review and evaluated and validated by experts. Drs. Peterson and Meshkati stated they were prepared to consider approval of the August 27-September 24-25, 2024 Fact Finding Report without the discussion concerning Dr. Bird's concerns. Dr. Budnitz replied and he strongly expressed his view that in his discussion with PG&E experts they provided valuable additional information that substantiates the DCISC in performing its own evaluation, but he observed the DCISC has not yet found any reason to question the adequacy of the seismic safety of the plant and Dr. Budnitz emphasized that it is his belief it is important to say that. He stressed that if the Committee found something that questioned the seismic safety of the plant, there would be an obligation on the part of the Committee to make that statement and if it found nothing upon which to question the seismic safety of DCPD the Committee should say so. Dr. Budnitz reviewed the statements made in the Fact Finding Report, including that it is premature for the DCISC to reach a definitive conclusion at this time of the technical issues raised by Dr. Bird and this topic needs to await further work now underway, and he questioned how there could be disagreement on those statements. Dr. Budnitz implored his fellow members that unless they believe there are reasons to question the present seismic adequacy of the plant they should consider approving the report and he observed in his view this is the most important item on today's agenda and it is important to tell the public that at this time there are no compromises to seismic safety identified.

Dr. Peterson stated that he had not received a copy of the latest version of the August 27-September 24-25 Fact Finding Report and has not had the chance to review its specific conclusions. He observed the Committee should defer consideration of the report until the following day when it can be again considered and possibly be amended. In response, Dr. Budnitz then made a motion to approve the Fact Finding Report and he observed he felt strongly that his colleagues owed him the courtesy of seconding his motion and voting based on the hours he spent crafting not only the technical details but also the conclusions which Dr. Budnitz stated were purposefully ambiguous. Mr. Rathie reported Dr. Budnitz' motion lacked a second and it would be appropriate at the Chair's discretion to table the discussion until tomorrow. Dr. Peterson then called for public comment.

Ms. Linda Seeley of Mothers for Peace was recognized. Ms. Seeley observed that when the Committee accepts a document that states the Committee has no reason to think there are any seismic issues that challenge safety at DCPD it is semantically implying that there are no issues with seismic safety at DCPD. She remarked when people read that they believe the Committee has accepted everything is fine in terms of seismic safety. She remarked as the Committee's reports go to the Governor's office the Governor's office will also look at it in the same light because people scan things and don't read them carefully,. Ms. Seeley stated it would be irresponsible for the Committee to accept. The August 27-September 24-25, 2024 Fact Finding Report.

Dr. Gene Nelson of Californians for Green Nuclear Power was recognized. Dr. Nelson commented he believes there are sufficient caveats provided in the Fact Finding Report that it is not an absolute that the plant is perfectly safe.

Ms. Julie Mansfield Wells was recognized. Ms. Wells respectfully submitted that Dr. Budnitz' opinion the DCPD is seismically safe should not be attributed to the entire Committee

as it has not accepted the Fact Finding Report and she agreed it should be tabled until tomorrow. She stated it appears Dr. Budnitz' analysis of Dr. Bird's report is a presentation of PG&E position that the plant is safe and she stated there is adequate reason to question seismic safety as reported by the IPRP and Dr. Bird,. She stated she was offended by what she described as Dr. Budnitz bullying of the Committee into accepting the report. She respectfully requested that the DCISC not accept the report until more information is obtained.

Mr. Daniel Hirsch was recognized. Mr. Hirsch stated he is the retired director of the Program on Environmental and Nuclear Policy at the University of California at Santa Cruz. Mr. Hirsch stated he was deeply shocked by what occurred regarding the issues raised by Dr. Bird. He commented he has not seen an academic process where the investigation is to go to the entity that poses the potential risk, in this case PG&E, and ask them if they agree there is a lack of safety. Mr. Hirsch stated he wanted to plead with Dr. Meshkati to be a restraining force and he observed the issues raised by Dr. Bird were serious. Mr. Hirsch commented concerning Dr. Budnitz assertion concerning margin to deal with earthquakes that the plant was built on the assumption there were no earthquakes within 20 kilometers and the Hosgri Fault was subsequently discovered. He comment PG&E insisted on an amendment from the safety requirements posed by the Hosgri Fault with the statement that there would not be other faults found. Then the Los Osos and subsequently the Shoreline Faults were found. Mr. Hirsch stated therefore the plant was not designed to withstand all of the earthquakes that we now know can occur but was instead designed to withstand none of them. He remarked one should not make a statement that there is no reason to question the adequacy of seismic safety as Dr. Budnitz proposes when one is planning to question the adequacy and conduct further review. He pled with Dr. Meshkati as this Dr. Meshkati's first meeting to be a restraining force and to push for true science and not to be deeply tied to the operator of the plant that has an economic incentive in sweeping things under the rug.

Ms. Rochelle Becker of the Alliance for Nuclear Responsibility was recognized. Ms. Becker stated the Alliance has sought to have term limits for the DCISC and the Public Utilities Commission is considering the matter. She stated she was shocked by Dr. Budnitz statement that he was owed a vote on the report.

Dr. Peterson stated the Committee would return to this topic tomorrow for further discussion and he stated his recommendation would be to modify the conclusions to include a recommendation that a report should be generated and subjected to peer review on the issues raised by Dr. Bird.

B. The Chair requested Consultant Wardell to provide a summary report on the July 31-August 1, 2024, fact-finding visit with Dr. Peterson. Mr. Wardell reviewed the topics discussed with PG&E during that visit as follows.

➤ Observation of the July 31, 2024 NRC Evaluated Emergency Exercise – Mr. Wardell stated the FFT observed the all-day NRC evaluated emergency exercise which was based on a postulated scenario involving a trip on 100% power by Unit 1 due to loss of the 12kV electrical bus, with a small break loss of coolant accident (LOCA) on Unit 2 at which point the Emergency Response Organization was activated as was the County of San Luis Obispo and other agencies.

A Containment penetration failure then occurred with radioactive materials in Containment due to the LOCA which allowed radiation to leak to the environment from Containment. The Emergency Response Organization (ERO) then made protective action recommendations to the County for the County to make a decision. The Joint Information Center held a mock news conference and issued press releases as did the County and local municipalities. Mr. Wardell described this as a fairly typical scenario for an emergency exercise. He reported the DCISC representatives began their observation in the Simulator, a full-scale mock-up of the Unit 1 Control Room, and witnessed the operators execute the correct responses to the scenario, then the team moved to the Emergency Operations Facility, which is staffed by DCPD and the County including the County Sheriff's office, and then visited the Joint Information Center where PG&E and the County provided news releases and answered question from the mock media representatives. Mr. Wardell reminded those present he presented the results of the exercise critique during his earlier fact finding report and stated the FFT concluded PG&E did a good job designing the exercise and implementing the emergency plan.

➤ DCPD Stranded Plant Procedure and FLEX – Consultant Wardell reported the FFT discussed post-earthquake inspection procedures with DCPD which include determining what equipment and personnel are available and what actions need to be taken after an earthquake. **The FFT recommended the plant review the stranded plant procedures and add a review of FLEX¹⁶ equipment availability. Mr. Wardell reported the Stranded Plant procedure was changed in response similar to the change to the post-earthquake procedures.** Dr. Peterson commented this issue relates directly to the seismic safety of the plant. He commented DCPD was specifically engineered for high seismic conditions relative to other nuclear power plants and he gave the example of the Containment having a gantry crane instead of a polar crane in the effort to reduce mass and allow Containment to survive substantially higher accelerations. He reported the key thing is the residual risk associated with seismic events is mitigated by the fact that the plant staff have the capability to take actions afterwards and the DCISC's primary concern is make ensure everything is prepared so that FLEX equipment is available. He reported the updates to the procedure guidelines provide transition points to restore basic safety functions if necessary. He observed the availability of FLEX type equipment would have dramatically changed the outcome of the accident at the Fukushima Daiichi plant in Japan.

➤ Annual Radiological Reports – Consultant Wardell reported the DCISC annually reviews the Radioactive Effluent Release Report and the Radiological Environmental Monitoring Report which respectively monitor radioactive materials released to the environment and the effects of plant activity on the surrounding environment. Both reports are regularly submitted to the NRC. He reviewed the results of the release of liquid gaseous and solid waste which he described as extremely small and very low percentages of permitted amounts. He remarked solid waste is not released to the environment but is shipped offsite to a licensed facility. Mr. Wardell reported direct radiation is not a release to the environment of a radioactive material and is typically gamma rays which might be released from spent fuel at the ISFSI and he reported nothing

¹⁶ 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.

released from the plant has been determined to reach the site boundary where radioactivity remains at background levels. He reviewed the number of samples taken and evaluated from water, soil, vegetation, air, and from thermoluminescent dosimeters used to measure radiation levels and reported there were some 1,800 analyses performed from substances such as meat, milk, vegetation, drinking water, ground water, well and surface water, aquatic species and ocean sediment. He reported the FFT found there are no unusual environmental isotopic findings from plant operation, there are no unusual trends compared to pre-operational data obtained before the plant began operation, and there are no detectable off-site radiological impacts.

➤ **Operational Experience Program Update** – Consultant Wardell reported this is program where each nuclear plant shares with the industry and other plants events which occurred at the reporting plant and what actions were taken in response. The input typically come from the Institute of Nuclear Power Operations (INPO) but may also come from the NRC and equipment vendors. Mr. Wardell stated an Operations Experience Program coordinator at DCPD assesses and logs the input and models or reviews the input with a subject matter expert and implements corrective action tracking in the Corrective Action Program. Each time an item is received it is reviewed and a determination made as to whether it is applicable to DCPD. Mr. Wardell described the Operations Experience Program as very effective and a part of the Performance Improvement Program at the station. He remarked the applicable items typically result in some improvement either in procedures, modifications to equipment or systems or in other areas. In 2024 to date there were 224 reports received with 144 deemed applicable to DCPD, of which 5 resulted in additional actions.

➤ **Workplace Seismic Safety** – **Consultant Wardell reported this program at both the corporate and plant level seeks to protect people by bracing office furniture. He reported in the past few years the DCISC has found DCPD to be in compliance but during this visit a cabinet was found in a conference room that was unsecured. The Maintenance Director who happened to be present initiated a notification in the Corrective Action Program. Mr. Wardell stated the FFT issued a concern on this issue.**

➤ **Nuclear Liability Insurance** – Mr. Wardell stated the FFT followed up on this topic from a previous visit and reported the federal Price Anderson Act¹⁷ provides up to \$10 billion in coverage to the public no matter who is at fault for damage caused by a nuclear power plant accident. Each plant also carries additional private insurance and Mr. Wardell reported DCPD is in compliance. Each plant files a report with the NRC every year and the FFT determined DCPD was appropriately maintaining the required insurance.

➤ **Meet with DCPD Officer** – the FFT met with PG&E Site Vice President Mr. Adam Peck to discuss the fact finding team's agenda and other items of mutual interest.

¹⁷ 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.

➤ Meet with NRC Senior Resident Inspector – Mr. Wardell reported the FFT met with the NRC Senior Resident Inspector Mr. Mahdi Hayes and he reported a second Resident Inspector, Mr. Eli Garcia, has recently been assigned to DCPD.

➤ Spent Fuel Movement to ISFSI – Consultant Wardell reported the FFT followed up on the spent fuel transfer as he reported earlier during this meeting and he reported the transfer of spent fuel is moving along smoothly.

Ms. Sherry Lewis of Mothers for Peace was recognized. In response to Ms. Lewis question as to how the levels of radioactivity were measured as described in Mr. Wardell's report on environmental monitoring, Dr. Peterson replied as the doses were not detectable above background levels they are too small to actually measure and accordingly they are calculated.

Ms. Linda Seeley of Mothers for Peace was recognized. Ms. Seeley offered a correction to Mr. Wardell's report and stated the Price Anderson Act now increased liability coverage to \$16 billion and she observed cumulative property value in San Luis Obispo County as of 2023 was \$78 billion.

On a motion made by Dr Budnitz, seconded by Dr. Meshkati, the July 31-August 1, 2024 Fact Finding Report was unanimously approved and its transmittal to PG&E authorized.

C. The Chair requested Consultant McWhorter to provide a summary report on the August 21-22, 2024, fact-finding visit with Dr. Meshkati. Mr. McWhorter reviewed the topics discussed with PG&E during that visit as follows.

➤ Plant Design and Major System Functions – Consultant McWhorter reported as this was Dr. Meshkati's first visit to the site an effective briefing on plant design and major systems was provided by DCPD Senior Director of Engineering Mr. Alan Wilson.

➤ Site Area Tour – the FFT toured the site including visiting the Intake Cove where information and a waterborne tour was provided and information was given on the design of the Intake Cove and the marine life in the area including the impact of the Intake Facility and of the recent dredging activities on marine life. The FFT also toured the DCPD Fire Department, the ISFSI, the old steam generator storage facility, the switchyards, and the Control Room Simulator.

➤ Probabilistic Risk Assessment (PRA) Program – Mr. McWhorter reported the DCISC representatives received an update on the PRA Program including the history of PRA at DCPD and in the industry and current PRA Program activities which he reported consist mostly of risk informed program changes being considered in context of License Amendment Requests (LARs). Mr. McWhorter reported some LARs have been submitted and more are pending with five LARs being done as part of a move to more risk-informed regulatory compliance. The FFT discussed the effects of the license extension on the PRA group which he stated now supports PG&E's corporate non-nuclear organization endeavors as well as DCPD.

➤ Station Organization and Major Programs – Consultant McWhorter reported the FFT received information on issues of PG&E corporate safety and governance and the effect on nuclear safety culture at DCP. The DCISC representatives discussed information concerning the lessons learned from the San Bruno, California, gas explosion and the Camp Fire wildfire events. **Consultant McWhorter stated Dr. Meshkati may have additional more questions on these topics which will be further explored during a fact finding in January 2025.** Mr. McWhorter commented the Committee often receives comments from members of the public on aspects of corporate safety and culture and any resulting effect on the plant and he remarked PG&E has had a very high visibility concerning its safety struggles in the last ten years. **Dr. Meshkati stated this is a very important issue and unfortunately corporate culture and safety was a major issue for the Boeing firm. He remarked on the relationship between the PG&E Board of Directors over the operation of DCP in terms of safety and quality and he stated he hopes to learn more about the functioning, responsibility, role, accountability and oversight provided by the PG&E Board of Directors Safety and Nuclear Oversight (SNO) Committee.**

➤ Meeting with NRC Senior Resident Inspector – the FFT met with Mr. Mahdi Hayes, the NRC Senior Resident Inspector, as well as a Specialty Inspector from NRC Headquarters to discuss items of mutual interest. Mr. McWhorter commented the Senior Resident Inspector would be making a presentation to the DCISC later during this public meeting.

➤ Corrective Action Program and Human Performance – Consultant McWhorter reported this was an orientation for Dr. Meshkati as well as to receive an update on human performance at the station. Information was provided on how issues are identified, documented and reviewed by various teams at the station and for equipment deficiencies how work is scheduled to repair and correct those issues. **He commented Dr. Meshkati had questions concerning how the Human Factors Analysis and Classification (HFAC) approach is used to review events at the station and to capture lessons learned. Mr. McWhorter reported the FFT has a follow up scheduled to review what types of things after a human performance event occurs trigger doing an analysis under HFAC principles. He reported the FFT found the Corrective Action Program was performing well and human performance tools were being adequately used.**

➤ Lunch with Senior Leadership Team – Consultant McWhorter reported the FFT met with Site Vice President and Acting Chief Nuclear Officer Mr. Adam Peck, Senior Director Mr. Tom Jones, Director Mr. Justin Rogers and other DCP senior leadership personnel during a working lunch.

➤ License Renewal Application – the FFT received an update on the License Renewal Application and the results of the most recent NRC inspections performed during the last refueling outage around those activities with regards to aging management inspections and Mr. McWhorter reported the results have been generally excellent. He reported Dr. Meshkati posed some specific questions concerning reactor pressure vessel embrittlement which is part of the analysis required by the License Renewal Application. **Dr. Meshkati's questions included how uncertainties are handled and concerning reactor vessel performance monitoring. These**

questions stemmed from Dr. Meshkati's review of a 2022 NRC document that was recently quoted by Mr. Bruce Severance during Mr. Severance's remarks to the Committee at previous public meetings. Mr. McWhorter stated PG&E provided some answers and further discussion on related topics may be part of the presentation to be made during the evening session at this public meeting.

➤ Plant Tour – the FFT toured within the protected area including areas within the Turbine Building, the emergency diesel generator areas, the Control Room, spent fuel pools and the cask handling areas. Consultant McWhorter reported the FFT observed a loaded spent fuel storage cask which had been removed from the spent pool fuel having its lid welded and being prepared for transfer to the ISFSI using a HI-TRAC transfer cask. Mr. McWhorter reported the areas of the plant toured by the FFT appeared in good working condition and plant cleanliness was generally good.

Dr. Meshkati expressed his thanks to PG&E and to Ms. Brandy Lopez for her assistance in organizing this fact finding visit and in subsequently providing material related to the visit and to Senior Director Mr. Tom Jones, as well as to other members of DCPD leadership. He commented the visit was characterized by openness in response to the FFT's questions, transparency, and collegiality.

On a motion made by Dr. Peterson, seconded by Dr. Meshkati the August 21-22, 2024 Fact Finding Report was approved and its transmittal to PG&E authorized.

XI ADJOURN AFTERNOON MEETING

The Chair adjourned the afternoon session of the DCISC at 5:00 p.m.

XII RECONVENE FOR EVENING MEETING

Dr. Peterson convened the evening session at 5:05 p.m. and stated this evening the Committee will receive an informational presentation on evaluations of public input on studies by Dr. Mark T. Kirk, evaluating Unit 1 reactor pressure vessel integrity. Dr. Peterson then asked Dr. Kadak to introduce Dr. Kirk. Assistant Legal Counsel Rathie announced the Committee has determined a four minute time limit will apply to public comments, which will follow Dr. Kirk's presentation and the Committee's questions. He reported Mr. Bruce Severance previously asked for extra time to address remarks to the Committee and Mr. Severance will be granted six minutes for that purpose.

XIII COMMITTEE MEMBER COMMENTS

There were no comments by Committee Members at this time.

XIV INFORMATION ITEMS PRESENTED BY THE COMMITTEE

A. 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.

Dr. Kadak stated Dr. Kirk was retained by the Committee to do an independent investigation of the status of embrittlement of the Unit 1 reactor pressure vessel (RPV). The Committee's investigation of this topic has been ongoing for almost two years and has resulted in many comments and interactions with the public. Dr. Kadak reported Dr. Kirk would be participating remotely from Japan via Zoom.

Dr. Kirk stated he would be reporting on an evaluation of public input concerning the embrittlement status of Unit 1. The presentation will cover background, initial public concerns the lead up to the issuance of the two reports written for DCISC and on which Dr. Kirk reported at the February 2024 DCISC public meeting. He reported additional technical evaluations on three different topics have been prepared and summary conclusions that have been proposed for inclusion in the 34th DCISC Annual Report.

Dr. Kirk reported that prior to his involvement in the matter, at the request of the California Energy Commission the DCISC reviewed the status of reactor vessel integrity for a twenty-year license extension with reference to the phenomenon of pressurized thermal shock (PTS)¹⁸. In February of 2011 the DCISC evaluated PTS and seismic effects and concluded that, subject to the availability of any new information, at that time both units could safely operate for twenty additional years relative to any concerns about PTS. In 2022 it was announced that DCPD would be not shutting down after forty years of operation, but instead would be seeking a license extension from the NRC. Significant public interest then arose concerning the plant in general and RPV embrittlement in particular and in public meetings held in February, June and September of 2023 the public expressed its concerns about the Unit 1 embrittlement status. These parties in particular have included Mr. Bruce Severance, and the San Luis Obispo Mothers for Peace, and Mothers for Peace have retained Dr. Digby Macdonald as a subject matter expert.

In October 2023 Dr. Kirk reported the DCISC retained him to help address these concerns, and in late January of 2024 the DCISC issued a report by Dr. Kirk in two part on its website. He stated this reports and all subsequent communications between Dr. Kirk and the DCISC and the public are available on the DCISC website for public review. Dr. Kirk stated in February 2024 he attended a public meetings and presented Part One and Part Two of his Report to the Committee and to the public. Since that time there have been several additional iterations

¹⁸ During plant operation, the walls of reactor pressure vessels (RPVs) are exposed to neutron radiation, resulting in localized embrittlement of the vessel steel and weld materials in the core area. If an embrittled RPV had a flaw of critical size and certain severe system transients were to occur, the flaw could very rapidly propagate through the vessel, resulting in a through-wall crack and challenging the integrity of the RPV. The severe transients of concern, known as pressurized thermal shock (PTS), are characterized by a rapid cooling of the internal RPV surface in combination with repressurization of the RPV. Pressurized Thermal Shock (PTS) includes a condition that challenges the integrity of the reactor pressure vessel. The root cause of this problem is the radiation embrittlement of the reactor vessel. This embrittlement leads to an increase in the reference temperature for nil ductility transition (RT_{NDT}). RT_{NDT} can increase to the point where the reactor vessel material can lose fracture toughness during overcooling events

with public concerns. At the end of February 2024 the DCISC requested additional comments be provided by mid-March 2024, but that was later extended to mid-April. There were several exchanges with both Mr. Severance and Dr. Macdonald, representing the San Luis Obispo Mothers for Peace, and all the question and replies and the documentation are available for review on the DCISC website at www.dcisc.org.

Dr. Kirk reviewed the conclusions of his two-part Report on Unit 1 embrittlement which confirmed and validated PG&E's embrittlement calculations and Dr. Kirk was able to determine that Unit 1, which is the unit of concern, meets the NRC's requirements for reactor vessel integrity through an expected sixty years of service. He remarked the credibility of the data (and Dr. Kirk observed credibility is a term that is defined by the NRC to mean that the embrittlement data that is collected through the surveillance program is in good agreement with the embrittlement trend model) was correctly assessed which he stated contributes to the confidence in the calculations having been properly done. DCPD has also made use, as it is required to do by the NRC, of sister plant data. Sister plant data is data from a similar weld metal that has been irradiated in the surveillance program, but that irradiation was performed at another plant. Dr. Kirk reported PG&E did that calculation correctly and in accordance with NRC requirements.

Dr. Kirk recognized, as many people are aware, surveillance Capsule B¹⁹, the next surveillance capsule to be withdrawn, was initially scheduled for withdrawal in the mid-2000s but there have been several delays since then. The current schedule is for Capsule B to be withdrawn during 2025 in the 1R25 refueling outage. Dr. Kirk reported the several delays were appropriate and consistent with standard industry practice and additionally the ultrasonic inspection schedule for the vessel is appropriate. Removal of Capsule B is needed by 2028 to be consistent with NRC guidance, but Dr. Kirk stated PG&E has expressed a strong commitment to remove it in 2025 when the reactor core barrel will also be removed which should make it easier to reach the surveillance capsule out. Dr. Kirk stated when new data from the removed Capsule B are obtained, or when any new data are obtained, it may change the outcome of the current pressure vessel integrity assessment and one cannot guess at what those results may be.

Dr. Kirk reported the DCISC asked him not to just simply follow the NRC legal requirements, but also to apply current best practices such as are being developed and discussed by the American Society of Mechanical Engineers (ASME) to take a second look at the data. He stated he did that and concluded it is very unlikely that Unit 1 will exceed the PTS screening criteria before sixty years of operation. If modern data analysis is used, as is now being considered for codification by ASME, it can be determined that Unit 1 is forecast to have a longer acceptable lifetime than the current NRC approach.

Dr. Kirk stated in Part One and Part Two of his Report he also did a supplemental analysis for upper shelf energy²⁰. Based on that analysis he concluded that the upper shelf energy

¹⁹ Surveillance specimen capsules must be located near the inside vessel wall in the beltline region so that the specimen irradiation history duplicates, 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.

²⁰ Upper shelf energy is the temperature range at which a material is relatively tough and exhibits ductile fracture. It is measured using the Charpy V-notch impact test.

may fall below the NRC screening criteria in approximately five years, that is, by 2029 or 2030. However, Dr. Kirk observed in all cases in the United States where a nuclear plant has been forecast to fall below the 68 joules upper shelf energy screening criteria, those plants have then been able to do a more accurate analysis using elastic plastic fracture mechanics to follow the NRC guidance. In all cases these other plants have been able to show that they retain acceptable margin until well below an upper shelf energy of 68 joules. Dr Kirk stated that type analysis has not been done for DCPD but Dr. Kirk stated he would be surprised if Unit 1 could not continue to show upper shelf integrity well past 2029.

Dr. Kirk then turned to the additional exchanges with both Mr. Severance and Dr. Macdonald, since his presentations and reporting at the February 2024 public meeting, all the details of which are on the DCISC website. He reviewed comments by Mr. Severance in April 2024, and the response that was later posted. Mr. Severance again asked whether the NRC procedures were used correctly, in particular the NRC credibility assessment for the use the sister plant data and the existence, in Mr. Severance's opinion, of limited data. Mr. Severance also asked why embrittlement forecasts have changed over time. Dr. Kirk stated, especially for a non-specialist, the procedures for reactor vessel integrity are not completely intuitive, so he has tried his best to explain to Mr. Severance. Dr. Kirk observed he believes Mr. Severance's comments reflect a misunderstanding of NRC procedures. In terms why the embrittlement forecast changed over time Dr. Kirk reported this is simply a consequence and a natural outcome of the surveillance program which is designed at the beginning of the plant's life to provide a periodic check on the embrittlement level of the vessel. Such that every time a surveillance capsule is withdrawn a new data is obtained and one then adjust the embrittlement prediction based upon the additional information. Therefore, the forecast of embrittlement can improve over time as one gets more data and that is why the embrittlement forecasts have changed over time from start-up of Unit 1 until today.

Dr, Kirk addressed a second question having to do with deferral of the removal of surveillance Capsule B and its impact and Mr. Severance's claim that the NRC had required a fourth capsule for the original forty year license term. Dr. Kirk stated he reviewed the NRC requirements and DCPD Unit 1 licensee requirements and he again confirmed that Unit 1 is licensed to the 1970 version of ASTM E 185. In 1970 all plants were required to have three capsules during the first forty years of operation and therefore DCPD is a three capsule plant. The NRC document that Mr. Severance referred Dr. Kirk to from 2006, while it does discuss a fourth capsule Dr. Kirk stated that it does not amend Diablo Canyon's forty year license to make that fourth capsule mandatory. Dr. Kirk reported that the three surveillance tests that have been done cover the amount of fluence, that is, the amount of neutron exposure that Unit 1 has experienced up until today and even though the last capsule was removed from Unit 1 some time ago it is representative of the neutron exposure conditions experienced by the Unit 1 RPV today.

Dr. Kirk reported Mr. Severance reminded him that the supplemental analysis of Upper Shelf Energy shows Unit 1 may reach the screening limit by 2029 or 2030, however, Dr Kirk reported the analysis was not required by the NRC, so the NRC would need to decide to take action on the basis of that analysis or something else submitted by the public should they deem it necessary and to date the NRC has not done so. Dr. Kirk again observed many plants have reached a similar conclusion, i.e., that their Upper Shelf Energy falls below the NRC 68 joules

screening criteria and in absolutely every case all of those plant were able to show acceptable continued operating integrity to Upper Shelf Energy values much below the 68 joules screening criteria.

Dr. Kirk stated the impact of these discussion is that none of Mr. Severance's concerns change the conclusions of Part One or Part Two of his Report. The embrittlement predictions continue to comply with NRC regulation, PTS screening criteria will not be exceeded during sixty years of operation, but should that occur the USE analysis required by the NRC will likely meet the requirements for sixty years of operation, and Capsule B was never required to be withdrawn during the first forty years of Unit 1's operation, and PG&E's plan to test Capsule B earlier was at its decision and not pursuant to a requirement of the NRC.

Dr. Kirk reported Mr. Severance made some additional comments in July 2024 to which a reply was made in August. In his comments Mr. Severance challenged the NRC's process of reviewing embrittlement, in many cases referencing Dr. Macdonald's independent correspondence with the Committee. Dr. Kirk observed Mr. Severance continues to challenge the appropriateness of the use of sister plant data, challenges Dr. Kirk's embrittlement assessment, since it's not NRC approved which Dr. Kirk remarked he has stated that this assessment was not intended to be NRC approved rather it was intended to be current data practice, and Mr. Severance again challenges the claim that Unit 1 is a three capsule plant. Dr. Kirk reported he has addressed most of these comments previously. He observed that as Mr. Severance challenges the NRC's process this is not something that can be addressed either by Dr. Kirk or the Committee, but if Mr. Severance or anyone has concerns that the NRC's process is not appropriate or is not adequately conservative, a 10 CFR 2.206 petition can be filed with the NRC and the NRC is obligated to review and assess the concern raised.

With reference to Dr. Macdonald's concerns, which began with Dr. Macdonald's presentation to the DCISC during the June 2024 public meeting. Dr. Kirk displayed a listing of Dr. Macdonald's concerns along with Dr. Kirk's responses. Dr. Macdonald stated that Unit 1 is dangerously embrittled and should be shut down. Dr. Kirk observed that while Unit 1 is embrittled he would not use the term dangerously. Unit 1 is embrittled and Unit 1 meets the NRC safety screening criteria through sixty years of operation. Dr. Macdonald stated that Unit 1 has unjustified reliance on integrated surveillance data and he claims that Dr. Kirk's analysis is not credible, by that appropriately not credible by NRC definition when both DCPD and data from the Palisades Nuclear Generating Station in Michigan (Palisades) are used. Dr. Kirk remarked that Unit 1 does not employ an integrated surveillance program, that is, a separate process for which PG&E would have had to have an approved integrated surveillance program in place in lieu of their plant specific surveillance program and they do not have that. Unit 1 appropriately uses data from similar material from other plants, in this case Palisades, as has been required by the NRC and has become standard practice for all nuclear utilities in the United States. Dr. Kirk remarked that the Palisades and DCPD data which he will show in a graph consistently follow the forecast embrittlement trend in accord with the NRC's Regulator Guide²¹ (Reg. Guide) 1.99

²¹ The NRC 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.

Revision 2, which takes from dates from the 1980s, but also with more recent embrittlement trend curves. Dr. Kirk observed there is very good agreement between the plant specific surveillance data and the general trends that are expected, both by regulatory equation and by current state of the art equation.

Dr. Kirk reported Dr. Macdonald proposes his own unique extent of embrittlement (EOE) approach instead of the NRC process. Dr. Macdonald admits that EOE has not been published or peer reviewed, however, when Kirk used the EOE approach he stated he found out that EOE produces results comparable to the NRC approach, but in fact it is a little bit less conservative. So, Dr. Kirk stated if one were to use Dr. Macdonald's EOE approach to forecast the remaining licensable lifetime of Unit 1, one would get a longer lifetime than from using of the NRC's required approach. Dr. Macdonald also provided a forecast of RT_{NDT} with increasing fluence. Dr. Kirk remarked this included one datum that was not used by either Dr. Kirk or PG&E and Dr. Macdonald stated that the use of that datum would reduce the period of PTS acceptability. Dr. Kirk used a graph whose function he explained showed that Dr. Macdonald found this datapoint at 161° F adjusted reference temperature and he referred the Committee to a NRC report where Dr. Macdonald got that value. Dr. Kirk observed that this report was the technical basis evaluation for the change from Reg. Guide 199 rev 1 to Reg. Guide 199 rev 2, published in the last 1980s. He remarked that datum, that 161°F. of adjusted reference temperature is not surveillance data akin to other data. It is simply the prediction of a model and so it does not belong in the results and should not be included in surveillance data analysis. Dr. Kirk remarked Dr. Macdonald was completely correct that if that measurement was valid, that would change the predictions and therefore would change where the regulatory assessment lines, which were shown by curves on a graph displayed by Dr. Kirk, cross the PTS screening criteria. So, Dr. Kirk stated if one did indeed have a high measured value it would change the embrittlement prediction considerably, but Dr. Kirk stated it is not a measured value but rather a prediction and so it does not belong in the analysis. In response to Dr. Peterson's inquiry concerning the basis for the use of uncertainty bounds Dr. Kirk replied Dr. Macdonald was correct to point out that every experimental measurement has uncertainty and the horizontal uncertainty Dr. Macdonald illustrated was plus or minus twenty percent on fluence, which is the NRC value, and the vertical uncertainties that Dr. Macdonald showed were plus or minus one standard deviation on the embrittlement shift value, but Dr. Kirk stated in his original graph he acknowledged that there is uncertainty but he did not include uncertainty bands and the NRC procedures for assessing the allowable remaining lifetime without doing further analysis account for the uncertainty in the measured data.

Dr. Budnitz stated he wonders how the fluence, which he termed the neutron integrated dose, could be as uncertain by as much as plus or minus twenty percent. Dr. Kirk replied dosimetry is definitely not within his expertise, but what he has learned from others who practice in this field is that the plus line is twenty percent and is upper bound dating from regulatory guidance that is now twenty years old and everybody does much better than that now. Dr. Budnitz stated his recollection was the NRC's regulatory guidance states if one does not know the uncertainty very well using twenty percent, plus or minus is acceptable, but if one can defend a tighter uncertainty that is also acceptable. Dr. Kirk stated he believed Dr. Budnitz was correct.

Dr. Kirk stated Dr. Macdonald claimed that Unit 1 has had no reliable reference temperature data since 2003 and therefore that Unit 1 needs more testing of capsules and Dr. Macdonald claims the NRC surveillance requirements make DCPD a five capsule plant. Dr. Kirk confirmed that DCPD withdrew its latest surveillance capsule 2003, however, because of the lead factor what that means is that in 2003 PG&E knew what their forty-plus year fluence was. While the last data was collected in 2003, it gave PG&E a look twenty-plus years into the future. Dr. Kirk remarked consideration of the Palisades data bring up fluences again because of the lead factor inherent to those surveillance capsules provides a measured data point in excess of where DCPD will be after sixty years, if the plant should run for sixty years. Dr. Kirk remarked there may have been some misunderstanding about the requirements for surveillance but DCPD Unit 1 was not a five capsule plant. In its initial forty year license it was a three capsule plant. PG&E has now applied to the NRC for a twenty year license extension and one needs to wait and see what the NRC says, but in Dr. Kirk's opinion the NRC will probably require one more capsule to be withdrawn and tested during the twenty year license extension and that capsule will probably be Capsule B next year.

Dr. Kirk displayed another graph and remarked both Mr. Severance and Dr. Macdonald have suggested that additional capsule testing is urgently needed due to lack of information. Dr. Kirk stated his opinion that additional testing on an urgent basis is not needed for the following reasons. Since 2011, which is when the data from Palisades was incorporated by a Westinghouse report into the pressure temperature limits assessments for DCPD Unit 1, data has been available for fluence above that the Unit 1 pressure vessel experience after sixty years of operation so there is direct evidence regarding the limiting weld of what's going to happen twenty years from now. Those data are well predicted by the existing embrittlement models, both the NRC's model which dates from the 1980s, and also a much more recent assessment of embrittlement trends by ASTM. The data has not shown evidence of unexpected behavior that in Dr. Kirk's opinion would warrant additional attention and there will be additional data from Capsule B which will be withdrawn in 2025, tested after that, and reported to the NRC and to the public by 2027. Dr. Kirk observed that will provide another data point that will influence the overall assessment.

Dr. Kirk commented Dr. Macdonald observed that Unit 1 has performed no ultrasonic testing (UT) since 2005 and Dr. Kirk reported that in 2014 PG&E performed a partial UT of Unit 1. He reported there were some technical difficulties in getting that testing done, therefore PG&E applied for a UT interval extension from ten to twenty years and Dr. Kirk remarked this is not unique to Unit 1, as many plants have had similar extensions approved by the NRC. Mr. Kirk reported PG&E plans for UT testing to happen during the next refueling outage and that is why the reactor core barrel is being removed during 1R25 to provide the inspectors with access to the inner diameter of the vessel. Dr. Kirk pointed out that there is no service evidence of flaw growth in pressurized water reactors (PWR) vessels during service and this is why the NRC is granting UT interval extensions. He commented the ten year interval was established in the 1970s for reasons that it seemed valid at that time and he commented he has been unable to find documentation of why ten years was picked and what subsequent service experience has shown is that as vessels doing ten-year, 20 year and 30 year inspections are basically re-examining a static condition. The initial weld defects are not growing, and this is the technical reason why the NRC has been comfortable with granting these extensions.

In response to Dr. Budnitz' query Dr. Kirk replied that until approximately 2010 every operating nuclear power plant was obligated to do a one hundred percent UT inspection of all the welds in the vessel beltline. So every weld, plus or minus six inches from the weld center line, has been inspected. All of that information is available and over thirty years, three hundred inspections or so were performed and no evidence of flaw growth was found over that time. Dr. Budnitz stated he heard that UT was not a very effective way to look for these types of things over long periods of time because UT does not have sufficient resolution power. Dr. Kirk replied and stated he is not an expert in UT but he can say that the resolution of UT has been continuing to increase over time, such that the UT inspection performed at thirty years is better than UT inspections performed at twenty years and better than those performed at ten years. So in Dr. Kirk's opinion UT can reliably find flaws of engineering size.

Dr. Meshkati asked Dr. Kirk concerning the role of UT in performance monitoring and commented he remembers from Dr. Kirk's reports that Dr. Kirk said UT inspection was effective for identifying flaws in and near the structural weld seams, but not useful for embrittlement monitoring. Dr. Kirk replied that Dr. Meshkati was correct, he stated UT inspection can find initial fabrication defects and it can find if those initial fabrication defects are extending, however, radiation embrittlement involves movement of individual atoms out of place, or causing dislocation pile-ups on impediments to dislocation motion like around a copper precipitant, and causes damage at the atomic scale and UT can't find that and wasn't designed to do so. Dr. Kirk stated in his Report he identified both UT and surveillance testing as part of a reactor pressure vessel integrity surveillance of performance monitoring programs, but they do not monitor the same things. UT is looking for millimeter and greater sized flaws and to see if they are getting larger and that is a fatigue or stress corrosion cracking mechanism. The mechanical property tests that are performed from the surveillance capsules are used for monitoring for embrittlement.

Consultant McWhorter observed and Dr. Kirk agreed that while UT inspection is not a direct measure of embrittlement it is related to pressurized thermal shock in that UT testing would detect flaws that exist and could become a source of initiation or a crack developing and that is a very important contributor to pressurized thermal shock in that you have to have that before that crack will propagate. Dr. Kirk stated in order to have a flaw driving force, one needs a crack to commence. He commented with the standard NRC pressurized thermal shock rule, 10 CFR 50.61, the NRC's viewpoint has been that the size of the flaws that were postulated in setting the embrittlement screening limits were so conservative, were so very much larger than anything that's ever been found in service, that there was no need to check that assumption and that is the screening criteria with which Unit 1 continues to comply. Dr. Kirk observed if DCP Unit 1 or any other PWR elects to use the alternative PTS rule 10 CFR 50.61a, this would require further work in order to provide higher reference temperature limits, then the licensee would be obligated to use ultrasonic inspection to basically characterize the size and number of flaws in the reactor vessel beltline and then compare that to the size and number of flaws that the NRC used in its calculation to set the alternative screen limit.

Dr. Kirk reported Dr. Macdonald has stated that hydrogen induced cracking may affect Unit 1. Dr. Kirk observed that to date there has been no evidence of hydrogen induced cracking in any U.S. or other PWR reactor anywhere in the world. Also, primary circuit chemistry, water

chemistry, is controlled with the express purpose of preventing the condition for hydrogen induced cracking to begin.

In concluding his remarks concerning Dr. Macdonald's work Dr. Kirk reported Dr. Macdonald has suggested that information from ex-Soviet designed reactor seals could provide useful information for Unit 1. However, Dr. Kirk stated those seals are considerably different in their composition and in their embrittlement behavior, and so in Dr. Kirk's opinion that the ex-Soviet data provides no useful information with respect to Unit 1. He reported the international radiation damage community has been working for some time to reconcile the Soviet embrittlement trend data and the western design reactor embrittlement trend data and he reported the underlying physical mechanisms are just different, so it is not useful to combine those two datasets or try to infer from one set of data what's going to happen with the other.

Dr. Kirk stated he would move on in his presentation to address three additional evaluations he performed, together with Dr. Kadak, on three topics. An evaluation was performed of the potential impact of Capsule B results which he described as a sensitivity study re-evaluating of the Upper Shelf Energy evaluation from Part Two of his Report, and an assessment of the impact of some recent NRC plans for rule-making.

Concerning the Capsule B analysis the objective was to postulate what that result might be and seeing what effect it has on the projected remaining lifetime of Unit 1. Dr. Kirk stated the data basically falls into two categories and for this study the value of transition temperature shifts that will be measured at the fluence by future Capsule B testing were assumed in a wide range of values. Using a chart he showed the expected value and the best estimate and if the measured value is within the expected range, the dataset will be deemed credible by Reg. Guide 1.99 Rev 2 assessment methodology which was explained in the Part One of his Report. At that point, Dr. Kirk stated, the forecast of the remaining operating life until the PTS limit is reached goes far beyond sixty years and assuming that the future measurement that will occur next year or next, next year is in this range, the vessel will be forecast to have a life that's acceptable for PTS until far beyond sixty years. If the measurement is outside of that range, and following the NRC's analysis protocol, in that case the Unit 1 the vessel will be forecast to be acceptable for PTS until approximately fifty years. Dr. Kirk stated in that situation, it's up to PG&E to decide what to do next, which might include offering the NRC additional justification as to why they should be allowed to operate longer, for example, using the alternate PTS rule and incorporate inspection evidence. PG&E could do additional fracture toughness measurements and could do a number of other things to justify continued operation. Dr. Kirk observed regardless of the outcome of the Capsule B testing, PG&E has time, to consider what to do next as no emergency of any sort exists. Dr. Kirk agreed with Dr. Peterson's observation that it appears there is no scenarios where data from Capsule B would result in a conclusion that the embrittlement would not be acceptable for the five years of extended operation mandated by SB 846, therefore the only thing that Capsule B data would influence would be a potential State of California decision to further extend the plant's operational life.

Dr. Kirk reported additional work was done to further investigate the finding from the Part Two of his Report that the Upper Shelf Energy may fall below the NRC 68 joules screening criteria in about five years. Dr. Kirk stated what he found was that the unirradiated data samples

from both the Unit 1 samples and those from the Palisades plant were in fact old specimens removed from the exact same weld. One set of specimens was tested associated with the DCPD surveillance program and another set of specimens was tested with respect to the Palisades surveillance program. Those produced an uncertainty in the sample in that they produced two different estimates of Upper Shelf Energy which caused the normalization of the percent drop in Upper Shelf Energy to be different for Unit 1 and for Palisades. He reported when one combines the data, it produced the outcome of falling below the 68 joules screening criteria in about five years. In understanding more about where the unirradiated data came from, Dr. Kirk remarked it is not appropriate to treat those two sample sets as being different, because they are all cut from the same weld and he then combined all the unirradiated data to get a unified estimate of Upper Shelf Energy of 132 joules in the unirradiated condition for both Unit 1 and Palisades and then used that to normalize the percent drop from all the data. This produced a curve which he displayed on a graph which when compared to the NRC's assessment curve through the most limiting point and following the curve out to 68 joules, which is the screening criteria, and the resulting crossing point is far beyond the fluence that will occur even after sixty years. Dr. Kirk observed upon reanalysis, he would likely have revised the statement from the Part Two of his Report and that treating the data in the most appropriate fashion such that all the samples cut from one weld are analyzed together allows the forecast to be that one would not expect the Upper Shelf Energy to Unit 1 forecast to fall below the 68 joules screening criteria until sometime after sixty years of operation.

Dr. Kirk reviewed the third topic of his work since February and observed that both Dr. Meshkati and Mr. Severance have raised questions about the adequacy of NRC embrittlement predictions and performance monitoring which were motivated by a number of reports and presentations that have been made by the NRC staff in the timeframe from 2021 to 2022. Dr. Kirk stated he reviewed the NRC's statements and the relevant documents and he commented there is additional information on the NRC's website. He stated he also wanted to assess what the implication of the NRC's concerns are, not with respect to the nuclear fleet in general, which is the NRC's job, but with respect to Unit 1 in particular. During 2021-2022, the NRC reviewed the accuracy of its Regulatory Guide 1.99 embrittlement prediction model and monitoring needs for long-term operation and the key documents are the technical basis report and also a request for rulemaking. He reported if NRC staff finds a rule or regulatory guide needs modification staff then requests the NRC Commissioners for permission to undertake that effort. Dr. Kirk observed in this request for rulemaking staff outline in very broad terms what it would do if it were given permission. Dr. Kirk remarked NRC staff submitted this rulemaking plan to the Commission to address their technical concerns in March of 2022, however, to date the Commission has not yet voted on that request which has been pending for the last two years.

Dr. Kirk then explained the basis for the NRC's two main concerns and stated he would assess the impact, if any, of those concerns on Unit 1. He reported the NRC made the statement "although the probability of reactor pressure rupture remains generically low, the impact of embrittlement uncertainty on adequate safety margins and combined with insufficient performance monitoring, impact the staff's confidence in RPV integrity and challenge their finding of reasonable assurance of safety for long-term operation. To restore confidence in long-term RPV integrity, regulation and guidance changes are needed to implement use of an accurate embrittlement trend curve and to ensure continued performance monitoring through surveillance

capsule testing.” Dr. Kirk remarked this was a summary paragraph from a sixty or seventy page report so it glosses over a lot of detail. He stated if one reads the paragraph in detail, one comes to a conclusion that the NRC staff has two specific technical concerns underlying what’s written in their rulemaking request. One is non-conservative predictions, meaning the level of embrittlement is under-predicted, made by the embrittlement trend curve and Reg Guide 199 Rev 2 for long-term operation. Under performance monitoring, the staff has stated continued deferrals of capsule withdrawals, and Dr. Kirk confirmed there have been deferrals of capsule withdrawals for Unit 1, can lead to insufficient information to support structural integrity and licensing decisions. Dr. Kirk commented both of these concerns, at least at a high level, seem to have relevance to Unit 1. He displayed several slides with information giving more detail on the NRC’s prediction of transition temperature shift and the measured value and observed if the NRC’s equation is accurate as a function of fluence for both base metals and welds then the majority of the data, ninety-five percent, should fall within the plus or minus two standard deviation tolerance bounds. He remarked that for welds, more or less, the data does this. For base metal, which he pointed out have a large amount of data at higher fluences, there is a downward trend seen where the predicted formula that the NRC requires for use shows non-conservative predictions which he stated is of concern to the NRC. He commented where fluence data starts to become non-conservative there is no hard line here, it’s a judgment, somewhere between 3×10^{-19} and 6×10^{-19} .

Dr. Kirk stated he wanted to point out an important point in that in his Report it was stated that after sixty years of operation Unit 1 will reach only 2×10^{-19} and so while the NRC needs to update its embrittlement trend curve, because the NRC staff is concerned not just with Diablo Canyon Unit 1, but with other plants with higher fluences and with different chemical composition. Of interest for Unit 1 is how the current version of Reg Guide 1.99 is applied to the fluences of concern.

Dr. Peterson remarked he understands why there is data showing large numbers because surveillance capsules are in location where they get, receive larger doses, so they are accelerated at the time and he asked which reactors have gotten to this dose, Dr. Kirk replied in the United States, taking DCPD as an example, for Unit 1 it was known basically from start-up that Unit 1 was going to be a high embrittlement plant, because the pressure vessel had high copper content and accordingly Unit 1 included a flux reduction program to basically shield the welds from getting too much fluence and so they took proactive measures to limit their amount of fluence. Other reactors with lower copper content did not take such early preventative measures and also other PWR reactor’s designs are different and to Dr. Peterson’s comment, Dr. Kirk responded those higher fluences will only be seen in the United States during the end of first license renewal or second license renewal and he commented this is why the NRC staff has said in its rulemaking request to the Commission that technically this is something that’s very important to address but Dr. Kirk remarked there is time to do this.

Dr. Kirk displayed a graph showing data on welds which he commented is the material of concern at Unit 1, the so-called limiting material, and he stated he limited the data on the graph to higher copper welds greater than .07. He stated he did not find it surprising that Reg. Guide 1.99 Rev 2 does not work very well as one gets to higher fluences and it also does not work very well for low copper material, as high fluence data and data on low copper plants was not in the

calibration dataset when Reg Guide 1.00 Rev 2 was developed in 1987 and this requires what he termed a physically inspired empirical fit. He observed Unit 1 has mediated its fluence because PG&E knew high fluence would not be recommended for a high copper weld. He remarked what is seen on the graph is the residual or error plot versus fluence and he stated the graph shows all the high copper welds in the ASTM database but Dr. Kirk highlighted the weld 27204 data points. He reported the graph shows all of the three Diablo Canyon points and the two Palisades data points are very near to a prediction residual of zero which is why he said he made his earlier statement that if one wanted to pick a material that says Reg. Guide 1.99 Rev 2 is doing a really good job it would be the Diablo Canyon Unit 1 material. Dr. Kirk stated in his engineering judgment Reg. Guide 1.99 Rev 2 for technical reasons at some point needs to be updated, but that update will not really affect Diablo Canyon Unit 1 for reasons particular to its operation.

Dr. Kirk reported on another area of NRC concern, and again stated that at a very high level this sounds similar to what's been going on with DCP Unit 1, which is the repeated deferral of surveillance capsule withdrawal. Capsule B which was originally scheduled for withdrawal sometime in the mid-2000s and its withdrawal has been deferred several times for reasons that the NRC allowed. He reported PG&E now plans that it will be withdrawn in 2025 during refueling outage 1R25. Dr. Kirk confirmed that Capsule B must be withdrawn by 2028 to be compliant with NRC guidelines. He observed the NRC's requirements for surveillance capsules currently permits repeated deferrals of capsule withdrawals for plants seeking license renewal in order to obtain data for subsequent renewal periods up to eighty years using the limited amount of capsules that remain in the reactor vessel. Dr Kirk remarked for some plants that will allow operation after reactor pressure vessel fluence exceeds that of available surveillance data. Dr. Kirk reported there is a wide range of lead factors in surveillance capsules in the U.S. operating reactors. For Diablo Canyon the lead factors are three to three and a half. For some plants the lead factors are just a little bit above one or two. So if one has a low lead factor plant and there is only one capsule left and that capsule is being saved to fulfill the requirement for getting data at eighty years, those plants will need to wait for a long period and those will be the plants that are in the situation of their current operating fluence in the vessel exceeding their highest surveillance data. Dr. Kirk observed this is a problem which NRC staff have pointed out but it is not a problem for Unit 1. Even though DCP Unit 1 has had successive deferrals of the withdrawal of Capsule B, Unit 1 is well monitored to and beyond its sixty year fluence.

In response to Consultant McWhorter's observation Dr. Kirk agreed that where the NRC talks about adequacy of performance monitoring, which is not a criticism of the entire program, it is a criticism of how the program applies to a specific plant. Dr. Kirk further observed the NRC needs to decide how it wants to fix its requirements and Dr. Kirk stated he could not speculate as to whether the NRC will eventually decide on a targeted approach to address the problem only for certain plants or decides on a more wholesale change.

Dr. Kirk stated that it is important from both an engineering and a safety point of view to understand that since 2011 DCP Unit 1 has known about both Palisades data points. Both of those Palisades data points get DCP Unit 1 to a fluence above their sixty year fluence. So since 2011 DCP Unit 1 has had data forecasting thirty years in the future and Dr. Kirk reported data from Capsule B will extend that even further when it becomes available, well beyond eighty years of operation.

So while the NRC has stated that it needs to further enhance its requirements in general, the staff's concerns about adequate performance monitoring is not pertinent to DCP Unit 1.

In response to Dr. Meshkati's question concerning how ASTM and the ASME consensus code compared to NRC regulations, Dr. Kirk explained the NRC sets the legal requirements for operation. In some cases the NRC establishes requirements completely on its own. In other cases, the NRC adopts as their own and incorporates into law requirements that have been established by either the American Society of Mechanical Engineers (ASME) or the American Society Testing Material (ASTM) and pertinent to reactor vessel integrity that happens in two instances. The NRC has endorsed ASME Section 3 and Section 11 as the guidelines for how nuclear plants are designed and nuclear plants operate. Dr. Kirk observed that is not to say the NRC has endorsed each and every section. In some cases they haven't endorsed some sections. In some cases the endorsement is provisional. He remarked a running history of this issue is provided in 10 CFR 50.55a, but pertinent to reactor vessel integrity the NRC has endorsed ASME Section 11 Appendix G, which informs plants on how to calculate heat-up and cooldown. He reported the NRC has also endorsed ASTM E 185, 1982 or earlier versions if that is a plant's licensing basis, as the requirement for surveillance and that requirement is provided in 10 CFR 50, Appendix H.

Dr. Meshkati stated he remembered a seminar, article or a chapter in a book about the evolution of ASTM practice from E 185 to E 2215 and he inquired if Dr. Kirk expects these ASTM standards or consensus standards to be revised, improved or updated in the near future. Dr. Kirk responded and stated he serves on the ASTM committee that oversees both of those standards and ASTM employs a continuous improvement process that requires its standards be evaluated for their current application and updated if needed every five years and he expects that E 185 or E 2215 to be revised in the future. Dr. Kirk stated he believes it is apparent from the document with the long history of E 185 he sent to Dr. Meshkati that the changes now are very minimal. He remarked the things that he expects to be new in the coming decade for surveillance concern the surveillance requirements of E 185 being tuned and refined based on the current generation of light water reactors that are operating in the United States. Dr. Kirk commented as the industry moves on to different light water reactor concepts, like small modular reactors and non-light water reactor concepts, he commented he is sure what one will see coming out of ASTM is either new standards focused on the challenges presented by those different new reactor designs or perhaps appendices to E 185 and E 2215 to address those new reactor designs.

In response to Dr. Peterson's request Dr. Kirk summarized the conclusions from his Report and stated the first conclusion is the Unit 1 reactor pressure vessel complies with the NRC's embrittlement screening criteria through sixty years of operation. He reported there are then six more conclusions, and the short statement of that is that adequate data is now available to forecast Unit 1 embrittlement without resort to extrapolation. Data from Capsule B will provide additional information when it becomes available. The possible outcomes, as he just reviewed, is if the Capsule B data are found credible by the NRC's criteria, Unit 1 will continue to comply with the NRC PTS requirements until past eighty years. If the dataset is not credible, then Unit 1 will need to perform additional analysis to justify further operation past fifty years, should PG&E wish to do so. Also, the past supplement Upper Shelf Energy analysis was revised based on the better understanding and more appropriate understanding of the data, and that

analysis shows that the Upper Shelf Energy forecast for Unit 1 is acceptable to beyond sixty years of operation. So then the principal summary statement is that Unit 1 is safe to operate from an embrittlement perspective for the next twenty years.

Dr. Kadak then thanked Dr. Kirk for making the time to make his presentation remotely from Japan.

XV PUBLIC COMMENTS AND COMMUNICATIONS

The Chair then opened the floor for comments and questions related to Dr. Kirks' report from members of the public and he confirmed the Committee will provide some extra time for Mr. Severance for his questions and comments.

Mr. Bruce Severance was recognized. Mr. Severance stated the problem he has with the 2011 Westinghouse report is that the report comes to conclusions that are anomalous and contradictory to prior NRC research. He commented even though Dr. Kirk finds that the procedures are correct, and this may be in fact the case, the mathematical results themselves are anomalous. He observed in his view the Committee has focused on all the positives and has not looked at the negatives. Mr. Severance commented the 1987 NRC report that Dr. Kirk has mentioned which compared the Revision One's mathematical model to the Revision Two mathematical model clearly concluded that Unit 1 was more affected compared to every other RPV in the country because of the high copper and nickel impurities in the welds. He stated there were four different plants that had an underprediction of embrittlement by fifty to sixty-eight degrees RT_{PTS} value and PG&E was sixty-eight degrees.

Mr. Severance stated the Revision One projections for which PG&E ran numbers as requested, he commented all plants in the United States were requested to respond to a generic letter issued by the NRC in 1986/1987, and came to the conclusion that Unit 1 had an RT_{PTS} value of 217° Fahrenheit (F), and NRC said DCP Unit 1 had eighty-two years of operating time based on that. Then Mr. Severance said the NRC came to PG&E and said "We're really sorry. Your plant is most affected by the embrittlement issue, and you only have forty years of operating time, and the RT_{PTS} projected to end-of-life is going to be 270°F., not 217°F." Since then Mr. Severance stated PG&E has engaged in flux reduction strategies and issued a new report in 1992 suggesting RT_{PTS} was 258°F. In 2006 that was revised to approximately 259°F., with the NRC confirming the calculations and Mr. Severance stated that by November 2024 Unit 1 is supposed to be at 259°F. So if one looks at the range between 270°F. and minus 56°F. degrees for the unirradiated material, that's a 326°F. degree range and there is 11°F. of runway left, which is three percent based on that data alone.

Mr. Severance observed the sum of squares²² procedure, if it's done correctly, takes one back to 214°F., even lower than the 1986 calculations which the NRC said were the worst

²² To calculate the "sum of squares," you first find the mean of a set of data points, then subtract the mean from each data point, square each of those differences, and finally add up all the squared differences together; essentially, it measures the total variation of data points around the mean by summing the squared deviations from the mean.

underprediction in the country. He reported there is a graph on page 56 of that paper which shows there is a seven-fold underprediction of pressurized thermal shock based on that model and he questions how it could be possible that DCPD is going back to a number that is lower than the 1986 number that the NRC confirmed was seven times an underprediction, compared to Revision One. Mr. Severance remarked he needs a reasonable explanation as to why that no longer matters and he has not received one to this day and he remains concerned. He remarked as a person who lives here and owns a home he does not understand why we're playing the game of financial risk to the State of California for one, and financial risk to the entire economy of this County. He remarked if something bad happens it would be a bad day and \$50 billion worth of real estate would be lost as well as the entire grape industry and all the agriculture. Mr. Severance observed this is too big a risk to take a chance on based on anomalous results just because someone says the sum of squares is an okay procedure, which he stated he does not believe. He observed even if it is in accordance with NRC rules, the NRC itself, it one looks at Wickman 95, Wickman even questions the underpredictions that he was starting to see in 1995. He [Wickman ?] was assessing that there would be need to improvement of Revision Two in a timely manner because of those underpredictions.

Mr. Severance commented Dr. Kirk has stated repeatedly in his report and in response to many of Mr. Severance's comments that because it says "shall consider" in 10 CFR 50.61(c)(2) that one is required to use this sister plant data. Mr. Severance stated he has never said sister plant data cannot be used and he remarked sister plant data can reduce uncertainties and in any case where it reduces uncertainties it should be used. But he remarked consideration of all the data, not just sister plant data, is not a mandate to perform the sum of squares procedure, 10 CFR 50.61 equation 5, that allows this reduction from 259°F. down to 214°F.

He stated the last thing he is going to say is we should be looking at all the data and all the reports that pertain to whether or not the sum of squares procedure is appropriate under these circumstances. He reported he has read the capsule reports several times and they contain terminology that is quite ambiguous. He remarked he made an error because in the summaries where transition temperature is given he assumed that these were RT_{PTS} values but the RT_{PTS} values are not stated in any of the three reports and he questioned why that is not required? He reported in 1986 PG&E was required to submit a calculation of RT_{PTS} at end of license and was required to update that calculation in 1992 and 2006. He questioned why this data is it not in the capsule reports which only contain adjusted RT_{NDT} values. He commented there is vague reference to transition temperature, but RT_{PTS} is not stated although it is given in the 2011 Westinghouse report. Mr. Severance stated he wanted to understand and to see the math to know what the conclusions were of those three reports and why that data isn't there. He remarked this data is shown on graphs but he does not find it in the reports and he stated that is a problem and an anomaly for him as the whole point of that report is to estimate embrittlement at end of life and Mr. Severance remarked most people read it the same way as he did, thinking that the references to transition temperatures meant one thing. He commented he suspected the numbers were off and now he realizes they were really just giving the measured values for the transition temperature. He remarked when he started putting it into the equation, which is when he realized he has been misunderstanding these reports all along and they don't state the RT_{PTS} at end-of-life. He closed his remarks by stating he would appreciate answers to his questions.

Ms. Marilyn Brown was recognized Ms. Brown stated she and her family have lived in San Luis Obispo County since 1972 and she has had concerns about the safety of having a nuclear generating plant located nearby her town. She stated her concern was heightened during and after the Fukushima disaster. As a lay person she observed it is difficult to decide between nuclear experts on safety facts as she reads and try to understand the reports made by Drs. Kirk, Macdonald and Bird. She stated she found Dr. Kirk's position on DCP Unit 1 which she described as "It [DCPP Unit 1] is no different than any other early constructed plant." She commented Dr. Kirk has misses the important fact that according to the NRC 1987 study she referred to, it is claimed that Unit 1 "is the most embrittled reactor in the U.S. fleet." In 2022 Ms. Brown remarked the NRC stated Unit 1 embrittlement was understated. She asked in addition to aging weld impurities and multiple adjacent seismic faults and the possible need to quickly shut down the reactor, when was the last ultrasonic or surveillance testing done and she stated it was her understanding this was twenty years ago and if that was the case it is long overdue. She inquired when persons live in Diablo Canyon's evacuation zone can be assured that the requisite testing has been done and the public notice has been given. She commented on the ballooning cost she and other taxpayers will be paying for years to keep the plant operating when alternatives are at hand. She again commented as a layperson it is difficult to decide between the experts, between Drs. Kirk, Macdonald and Bird, because she stated she does not understand a lot of what they've said and she wants the Committee to explain to her what she does not understand. She then thanked the Committee.

Ms. Sherry Lewis from Mothers for Peace was recognized Ms. Lewis commented she spent many hours trying to read and understand the various reports including Mr. Severance's reports and she has questions. One question concerns what is shelf energy and regarding the other she stated it is her understanding that the reason there are coupons or capsules, which are in long pipes filled with samples of the metal that the vessel is made of including the welds, is that over time the capsules are taken out and various pieces of metal are checked to see how embrittled they are and not just how embrittled but how much longer will they survive or will work in the plant. She explained when they are placed in areas where there is more fluence, one can then predict further into the future She inquired how can these capsules be removed and not used and she observed Capsule B has not been used and how can the material inside Capsule B be measured if it is not taken out and checked and she asked isn't that what must be done. She observed Dr. Kirk is convinced that Capsule B predicts that the plant will survive safely for sixty years but how can he know because of something that happened many years ago. Ms. Lewis commented she suspects that a reason for not having withdrawn Capsule B is that PG&E already knows that the result will not be good. She remarked it has not been checked it for twenty years, so it might well be that it's a bad number and PG&E does not want to shut the plant down. She observed Dr. Kirk accepts whatever the NRC regulations are and he says the regulations imply that everything is safe, but he admits that there are a lot of changes that need to be made. Ms. Lewis stated that means there's something wrong with the regulations and until the regulations are changed they don't fit the reality. She questioned why Dr. Kirk is sanguine that the regulations work when he knows they are going to be changing them to make them a little more careful. Ms. Lewis commented she is suspicious of all this and she does not believe the plant is safe for another twenty years.

Dr. Kadak responded and observed that Dr. Kirk did not say he knew the results from testing Capsule B. Dr. Kirk reported he did a sensitivity study to see what possible outcomes there were when it is tested, what they could be in terms of embrittlement. But that Capsule B would demonstrate the equivalent of over eighty years of fluence.

Ms. Linda Seeley of Mothers for Peace was recognized. Ms. Seeley observed Dr. Kirk said that Capsule B will be required to be removed by 2028 for extended operation. She remarked that as far as she is aware extended operation of DCPD begins on November 3, 2024, as the operating license [for Unit 1] expires on November 2, 2024. She then asked how it can be that four years after the license expires is a proper time to look at that capsule. She stated she understands PG&E is planning to remove Capsule B if they can in Spring of 2025 which is already beyond the license term. Ms. Seeley observed the public is supposed to just trust that everything is absolutely fine at Diablo Canyon for four years after the expiration of the license. Ms. Seeley stated the proper action for the DCISC would be to recommend shutting the plant down on November 2nd, 2024, in two weeks, and then do the testing that's needed and if it turns out that everything is okay then possibly consider starting it up again.

Mr. Aaron Pierce was recognized. Mr. Pierce stated he is a Professor of Mathematics at Cal Poly, although he was not speaking as a representative of Cal Poly but as an individual. He stated he is also director of the Initiative for Climate Leadership and Resilience at Cal Poly. He remarked in his understanding the reduction in projected values from $RT_{PTS} 251^{\circ}F.$ down to $214^{\circ}F.$ arises from using a larger set of data, including two sets of data from the Palisades plant on the theory that more data reduces uncertainties by using an allowed sum of squares procedure. He remarked this would be a correct assumption on the basis that the samples that one is drawing from are truly random. However, he commented the NRC has reported that DCPD is more strongly affected by the embrittlement issue than any other RPD in the U.S. including Palisades. He stated he understands that the incorporation of sister plant data is in accordance with NRC procedure but the existence of this recognized embrittlement issue means that including such data through the sum of squares systematically biases one's data as it is known not to be random. He stated as such it casts serious doubt on the integrity of the results and makes any decision on these results appear to be premature and ill-advised. Professor Pierce strongly encouraged the DCISC to pursue further testing along the lines of what was mentioned by the previous commenter to provide grounded truth before recommending perhaps another twenty years of further operation based on what appears to be a shaky statistical procedure.

Dr. Gene Nelson of Californians for Green Nuclear Power was recognized. Dr. Nelson commented he finds it very troubling and it is his impression that the people that are doctrinairely opposed to the continued operation of the plant choose to fail to understand basic mathematical concepts that the Committee is well aware of. Namely one starts with the premise that samples are over-irradiated and from that you can determine useful life of a reactor pressure vessel based on those simple mathematical operations. Dr. Nelson stated some people think if it is repeated that this is not right, that somehow or another that is going to convince the DCISC that they're right and plant advocates are wrong. He stated he finds this troubling because it's basically saying ignorance triumphs and that is the problem here. He observed, in other words, if people are not willing to learn the physics and the mathematics and then they say there is

something wrong, they are not presenting anything that makes sense from a scientific or engineering perspective and unfortunately this has happened frequently.

Ms. Linda Parks was recognized. Ms. Parks stated she was with Mothers for Peace and supports their positions. She distributed a report that showed that in 2013 DCP Unit 1 was considered one of the most embrittled plants in the nation.²³ She commented State Senator Laird who helped usher in SB 846 and Senator Laird has stated in a letter to the San Luis Obispo County Board of Supervisors, in which she stated Senator Laird opposed extending the license to twenty years, that the major provisions of SB 846 include required seismic and other safety review processes so that the continued safety of workers and surrounding residents would be considered in the extension of the operation of an aging facility. Ms. Parks observed the safety analysis will not be completed until the embrittlement of Unit 1 can be tested, and yet PG&E's postponement of the Capsule B testing and similar postponement of ultrasonic imaging is tantamount to flying blind. She commented Unit 1 has been known from all prior reports and assessments to be severely embrittled, yet surveillance testing that has not been performed since 2003 and ultrasonic inspections have not been performed until 2005. Ms. Parks observed when PG&E was required to do that testing they said that they tried to retrieve Capsule B, but the reactor core barrel blocked access and the access plug to the capsule did not operate as intended and the tool would not engage in that location. She stated that gives her a lot of concern. Ms. Parks remarked the NRC itself has reported that by not testing it gives them a lack of confidence, and she stated the NRC report concluded specifically that in regard to operator delays on capsule testing, which delays capsule withdrawal for an extended period with the possibility of no future data, represents a lack of performance monitoring. The embrittlement issue will eventually, after about ten years, impact the staff confidence in the integrity of the reactor pressure vessel in long-term operation, i.e., both safety margins and performance monitoring may be impacted. Ms. Parks remarked it's been seventeen years and one cannot do it by testing other plants because as we've heard, Diablo Unit 1 has welds with copper and nickel impurities. She stated her belief that there is potential for catastrophic results, according to Mr. Severance, from underestimating and underpredicting what could happen. She stated the public needs to know, the NRC needs to know, PG&E needs to know and you cannot extrapolate the determinate, you need to actually do the test.

Ms. Carol Hisasue was recognized. She stated she was speaking as a local resident who lives within ten miles of Diablo Canyon. She observed whether she understands the math or not, she can see that Dr. Macdonald's and Dr. Kirk's studies come to vastly different conclusions. One concludes that Unit 1 needs to be shut down now, while the other concludes that everything is "hunky-dory" now and for many, many more years. She observed there is a big discrepancy between the two studies and with this kind of uncertainty, and in a situation where highly radioactive materials are being used and could be released, would it not be the prudent decision to error on the side of caution and safety? She commented if Dr. Kirk is wrong and you continue to operate Unit 1 and if there is a kind of event like an earthquake that required immediate shutdown the thermal shock would damage the reactor pressure vessel causing a catastrophic

²³ NRC Letter – April 18, 2013 "Summary of the March 19, 2013, Public Meeting Webinar Regarding Palisades Nuclear Plant.

radioactive release and a disaster like that would not only make the San Bruno accident pale in comparison, but the effects would last for generations. She commented if Dr. Macdonald is wrong PG&E would lose money from not being able to operate Unit 1 until it can be properly tested, something that's been postponed time and time again and monetarily this loss also pales in comparison to what the cost of a nuclear disaster would be. Ms. Hisasue remarked the common narrative of the Fukushima disaster is that it was the tsunami inundation of the back-up generators that led to meltdown, but Ms. Hisasue stated the truth is that it was complacency and that the disaster was completely preventable, as in February 2011, about a month before the huge earthquake and tsunami, the Japanese Nuclear Regulatory Agency extended the operating license of Fukushima Daiichi, despite expressing reservations about a dubious maintenance record and concerns about stress cracks in the back-up diesel generators that left them vulnerable to inundation. She remarked if TEPCO had not brushed away the possibility that two back-up generators would fail simultaneously and if there were more robust inspections, transparency and accountability, all things necessary for healthy safety culture, the triple meltdown catastrophe that's still ongoing would not have happened. She observed there were other nuclear plants along the same coast even closer to the epicenter that survived the same earthquake and tsunami. Ms. Hisasue asked the Committee to please shut down Unit 1 until the structural integrity of its pressure vessel, not just the welds, but the entire vessel can be assured. She remarked it is not just in the interest of people like her who live here, but it's in the interest of the employees and the shareholders of PG&E.

Ms. Jane Swanson was recognized and identified herself as one of several spokespersons for San Luis Obispo Mothers for Peace. She observed the question before us regarding the safety of Unit 1 pressure vessel is who has the burden of proof. From reading and hearing the testimonies of Dr. Macdonald and Dr. Kirk, plus observing the responses of the Committee, it appears to her as a layperson that the Committee is placing the burden of proof on Dr. Macdonald to prove that the embrittlement of the pressure vessel does not meet safety standards. But given both the precautionary principal and the truly catastrophic consequences should the pressure vessel fail it seems to her that the burden of proof belongs to PG&E to prove beyond a reasonable doubt that the pressure vessel is sound. This has not been done and others have made the case about the need for accurate testing. She stated she was quoting from Dr. Macdonald and stated unless and until the NRC establishes that the Unit 1 pressure vessel can operate with a reasonable degree of safety, it has no basis to permit continued operation in a license renewal term. Ms. Swanson stated that she wanted to clarify that Dr. Macdonald, while serving as an expert witness for San Luis Obispo Mothers for Peace, is not anti-nuclear. She stated she is anti-nuclear but Dr. Macdonald is not and to the contrary Dr. Macdonald has taught nuclear engineering at U.C. Berkeley for many decades. But, Ms. Swanson commented, his expert opinion, as someone who approves of nuclear, is that Unit 1 at Diablo does not meet safety standards. Ms. Swanson remarked Dr. Kirk disagrees with Dr. Macdonald on what data and what graphs are applicable in evaluating the pressure vessel and he reaches different conclusions. Ms. Swanson commented she understands that scientific uncertainty is a given but in this case the stakes are far too high to impose continued operation of those living downwind from the reactor. A population that, depending on the weather conditions at the time of a radiation release, would certainly extend far beyond Diablo Canyon and far beyond San Luis Obispo County, and very possibly affect neighboring states. Ms. Swanson observed her last few sentences echo what Ms. Hisasue just said so very well. She called upon the Committee to show its independence and to

show its priority for safety. She remarked the DCISC is an independent safety committee and she would like to see it act accordingly and not endorse continued operation of this unacceptable reactor.

Ms. Diane Curran was recognized. Ms. Curran stated she is an attorney representing San Luis Obispo Mothers for Peace and she has worked closely with Dr. Macdonald on his declaration to the NRC in support of a hearing request on the latest extension to the surveillance program for Diablo Canyon, and she has spoken to him recently. Ms. Curran reported Dr. Macdonald is now in a shelter in Florida during Hurricane Milton or she believes he would be on line tonight. Ms. Curran stated one of the last things Dr. Macdonald said to her was they don't have the data. She commented she was shocked to hear Dr. Kirk say that the issue is well covered in terms of surveillance data and she commented Mothers for Peace profoundly disagree. She observed the last time that PG&E removed a surveillance capsule from Unit 1 was in 2003, more than twenty years ago and the data from that capsule was declared by PG&E to be not credible and that was when PG&E started taking data from Palisades, which she described as is a questionable comparable. She stated it is important to recognize that Dr. Macdonald is not anti-nuclear, but with all his many years of experience in nuclear reactor materials and corrosion chemistry Dr. Macdonald is of the firm opinion that this reactor should not be allowed to operate until PG&E gets the data that they've been putting off for twenty years. Ms. Curran stated she wanted to also mention the legal issue of why it is that so few capsules have been taken from Unit 1 and that removal of Capsule B was planned at a time after the expiration date of the Unit 1 operating license. She reported in 2006 PG&E applied to NRC for a three year extension of its operating license to recover the time that PG&E tested Unit 1 at full power and in exchange the NRC technical staff asked PG&E to upgrade the Unit 1 surveillance program from three capsules to five capsules and PG&E agreed to this in order to get that three year extension on its current operating license. Then sometime in 2008-2009, when PG&E decided that it was going to go ahead with license renewal, PG&E began maintaining that it was a three capsule program and that Capsule B was only relevant to the license renewal term and could be taken out at any time after the forty year operating term or later and the NRC went along with this. She commented Mothers for Peace is challenging in federal court what she described as a shell game has briefed the issues and will be having an oral argument in early November 2024. Ms. Curran acknowledged that it is always difficult to win at the Court of Appeals, but she believes whether Mothers for Peace prevails or not it is easily discerned from the factual record that PG&E has been delaying withdrawing Capsule B and has even taken advantage of a license amendment in which it promised to withdraw Capsule B by 2009. Ms. Curran urged the Committee to make sure it gets this data before allowing Unit 1 to continue operating.

Dr. Peterson commented this has been probably one of the most extensive sets of public comments that the Committee has the opportunity to receive. He observed this is an extraordinarily important set of topics and the Committee's next step will be for its Members and Consultants to provide responses or additional information relevant to questions that were asked, following which there will be a vote on including Dr. Kirk's Report and the exchanges of information received by the Committee in the 34th Annual Report. He reported there is an item on the agenda for the following day for the Committee to discuss all of elements of the Annual Report the draft of which has multiple recommendations.

Dr. Kadak displayed a graphic from Dr. Kirk's presentation which he stated shows the adequacy of the data to be obtained from Capsule B obtained through sixty years of operation for this plant. Dr. Kadak reported that in the sensitivity study Dr. Kirk performed for Capsule B's removal one cannot know whether the results will be credible or not credible relative to what NRC describes as credible. If the data is credible, namely it fits the expected curve, the plant is good for over eighty years. If it's not credible Dr. Kirk concludes the plant probably needs to do additional analysis after fifty years. Dr. Kadak observed the data is there to make a very clear case for acceptable performance out to sixty years, but we have a datapoint that's beyond, actually beyond forty and beyond sixty that will allow for continued operation and he stated that is a critical point and what happened in 1987 or 2011 is not relevant in terms of available data to make a prediction.

Assistant Legal Counsel Rathie requested that members of audience maintain respectful decorum and abide by the rules as stated earlier in this public meeting. He commented after the June 2024 public meeting the Committee was criticized for being unfair to both supporters and opponents of extended operations and must in all instances enforce its rules fairly and equitably.

Dr. Kirk observed the concept of credibility as used by the NRC in context of data on reactor vessel embrittlement is explained in his Report. Dr. Kirk remarked the key point that seems difficult for people to accept is that because of the way the capsules are designed, even tests made twenty years ago are pertinent far into the future. Dr. Kirk stated he wanted to respond to a comment Mr. Severance made at the beginning of the public comment period that the 2011 forecast from the Westinghouse Report is somehow anomalous in his point of view because of the statements made in the 1987 NRC Report that compared Reg Guide 1.99 Rev 1 with Reg Guide 1.99 Rev 2. Dr. Kirk commended Mr. Severance for his ability to digest a lot of information which is important but Dr. Kirk observed it is important to recognize that the statements by the NRC in 1987 were comparing the predictions of the Revision One formula to the predictions of the Revision Two formula for the chemical content and operating temperature of Unit 1 and within that context, what Mr. Severance said is completely correct - that the Revision Two formula predicted a far higher of embrittlement for Unit 1 and therefore a far shorter lifetime before it passed the PTS screening criteria. He remarked that is all absolutely correct. However, if when one goes to 2011, what's different is that now there is data that is shown on the graphic Dr. Kadak displayed. Dr. Kirk reported when you have data from surveillance capsules, the NRC allows you to essentially adjust the NRC's prediction formula to go through the mean of the data and then you use the mean plus two sigma upper bound to account for uncertainty on those data. Dr. Kirk reported what has been found after thirty years of testing of Unit 1 is that the prediction, without the insight of measured plant-specific data for Unit 1, made by the Revision Two formula did indeed predict a more severe situation which PG&E has been living with ever since. But as DCPD collected data, it was found that the Revision Two formula was actually a little bit too pessimistic and when the data is used to adjust the formula, as he showed, one gets to the predictions we have today. Dr. Kirk commented he does not believe it is correct to call a 2011 prediction, based on a predictive formula as adjusted to data, anomalous with respect to a 1987 comparison of just two formulas.

Dr. Kirk observed with respect to Mr. Severance's comment about no RT_{PTS} values in surveillance reports that he would also like to see that data in the reports, but that is not the

purpose of a surveillance report which just reports the data and the PTS assessment is done in a separate report.

Dr. Peterson observed there is also a proposed recommendation in the 34th Annual Report that PG&E should remove Capsule B during outage 1R25, and he urged DCCP to make sure that happens. He stated based on the analysis from Dr. Kirk the data from Capsule B would not affect the five year extension mandated by Senate Bill 846, but it would provide information that could be relevant to any decision to potentially further extend the operating license.

The Chair thanked everybody for being polite at this meeting and commented the Committee did have a bad experience at its last public meeting and has found that its usual level of informality for public comments does not work well for these types of issues which are complex and involve significant issues that relate to the safety of the plant. In fact, Dr. Peterson remarked informal discussions can create problems in a public forum because at a certain point it becomes unfair to all participants and so when the Committee does consider these more difficult and controversial issues which are complex and quite important, it is forced to use a more conventional set of rules about public engagement and public comment.

Dr. Peterson then explained the nature of the vote the Committee will be asked to make this evening which will be to consider directing that Dr. Kirk's Report now be included in the 34th Annual Report with the subsequent questions concerning specific conclusions and recommendations associated with the Dr. Kirk's Report to be taken up the following day along with other topics in context of its consideration of approval and adoption of the DCISC's 34th Annual Report.

Mr. Rathie explained concerning the considerable record that has been made in this matter, the Committee accepted Dr. Kirk's Report into the Committee's record in this matter at its February 2024 public meeting. In response to Dr. Meshkati's inquiry Mr. Rathie gave his opinion that the operative effect of accepting and receiving is the same. Consultant McWhorter remarked that the nature of the action pending this evening leaves open the question of whether to modify any of the conclusions or recommendation from the Executive Summary as included in the version with the agenda packet which was made available prior to the public meeting.

On a motion made by Dr. Budnitz, seconded by Dr. Meshkati, the Committee unanimously approved the inclusion of Dr. Kirk's two part Report in the Committee's 34th Annual Report.

Dr. Meshkati then thanked Dr. Kirk for his two volume report which was written before Dr. Meshkati joined the Committee. Dr. Meshkati stated when he joined the DCISC on July 1, 2024, he asked some specific questions about page 31 from an NRC final report dated March 8, 2022 that Mr. Severance also referred to concerning the impact of embrittlement on reactor pressure vessel integrity from a risk informed perspective. Dr. Meshkati remarked he asked some questions of Dr. Kirk and Dr. Kadak based on that report and they graciously responded to him and their response is now available on the DCISC website. Dr. Meshkati stated after a Zoom meeting with the Committee's consultants he asked for some follow-up information which Dr. Kirk graciously provided. Dr. Meshkati stated he would like to thank Dr. Kirk who will not be

present tomorrow and Dr. Meshkati remarked that it doesn't mean that if Dr. Kirk is not present and his report does not get "accepted" that Dr. Kirk has not done a great job. Dr. Meshkati observed Dr. Kirk did a great job and he thanked him for providing what he described as a fantastic response to his questions. Dr. Meshkati remarked he still has some further questions about the consensus and other codes and the NRC.

Dr. Peterson observed at this point the Committee has concluded the business for the day and will be reconvening this public meeting tomorrow at 9:00 a.m. He thanked the members of the public and apologized for the need for us to hold very firm to the time limits and the restrictions on ability to provide public input. He remarked that has been an uncommon practice for the Committee, but given the experience at the last public meeting where there were clear problems around the fairness of the process that the Committee was using and introducing that formality in this case was necessary.

XVI ADJOURN EVENING MEETING

The Chair adjourned the evening session of the DCISC at 7:33 p.m.

XVII RECONVENE FOR MORNING MEETING

The morning meeting of the DCISC, the second day of the 109th public meeting was convened by the DCISC Chair Dr. Per F. Peterson at 9:00 a.m.

XVIII COMMITTEE MEMBER COMMENTS

Dr. Meshkati wished everyone a good morning and remarked that yesterday was his first day on the Committee during a public meeting and he thanked those in the audience for their contributions and input, both in person and by email.

Dr. Peterson requested Assistant Counsel Rathie to review the protocol for those present in person and online to address remarks to the Committee. Mr. Rathie reviewed the following, which were previously discussed at the beginning of the meeting yesterday:

- Speakers should come to the podium and identify themselves;
- Speakers will be recognized by the Chair in order, first from among those present in the room and then among those attending virtually;
- Remarks will be limited to four minutes, but this may be varied for each session;
- Comments from public officials may be taken before those of members of the general public;
- Speakers may not cede their time to other speakers;
- Groups may be asked to appoint a spokesperson;
- Each speaker may only address the Committee once under either the time for items not on the agenda or when a matter listed on the agenda is heard;
- The DCISC Chair reserves the right to stop any speaker if he or she believes the speaker is out of order;

- The Committee reserved the right to modify the rules in the interest of conducting an effective meeting including granting extra time to certain speakers upon request;
- Writings used in conjunction with remarks should be provided to the Committee's Legal Counsel; and
- Email comments received will be read into the record subject to the time limit.

XIX PUBLIC COMMENTS AND COMMUNICATIONS

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

Dr. Gene Nelson was recognized. Dr. Nelson stated he is a former science and engineering professor and he has been attending public meetings of the DCISC for 17 years and he views his attendance as an important activity. Dr. Nelson remarked that early in his career he became aware of a program called Megatons to Megawatts which resulting in the equivalent of 20,000 Soviet warheads being used to power U.S. nuclear power plants which he described as the equivalent turning swords into plowshares. Dr Nelson commented he has visited the ISFSI several times and to him the spent fuel storage canisters are monuments to world peace. Dr. Nelson reported he received a Presidential Citation from the President of the American Nuclear Society in 2022 for his advocacy and he remarked he continues to support conclusions based on science and engineering. He reported the letter from which he read sections during the previous day has now been received into the NRC's records as ML24281A106. Dr. Peterson thanked Dr. Nelson and he confirmed there is material that was once in nuclear weapons aimed at the United States which is now in storage at DCPD.

XX ACCEPTANCE OF MINUTES

This item concerned review and acceptance of the Minutes of the Committee's June 20-21, 2024, public meeting conducted in Avila Beach and as a Zoom Webinar. A draft of the June 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 often included on the Committee's Open Items List for follow up. The Members and Consultants reviewed the Minutes and provided corrections and substantive changes to certain sections of the Minutes which will be included in the final version of the June 2024 Minutes. Editorial and typographic revisions were provided to legal counsel for incorporation in the final version. The Members and Technical Consultants then conducted a page-by-page substantive review of the June 2024 Minutes and discussed some of the follow-up actions to be taken, provided clarification concerning errors and accuracy of certain statements in the Minutes, and made editorial comments and changes concerning the draft of the June 2024 Minutes.

Mr. Rathie thanked Ms. Denise Righetti the Wellington & Rathie law firm's office administrator for her work on the transcript of the June public meeting which he stated exceeded 400 pages and is an invaluable tool for purposes of creating the meeting Minutes and he also thanked AGP for providing a rough transcript of the proceedings immediately following the meetings which is created from the closed captioning feature and has proven to be quite helpful.

On a motion by Dr. Budnitz, seconded by Dr. Meshkati, with Dr. Meshkati abstaining, the Minutes of the June 2024 public meeting were accepted by the Committee and in their final corrected form will become a part of its 34th Annual Report.

XXI ACTION ITEMS

A. Discussion of Issues on Open Items List.

Dr. Peterson requested Consultant Wardell lead a review of items on the Open Items List, which he described as an important and dynamic tool used by the Committee to set priorities, track and to follow standard topics, emergent issues, new concerns, information requests and activities identified for subsequent action or receipt during fact-finding or public meetings. Dr. Budnitz remarked from time to time items are added to and followed up on in the Open Items List review based on input from members of the public. Mr. Wardell stated newly added or changed items were shown in red italics while items for which follow up is scheduled prior to the October 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 following:

<u>Open Items List²⁴</u>		
<u>Item</u>	<u>Re:</u>	<u>Action Taken/Next Action</u>
CO-13	Operation in Differing Modes incl. Load Following	Close
EN-1	Long Term Projects	Prior to 1R25
HP-1	Human Performance/Behavior	Add NM to 2Q5FF
RA-6	NRC 50.59 Risk Informed Regulation LAR	Add RJB 11/24FF
SC-15	FLEX Procedures – Post-Earthquake/Fire Dept.	Update/Modify -Rev Use in PRA re Action Timing Add NM (do not close)
SE-14	Monitor Work of IPRP	Monitor Future Reports
EO-9	Review New Seismic Safety Info from IPRP	Monitor Future Activities
EMB-1	U-1 Embrittlement Issue	Close
EMB-2	Dr. Kirk to Review of Capsule B Outcomes	Close
EMB-3	Rev Compliance post Capsule B Analysis	Remains Open
EMB-4	Review Any Information from Third Parties	Close to EMB-5

²⁴ Key to some abbreviations used: Fact-finding (FF), Independent Peer Review Panel (IPRP), Public Meeting (PM), Quarter (Q), to be determined (TBD) Robert J. Budnitz (RJB), Andrew C. Kadak (ACK), Najmedin Meshkati (NM), Per F. Peterson (PFP), R. Ferman Wardell (RFW), Richard D. McWhorter Jr. (RDM).

EMB-5	Review Any <u>All</u> Information from Third Parties	Remains Open Remove ref to EO-9
EMB-6	Review & Comment on Any <u>All</u> New Information in LRA	Remains Open 2Q25FF
EMB-7	Review Alternate Methodology for Capsule B Data	Close

DCPP Systems/Programs Reviewed Periodically

<u>Item</u>	<u>Last Reviewed</u>	<u>Next Action</u>
RHR (Residual Heat Removal System)	Jan 2021	Nov 24 FF
10 CFR 50.59 Program	July 2021	Nov 24 FF

During discussion of the Open Items List Mr. Dave Houghton, a member of the Diablo Canyon Decommissioning Panel, was recognized. In response to Mr. Houghton's comment regarding DCP's capability to operate in load following modes Drs. Peterson and Budnitz responded that the plant is capable of load following and on occasion power is curtailed to address current conditions and improve overall safety such as during winter storm activity but the key operational issue involves the addition and removal of boron to the reactor coolant and power changes do place certain undesirable stresses on the plant. Dr. Peterson observed French nuclear power plants have had their control rod systems modified using gray control elements²⁵ and therefore do not need to add or remove boron and Dr. Budnitz remarked the French plants having made those modifications are able to rapidly load follow. Dr. Peterson remarked that were DCP to plan for routine frequent changes in power, major modifications would be required. Dr. Budnitz in response to Mr. Houghton's inquiry commented DCP was designed to follow the ramp rates consistent with daily load following, but its routine operation does not contemplate that and he agreed that were these operations to be optimized major modifications would be needed. Consultant McWhorter remarked that a nuclear power plant is not capable of load following as quickly as a gas plant and he remarked many people think of load following as requiring ramp rates that are higher than the plant would normally do.

Dr. Gene Nelson of Californians for Green Nuclear Power was recognized. Dr. Nelson remarked on another engineering issue regarding load following in that there is a necessity for synchronous grid inertia and DCP is the largest contributor to synchronous grid inertia on the grid which maintains stability in response to random transient and this is an argument against changing from baseline to baseload operation.

Ms. Sherry Lewis with Mothers for Peace was recognized. Ms. Lewis asked that the items under "EMB" concerning reactor vessel embrittlement not be closed. Consultant

²⁵ There are two types of control assemblies in French PWRs, black and gray. The black assemblies are very absorbent; and their 24 rods are made of an alloy bar of Silver-Indium-Cadmium (AIC) or boron carbide, two materials that strongly capture neutrons. Gray assemblies contain only 8 absorber rods, the 16 others being made of stainless steel: the whole is much less absorbing. Control assemblies are not operated one by one, but in groups of 4 or 8 symmetrically distributed in the core.

McWhorter asked the Committee to determine in its review what items under EMB are to be closed and which will remain open. The Committee Members confirmed relative to Open Item EMB-7 that Dr. Kirk has in his report addressed use of alternate methodologies for analyzing Capsule B data.

On a motion made by Dr. Budnitz, seconded by Dr. Meshkati, the Committee Members unanimously approved the Open Items List as amended during their discussion.

XXII 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 a brief report 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 commented he recently attended a remote meeting with Dr. Budnitz and representatives of the California Attorney General was held recently. **Dr. Peterson reported the Committee had hoped to be able to hold a plant tour with members of the public at this meeting, but due to training exercises the Simulator facility was unavailable for a visit. He suggested that consideration be given to conducting a public tour in conjunction with the February 2025 DCISC public meeting as the public tours have in the past been an important aspect of the Committee's public outreach activities.**

Mr. Drew Houghton a Member of the Diablo Canyon Decommissioning Engagement Panel reported the panel recently held a meeting concerning the storage of spent fuel and public attendance at the Panel's meetings has been less than in previous and the panel is now exploring ways to increase public engagement and awareness of its meetings and he remarked to the extent the panel could cooperate with the DCISC in this effort it would try to do so.

Dr. Peterson commented it would be good if Dr. Meshkati could review the dates for Committee activities which were necessarily selected without his input. The Members then discussed and confirmed future public meetings of the DCISC for February 19-20, June 10-11, 2025 (subsequently changed for June 11-12), and October 22-23, 2025, and the Members and Consultants then scheduled a public meeting for February 18-19, 2026.

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:

[2024] November 12-13 RJB/RDM; December 11-12 PFP/RFW.

[2025] January 21-22 NM/RDM; March 18-19 RJB/RFW; April 23-24 NM/RFW during 1R25; May 7-8 (PFP/RDM); July 29-30 PFP/RDM; August 12-13 NM/RFW and September 16-17 RJB/RDM; November 18-19 (RJB/RFW); December 9-10 (PFP/RDM).

[2026] January 20-21 (NM/RFW).

B. Documents Provided to the Committee:

A list of documents provided to the Committee since its last public meeting in June 2024 was included in the agenda packet for this meeting.. Outgoing and incoming correspondence to and from the Committee is on file at the office of its Legal Counsel.

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

The Committee then returned to the matter of considering for approval the August 27-September 24-25, 2024 Fact Finding Report which was tabled following discussion yesterday during the afternoon session. Mr. Rathie reported that with Consultants McWhorter and Wardell a revised version of the report's conclusions regarding seismic issues based on the discussion yesterday was drafted last night and distributed individually to the members with no exchanges between them having taken place concerning this draft. Copies of the draft with the revised conclusion were provided in the meeting room. Dr. Peterson remarked he did not have the opportunity to review the prior version of the report proposed for adoption yesterday and was therefore at that time unable to concur in the report. Dr. Peterson stated his primary interest lies in obtaining additional review of Dr. Bird's contentions and this will require that those contentions be formalized in a report that can then be subjected to an external peer review process and he remarked the proposed revision encourages Dr. Bird to develop such a report and addresses the DCISC convening a review panel with independent experts, but in the interim period the Committee's current evaluation with respect to the seismic adequacy of the plant would not change. The Committee members and consultant then engaged in discussion of the revised conclusion of the Fact Finding Report including the subject of peer review, the current documentation on file from Dr. Bird and the needs for a report that is suitable for peer review by other agencies including PG&E and the IPRP.

Dr. Budnitz expressed his view that obtaining additional peer review of Dr. Bird's contentions would be beneficial, but that review should not be sponsored by the Committee rather it should take place in the normal way, that is, by Dr. Bird submitting an article to professional journals. Dr. Meshkati observed that Dr. Bird has addressed a report to the DCISC and he commented he does not believe the DCISC has expertise in neotectonics, which he described as a very narrow geological discipline, to be in a position to review Dr. Bird's contentions and Dr. Meshkati stated he is a follower of the proposition of deferral to the experts. Dr. Budnitz also questioned the use of the term peer review in this effort.

During the discussion of the August 17-September 24-25, 2024 Fact Finding Report conclusion concerning seismic issues PG&E's Dr. Chris Madugo commented the Technical Integration and the Participatory Peer Review teams review of what is now available concerning Dr. Bird's contentions and he commented there is not a lot of backing to date to support his contentions. Dr. Madugo remarked Dr. Bird needs to provide evidence to counter the evidence that PG&E has produced in the 2024 Updated Seismic Assessment and otherwise. Dr. Madugo

stated he believes a peer review might be performed on the documentation that has already been provided by Dr. Bird.

Dr. Seitz, of the California Geological Survey and a member of the IPRP commented the IPRP has not yet looked at Dr. Bird's data in detail and he suggested that the reference to a report that can be subjected to peer review should be to a report "suited for independent review." Dr. Seitz, in response to Dr. Kadak's query, replied the IPRP has not made a decision on when it will review Dr. Bird's contentions and the IPRP was waiting for the NRC reaction, but given that the NRC has taken up the matter the IPRP's review may be coming sooner and he stated he would be discussing these matters with his fellow IPRP members. Dr. Seitz observed peer review is a part of the SSHAC process and there is a precedent for peer review outside of the literature and he believes a subject matter expert familiar with nuclear hazard risk assessment and source characterization, besides neotectonics, be engaged to ensure familiarity with source characterization, defining slip rates, and hazard modeling.

Ms. Sherry Lewis of Mothers for Peace was recognized and Ms. Lewis asked that the Committee's review be of a full report by Dr. Bird and not limited to what Dr. Bird has provided to date which has been characterized as not sufficiently complete. She further stated she questions Dr. Budnitz' objectivity.

PG&E Senior Director Mr. Tom Jones was recognized and Mr. Jones stated PG&E would respond to what the Committee asks of it in context of the Long Term Seismic Program and PG&E will not be amending the 2024 Updated Seismic Assessment, the report completed for SB 846, and he characterized PG&E's involvement as increasing ongoing scope and therefor the Long Term Seismic Program is the proper venue for PG&E's consideration.

The members of the DCISC then engaged in a dialogue concerning the details of the final wording of the conclusion and the recommendation to be included in Section 3.1 of the August 27-September 24-25, 2024 Fact Finding Report, and after a spirited and detailed discussion the following wording was read into the record for Section 3.1:

"Conclusion: The discussion with PG&E experts during this Fact-Finding meeting provided valuable additional information and clarifications that has substantially aided the DCISC in performing its own evaluation of the positions, claims, and conclusions of Dr. Peter Bird concerning the seismic hazard at the DCPD site. Further review of Dr. Bird's concerns is warranted but will require Dr. Bird to document them in the form of a report that is suitable for an independent peer review. Based upon the review performed during this Fact-Finding, the DCISC does not have a basis to alter our previous conclusions about the adequacy of seismic safety at DCPD. Nevertheless, we encourage Dr. Bird to develop a report that can be subjected to independent peer review by independent subject matter experts. It is premature for the DCISC to reach any definitive conclusions about Dr. Bird's concerns or to change our current assessment that DCPD has appropriate and adequate seismic safety, until after this independent review information is available. That is, the DCISC's ultimate evaluation of the technical issues raised and any conclusions arising from it will necessarily need to await the further work now under way, including by the NRC staff, the IPRP, PG&E and (to be convened) Neotectonics subject matter experts.

Recommendation for DCISC: The DCISC should convene one or more experts with expertise in Neotectonics to further evaluate Dr. Bird's concerns."

On a motion made by Dr. Peterson, seconded by Dr. Meshkati, the August 27-September 24-25, 2024 Fact Finding Report was unanimously approved and its transmittal to PG&E authorized.

A short break followed.

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

The Chair requested Consultant McWhorter to introduce the NRC's Senior Resident Inspector for DCPD Mr. Mahdi Hayes. Mr. McWhorter welcomed Mr. Hayes to these proceedings and reported Mr. Hayes is a graduate of Texas A & M University and holds a Bachelor of Science Degree in Nuclear Engineering. He stated Mr. Hayes previously worked for Knolls Atomic Power Laboratory prior to joining the NRC in 2006, after which Mr. Hayes served as the Resident Inspector at the Columbia Nuclear Generating Station in Washington and then as an Operations Engineer and Operations Licensing Examiner in the NRC's Region IV offices in Arlington, Texas after which in 2022 he was assigned as the Senior Resident Inspector for DCPD.

Presentation by the NRC 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.

Mr. Hayes began his presentation by introducing Mr. Eli Garcia, the Resident Inspector for DCPD and he reported Mr. Garcia began that assignment in September 2024. He also introduced Ms. Amy Elam who is the site administrator in the Region IV office for Diablo Canyon and two other power plants.

Mr. Hayes reviewed the mission statement for the NRC as follows "NRC licenses and regulates the Nation's civilian use of radioactive materials to provide reasonable assurance of adequate protection of public health and safety and to promote the common defense and security and to protect the environment." He reported the NRC consists of five commissioners nominated by the President and confirmed by the U.S. Senate and the President selects the NRC Chair. He reported the NRC Executive Director of Operations is responsible for the agency's daily operations. The NRC consists of four regions with Region I headquartered in King of Prussia, Pennsylvania, Region II in Atlanta, Georgia, Region III in Chicago, Illinois, and Region IV in Arlington, Texas. Mr. Hayes reported Region IV is the largest in terms of area but it has the lowest number of reactor sites.

Mr. Hayes asked Resident Inspector Mr. Garcia to review his background. Mr. Garcia reported he holds a Bachelor of Science Degree in Nuclear Engineering from Texas A & M University and he stated he received his training in the Resident Inspector Development Program and was assigned to a rotational assignment at the Hope Creek Nuclear Generating Station in

New Jersey and then served as permanent Resident Inspector for two years at the Salem Nuclear Generating Station in New Jersey. Dr. Peterson welcomed Mr. Garcia and remarked the DCISC Members meet frequently with the resident inspection team during fact finding.

Mr. Hayes reviewed the role of the Resident Inspectors which he described as regulation verification through the conduct of in-depth baseline inspections. He stated all plants get a minimum number of inspections and the resident inspectors facilitate communication and act as the eyes and ears of the NRC by providing operational awareness and detailed facility knowledge, emergency response, and act as the first NRC responders to provide prompt information and an independent assessment concerning any decision making. Dr. Peterson remarked there was discussion earlier about the safety significance of findings, activities of low safety significance, and the self-reported versus self-revealing nature of these activities. In this context Consultant McWhorter commented on the untimely declaration of inoperability of the ventilation fan being designated as Non Cited Violation and considered to be of low safety significance. Mr. Hayes stated performance deficiencies are screened through the enforcement and safety significance determination processes to see if standards apply. He remarked the ventilation fan did not work and accordingly it was assessed for operability to perform its function. A designation is then assigned as a performance deficiency and a determination made as to a regulatory aspect under 10 CFR. Mr. Hayes stated the NRC has a quality assurance program with sixteen different criteria, one of which is corrective actions, and for the ventilation fan issue there was an operability determination procedure that required a declaration of its inoperability at the earliest opportunity in order that prompt correction action can be taken. This was under 10 CFR Part 50 Appendix B, Criterion 5 for the safety-related ventilation fan and he stated once you have a regulatory requirement an enforcement action, a violation can be assigned. Accordingly it was designated as being of low safety significance and was entered into the plant's Corrective Action Program which meant that, unlike for a cited violation, the licensee does not need to review the prospective corrective action with the NRC. He reported the NRC resident inspection team will then get the opportunity to inspect the issue and the final cause determination and corrective action. In response to Consultant McWhorter's request Mr. Hayes identified a previous issue with a condenser being in a condition unable to receive steam and therefore no longer meeting the requirement of the licensing basis for allowing the plant to not go offline at a certain power level and he commented the assigned violation indicates that there was a tie between condenser available and "P9." He reported there is an associated permissive aspect and the licensee is allowed not to take the plant offline in the event of an offsite power rejection. He reported this was designated as a Green issue because the plant was at a high power level and it did not affect the licensing basis.

Mr. Hayes reported inspection activities employ a baseline inspection program at each site to review everything from operability determinations for systems and how systems are aligned to fire protection systems and these inspections look at a cross-section of licensee's activities and are focused on items that are in the Technical Specifications or are safety related.

Mr. Hayes reported for the 2023 Annual Assessment, the NRC determined PG&E operated the plant safely and in a manner that preserved the public health and safety and protected the environment. DCPD was in the Column 1 of the Licensee Response Column with all Performance Indicators and Performance Deficiencies in Green status and for 2023 there were

nine Green Non-Cited Violations (NCVs) and one Green Finding issued. Accordingly in 2024 Mr. Hayes reported the NRC will conduct baseline inspections.

In response to Dr. Meshkati's request Mr. Hayes a Licensee Event Report (LER) is triggered when there exists a regulatory requirement under 10 CFR 50.72 or 50.73 and under the guidance provided by NUREG²⁶ 1022. He reported in 2022 DCPD initiated a LER for a reactor trip. Mr. Hayes commented the requirements for submitting an LER have been in existence for a long time, well before the advent of operating experience.

Mr. Hayes reported on DCPD inspection activities during 2023 when the NRC completed approximately 1,500 hours of direct inspection out of approximately 2,000 total inspection hours including resident inspection baseline inspections, regional team inspections, emergency preparedness inspection, in-service inspection, and radiation safety inspections, Security inspections, commercial grade dedication, licensed operator requalification inspections and license renewal activities were also conducted in 2023. He reported three NRC commissioners visited DCPD during 2023. Mr. Hayes stated inspection reports are produced quarterly and are made publicly available.

Mr. Hayes then provided his overview of the regulatory process which includes Cornerstones representing the inspection areas. He reported the resident inspectors deal primarily with initiating event, mitigating systems, barrier integrity, and emergency preparedness. Mr. Hayes reported specialist inspectors from Region IV address radiation safety and security inspections. He reported the Cornerstones feed into the risk-informed baseline inspection procedures and those are in turn fed up into the significance determinations and to the Performance Indicator thresholds. The assessment process then continues to the NRC's Action Matrix. Mr. Hayes reported the NRC holds an annual meeting to discuss plant performance and is doing that today with his presentation.

Mr. Hayes stated the Action Matrix includes making a determination as to whether anything additional required and that determination is driven by the color significance of the findings and the Performance Indicators that have been issued over the prior calendar year. He reported DCPD remains in Column 1 with all Performance Indicators in Green status.

In response to Consultant Kadak's query, Mr. Hayes explained the risk-informed baseline inspections are determined due to an inability to review everything at the site and to concentrate on what is addressed in the Technical Specifications and modeled in the PRA. Mr. Hayes commented not every system is necessary for the safe operation of the plant and if there are challenges with any of the equipment that is in the Technical Specification that are of high risk significance, those are the items the NRC inspection activities will focus on. He then described the color bands used for the Action Matrix:

GREEN (Licensee Response Band)

²⁶ NUREG-Series Publications are reports or brochures on regulatory decisions, results of research, results of incident investigations, and other technical and administrative information.

- Cornerstone objectives fully met. Nominal risk with nominal deviation from expected performance.

WHITE (Increased Regulatory Response Band)

- Cornerstone objectives met with minimal reduction in safety margin. Changes in performance consistent with $\Delta^{27}\text{CDF}^{28}<10^{-5}$ ($\Delta\text{LERF}^{29}<10^{-6}$).

• YELLOW (Required Regulatory Response Band)

- Cornerstone objectives met with significant reduction in safety margin. Changes in performance consistent with $\Delta\text{CDF}<10^{-4}$ ($\Delta\text{LERF}<10^{-5}$).

• RED (Extensive Regulatory Response Band)

- Performance within the cornerstone represents an unacceptable loss of safety margin. Changes in performance consistent with $\Delta\text{CDF}>10^{-4}$ ($\Delta\text{LERF}>10^{-5}$). Sufficient safety margin still exists to prevent undue risk to public health and safety.

Mr. Hayes reported Column 1 indicates all Green Performance Indicators and for findings, if higher risk issues are documented in inspection reports, licensees are moved to different columns. For instance he commented two White designations in any strategic performance area move a plant into Column 2 and this can progress all the way to Column 4 for unacceptable performance. Mr. Hayes commented the NRC regulates by unit and for two unit plants each unit can be in a different response column. He reported one site in the U.S. is now in a degraded performance category and nine are in the regulatory response category.

Mr. Hayes stated the NRC places a high priority on publicly available information and on keeping the public and stakeholders informed of its activities. He reported at www.nrc.gov, one can find site specific oversight information, public meeting dates and transcripts, read NRC testimony, speeches, press releases, and policy decisions; and access the agency's Electronic Reading Room to find NRC publications and documents. He provided the following for use in contacting the NRC: to report an emergency (301) 816-5100 (collect calls accepted), report a safety concern (800) 695-7403, allegation@nrc.gov. General information or questions www.nrc.gov, select "What We Do" for Public Affairs. Mr. Hayes provided forms for the public to use to provide feedback on this NRC public meeting.

In response to Dr. Meshkati's query as to whether the resident inspectors are exposed to the edge fact analysis [?] that the plant's Human Performance organization produces routinely. Mr. Hayes stated this is not something he is familiar with and he remarked markers are identified that cut across any site and these are applied to any finding or non-cited violation to assess contributors to the finding or NCV. In response to Mr. McWhorter's observation relative to the ventilation fan matter Mr. Hayes stated the Crosscutting aspect for that event was training, that is, human performance and should another event with this aspect be identified, two violations

²⁷ 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.

²⁸ CDF – Core damage frequency.

²⁹ LERF – Large early release frequency.

would trigger a change from Green to White status. Mr. McWhorter described this as tracking across issues for similarities. In response to Dr. Meshkati's follow up inquiry Mr. Hayes stated the resident inspection team would not typically need to review the results of the Human Factors Analysis and Classification (HFAC) reviews. Dr. Budnitz commented the NRC has a Research Office that has a group of human factor experts and this group follows research on human factors in other safety areas around the world. He reported there is another group in the Office of Nuclear Reactor Regulation who follow human performance to assure the manner of NRC regulations takes advantage of the latest knowledge. Dr. Budnitz reported these teams provide their additional insights to the resident inspectors at the individual plants and he remarked it is not common that the on-site resident inspectors would follow human performance issues on this level, but when something is ripe for implementation by all the inspectors it becomes part of their tools and the NRC expert teams are available to assist the resident inspectors as needed. Dr. Meshkati reported the HFAC method was developed for the FAA for use in the aviation industry but it is now being migrated to the nuclear industry and he described this as a treasure trove of data with respect to human performance Dr. Meshkati commented he believes it would be very useful because of the human performance issues the resident inspectors are exposed to for them to have access to site specific HFAC applications. Mr. Hayes stated he now better understood Dr. Meshkati's question and he stated if anything occurs at the site that has a human performance aspect the resident inspectors are able review the issue and would make a determination if it rose to the level of documentation. If so it would be documented in an inspection report and be followed up during a future inspection to determine if the corrective actions were implemented. But he commented for a human factor analysis the resident inspectors would see if there was a change to the site and review that change, but would not necessarily inspect or look at the report that implemented the change and he gave the example of the Control Room, which he described as a human factor area, which has been through a process and a program and he stated the resident inspectors look at the final results.

Dr. Budnitz observed prior to the accident at the Three Mile Island Nuclear Generating Station in Pennsylvania in 1979, the NRC had not paid much attention to human factors and this was understood after the accident to have been a mistake. Dr. Budnitz reported he led the NRC investigation into the accident at Three Mile Island as the Technical Coordinator and as a major finding of the investigation immediately afterward the NRC established a human factors branch in the Office of Nuclear Regulatory Research, for which Dr. Budnitz then served as the Director, and a comparable office was also established in the Office of Nuclear Reactor Regulation. He commented this was propagated to the industry through the efforts of the Electric Power Research Institute and INPO which was founded several years later. Dr. Budnitz observed it is important not to take human factors for granted as this remains one of the key areas where safety compromises can arise.

In response to Consultant Kadak's request Mr. Hayes described a typical day for a resident inspector as beginning with their attendance at the site's morning meeting for the daily plan, to then see if any issues have developed overnight, and then to review corrective action documents written in the last 24 hours. Following would typically be looking for opportunities to observe work planned in advance for that day which the inspection team previously planned to observe. Mr. Hayes reported the inspectors generally also attend the end of the day plan meeting and they walk down the Control Room on a daily basis. In response to Consultant Kadak's

question Mr. Hayes stated the inspectors sometimes attend the Corrective Action Program meetings if there is something to be address that is of particular interest and in response to Dr. Kadak's query he stated there is no particular aspect of DCPD that he finds to be more concerning than at the other plants Mr. Hayes has visited.

In response to Dr. Meshkati's question Mr. Hayes reported that the time a resident inspector is assigned by the NRC to a particular site is generally limited to seven years and the average time is from four to five years. He remarked this limit is not as rigidly enforced as it was previously.

Dr. Peterson thanked Mr. Hayes for his presentation and again welcomed his colleagues and Dr. Peterson extended a standing invitation to the NRC to attend meetings of the DCISC in the future as this is very useful and it complements the frequent meetings the DCISC fact finding teams have with the NRC resident inspectors at DCPD.

Senior Director Tom Jones was recognized. Mr. Jones reported PG&E completed an update re-analysis of tsunami hazard wave height including storm surge and sea level rise projections. This work was completed in July 2024 and was communicated on August 16, 2024 to the California Coastal Commission and Mr. Jones stated it will be sent directly to Dr. Johnson and to Dr Seitz and directly to the IPRP and to the DCISC. He described the work as quite extensive and done at the request of the Coastal Commission for the Coastal Zone Management Act process as part of the License Renewal process. Dr. Peterson stated a Committee review of this report should be scheduled for a future fact finding.

XXIV ADJOURN MORNING MEETING

The Chair adjourned the morning meeting of the DCISC at 12:10 p.m.

XXV RECONVENE FOR AFTERNOON MEETING

The afternoon meeting of the DCISC was convened by the Chair at 1:30 p.m. Dr. Peterson welcomed those present and asked for comments from his fellow members.

XXVI COMMITTEE MEMBER COMMENTS

There were no comments by any member at this time.

XXVII PUBLIC COMMENTS AND COMMUNICATIONS

Dr. Justin Cochran, participating remotely, was recognized. Dr. Cochran is the Senior Nuclear Advisor for the California Energy Commission and stated he has attended and enjoyed the sessions of this public meeting over the last two days. He thanked the DCISC for the work it performs and stated the Energy Commission values the information that comes from the DCISC's work and its reports in public meeting. He also recognized and thanked Dr. Meshkati for serving on the DCISC, succeeding former DCISC Member Dr. Peter Lam who served with

distinction for many years. Dr. Cochran stated he also wanted to recognize and thank the PG&E team for their work in supporting the DCISC as well as the AGP audio visual team. Dr. Cochran stated he wanted to acknowledge that these public meetings are important and promote the sharing of information and they create a forum for the community and the local entities to express their views and concerns as has been evident in the last sessions. He observed the DCISC supports an independent environment in which complex and technical discussions can be held and debated in a public forum which is extremely important. He stated few people recognize how rare and unique these opportunities are across the nuclear sector in the rest of the United States. Dr. Cochran closed his remarks with the observation this has been a very informative two-day session both for the discussion and the presentations which have been extremely valuable.

Mr. Bruce Severance was recognized. Mr. Severance said he has just read a public comment on the Diablo Canyon Decommissioning Engagement Panel's website that he believes could be interpreted as a terrorist threat. He commented failure modes of terrorist attacks are not discussed in a public forum, but he stated his belief it is important for DCISC staff to consider the possibility of attacks by terrorist and security measures. He commented there was recently video footage of a security staff member who was asleep on the job.

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

Senior Director Jones introduced Mr. Chris Newport to make the next informational presentation and reported Mr. Newport is the Acting Director for the Quality Verification Program and in that role has responsibility for oversight of audits, assessment, plant quality control, quality control inspections and inspection of received materials as well as for compliance with the requirements of 10 CFR quality assurance programs. He reported Mr. Newport has more than 29 years regulatory experience within the nuclear energy production industry following a career in the U.S. Navy submarine service. Mr. Newport has held roles in regulatory compliance at plants across the U.S. and in the DCPD Operations Department. Mr. Newport holds a Bachelor's Degree in Control System Engineering from the U.S. Naval Academy and a Master's Degree in Engineering Management from Catholic University.

Quality Verification Organization's Perspective on Plant Performance, Top Issues, and Recent Quality Performance Assessment Reports.

Mr. Newport reported he began his assignment as Acting Director of the Quality Verification one day ago. He stated as required by federal regulation the Quality Verification Department acts as an independent group within DCPD and he reported its functions break down into two areas he termed Quality Verification (QV) and Quality Control (QC). Departmental responsibilities include audits, assessments, independent in-plant inspections which Mr. Newport reported consist of QV functions and plant QC inspections include vendor/supplier audits and material receipt inspections. Mr. Newport stated there is an industry process wherein the vendors supplying materials to nuclear operators are audited such that when parts are received from these vendors they can be certified as acceptable for use in a nuclear context. He explained destructive testing is also done by DCPD at local laboratories which is not unlike the practices followed in the aviation and other industries for critical components.

Mr. Newport reported in his role he reports directly to the Chief Nuclear Officer and this is to maintain the Quality Verification organization as an independent entity. Dr. Meshkati remarked the concept of an independent role in an organizational hierarchy was raised in the deliberations of the Expert Panel on which Dr. Meshkati participated which was convened to investigate incidents with the Boeing Company in context of the organizational delegation authorization whereby Boeing employees were delegated to perform independent inspections and Dr. Meshkati remarked the panel's review found this system is very delicate. In response to Dr. Meshkati's question Mr. Newport replied his performance appraisal job review is conducted by the Chief Nuclear Officer and he reported persons rotate in and out of the QV Director assignment for various durations. Dr. Meshkati commended the FAA Expert Panel's Report to Mr. Newport for review as there were numerous issues with respect to the notion of independence explored in that report and PG&E may learn something from the panel's work. Mr. Newport thanked Dr. Meshkati and commented the nuclear industry is arguably the strongest in the use of organizational safety culture aspects through the employment of a Corrective Action Program, the employee concerns process, and the presence of the federal regulators available to receive allegations and he stated emphasis is placed on the ability to always be able to raise safety concerns without fear of retaliation which he reported is illegal under federal law and which in the past has resulted in prosecution by the NRC. Mr. Newport commented besides the QV Department oversight at DCPD also includes other organizations including the Nuclear Safety Oversight Committee (NSOC), the Independent Safety Committee (DCISC) and the NRC.

In summarizing performance by DCPD, Mr. Newport reported that DCPD continues to exhibit traits reflecting a strong nuclear safety culture. Recent comprehensive assessments by WANO and INPO as well as by the NSOC confirm DCPD continues to effectively implement the Quality Assurance Program consistent with regulatory requirements and its commitments to the NRC. He reported QV has two primary responsibilities which including ensuring identification of gaps to compliance as well as closing gaps to excellence. Mr. Newport commented the station focuses on low level issues to prevent more significant issues from emerging and he remarked this philosophy permeates through the nuclear industry thanks for the influence of U.S. Navy Admiral Hyman Rickover, recognized as the father of the U.S. nuclear Navy. Mr. Newport reported DCPD regularly receives the highest industry ratings, but he remarked that does not mean there are no areas for improvement. He reported given the decision to operate to 2030, the station is focused on proficiency after having hired a significant number of new employees over the last 1-2 years in various departments as well as on succession and diversity in experience. He commented DCPD is fortunate to be able to draw upon Cal Poly graduates as well as on experienced engineers from outside the nuclear industry but he stated newly hired individuals need to learn how things are done at DCPD and in the nuclear industry.

Mr. Newport described and discussed performance summaries for various DCPD organizations as follows:

➤ Operations - is focusing on plant status control, including the clearance and tagging process for out of service equipment and station equipment alignment. He reported there have been some near misses which did not result in consequences, but left uncorrected consequences could result. He reported these issues were identified by DCPD's peers in INPO and QV

personnel conduct observations in the plant to ensure the corrective actions put into place are effective.

➤ Maintenance - is focusing on effectiveness and efficacy of corrective actions in response to lower-level performance challenges including on training and communication concerning corrective actions. In response to a query, Mr. Newport stated the QV organization does not have responsibility for the Corrective Action Program and that responsibility lies with the Performance Improvement organization and he described the Corrective Action Program as a robust program which recently underwent an NRC three-week inspection.

➤ Emergency Planning - is focusing on drill & exercise performance including communications with San Luis Obispo County where there have been a few low level problems in recent exercises and on successful and efficient implementation of the Emergency Response, organization (ERO) staffing plan.

➤ Projects - is focusing on ensuring DCPD processes are effectively integrated across the entire organization and on the replacement of the rod control indication system with a digital system. Mr. Newport commented projects are proceeding at a much faster pace and the Projects organization has brought in a number of new people to assist and is focused on integrating these employees with the processes already in place. He reported subject matter experts from other organizations are providing valuable input to the Projects organization.

➤ Engineering - is focused on enhancing plant equipment reliability across the plant, particularly secondary-side equipment and its replacement at the right periodicity to ensure sustained excellence in plant operation. Mr. Newport commented DCPD has not experienced many issues or transients as a result of secondary system equipment when compared to the industry. He reported there is an effort at DCPD to risk-inform and target the most important secondary plant equipment to get it replaced or maintained.

➤ Work Management/Outage Management - is focused on the support of outage management milestones as DCPD transitions from two larger scope outages necessary for continued operations to traditional scope outages with tight schedules.

Mr. Newport concluded his presentation with the observation that overall plant performance remains strong and is on a stable trajectory. QV and the site are focused on sustaining that excellence and the QV organization will continue to assess and challenge the station's performance independently and report out to individual departments, the CNO, the NSOC and to the DCISC. In response to Dr. Meshkati's question Mr. Newport confirmed the QV organization follows up on the resolution of its inspection recommendations, which are referred to as findings, and he stated if a finding is not corrected within 120 days a Yellow classification is triggered which gets visibility from the DCPD leadership team. He remarked that a visual management tool is now used on a monthly basis which employs color-coded designations to permit all employees in the plant to see the QV's information on organizational trajectories and this is a part of the LEAN Management System employed at DCPD and throughout PG&E.

In response to a query from Consultant McWhorter Mr. Newport reported the last biannual external industry organizational review was conducted and no significant issues were identified. He stated he would need to provide information on when the next such review is scheduled. In response to Dr. Meshkati's inquiry as to interference in the QV organization's independence through pressure for scheduling or financial reasons Mr. Newport reported the QV organization does not experience influence from those types of issues and if QV identified those issues as having affected other organizations in the plant he has a direct reporting obligation to the Chief Nuclear Officer to identify and raise those issues for correction and if he were to receive pushback from other directors he commented those individuals would be strongly coached by multiple levels within the DCPD organization. In response to Consultant Wardell's inquiry Mr. Newport confirmed QV continues to issue annually a Quality Performance Assessment Report (QPAR) and the latest document is from 2023 and the information he provided today was based on that report. He reported the QV organization no longer maintains a Top Ten List as that has been replaced by the color-coded visual management tool he described. In response to Consultant Kadak's query Mr. Newport reported the QV organization consists of 23 employees and other personnel are brought in from time to time from other departments on a rotational basis and he remarked this has proven valuable. In response to Consultant Kadak's question Mr. Newport reported the Performance Improvement organization tracks human performance error by department while QV also has input metrics that track human error. He reported QV does not conduct equipment receipt inspections for embedded computer codes, etc., as that responsibility falls to the Cybersecurity organization which has an entire program for cybersecurity issues. Mr. Newport observed DCPD does not employ a great deal of what he described as cutting edge digital technology in the plant and this assists in limiting cybersecurity vulnerabilities.

Mr. David Weisman of the Alliance for Nuclear Responsibility was recognized. In response to Mr. Weisman's inquiry as to what proportion of the secondary side equipment described by Mr. Newport is safety-related and of that equipment how many of the upgrades that are needed to secondary side equipment were on the PMO++ List [a part of the Preventative Maintenance Optimization ++³⁰ Program]. Mr. Newport replied that secondary plant equipment is not safety related, but some failures can cause a transient³¹ resulting in a power reduction or even a turbine or reactor trip which is never good. He stated this is a concern with the secondary equipment and all of the secondary equipment was considered as part of the PMO++ List. Mr. Newport observed it takes time to replace equipment and DCPD is specifically targeting secondary side equipment that present a single point vulnerability that could lead to a transient and ensuring that all such equipment is either adequately maintained or replaced. He reported DCPD has not seen issues with safety-related equipment and is focused on the appropriate application of its resources.

³⁰ The ++ designation stands for projects and life cycle review.

³¹ A transient is a change in the reactor coolant system temperature, pressure, or both, attributed to a change in the reactor's power output. Transients can be caused by (1) adding or removing neutron poisons, (2) increasing or decreasing electrical load on the turbine generator, or (3) accident conditions.

Mr. Bruce Severance was recognized. Mr. Severance stated in his conversation with PG&E staff he has been impressed by their commitment to continuous improvement and excellence. He commented his focus is on embrittlement and pressurized thermal shock. He stated he is aware there are redundant systems for tracking a loss of coolant accident (LOCA) and he questioned the approach of what he described as the "leak before you break" theory and strategy and he stated in 2000 a number of cross members were removed from primary and secondary coolant system piping. He stated he was puzzled by the theory's proposition that a small leak that is detectable is better than a catastrophic break and he asked if it is still a governing programmatic rule. He commented he feels such a theory might make sense early in the plant's life but stress corrosion cracking and other forms of corrosion can cause degradation to pipe and over time a design basis accident could produce a far greater LOCA. Mr. Newport responded and stated Mr. Severance was describing a LOCA on the primary system and he reported the primary system leak rate is tracked daily and the Technical Specification limit is one gallon per minute and if that limit is exceeded the plant must immediately be shut down. Mr. Newport further reported the primary system piping is rigorously, frequently, and intensively inspected including the welds and joints and essentially no leakage is tolerated. He reported the plant is designed so that if a design basis accident involving a large break LOCA occurs the plant can be safely shutdown and prevent a release of radioactivity. Dr. Budnitz explained that the designers of the plant, the NRC, and industry regulations require extra redundancy to provide extra margin and there are some systems for which when you lose one of them you must shut down but for others that is not necessary. Over time industry programs and the NRC regulations allow taking one system offline to do maintenance while the plant continues to run because data and analysis demonstrates the remaining functional systems are adequate to maintaining a sound safety margin for the given situation. He observed online maintenance is always preferred because shutting down produces stress and transient are undesirable. Mr. Severance thanked Dr. Budnitz and commented his explanation made sense to him.

Mr. Severance remarked that he has read in reports on pressurized thermal shock that a 25°F. per hour reduction in temperature when engaging in shutdown and he asked if you have a severe break he understood that failure mode analysis does not address multiple pipe breaks at the same time in the primary system as it is considered not probable and he inquired how many gallons per hour can a plant lose until the Emergency Core Cooling System (ECCS) introduced cold water into the reactor core. Dr. Peterson replied this is referred to as a large break coolant accident and the hypothetical limiting case is a double guillotine break on a cold leg, at which point the reactor will depressurize rapidly and all of that accident scenario has been analyzed and the ECCS can provide sufficient cooling to maintain fuel temperatures below any type of failure limit for that specific accident. Mr. Newport observed cool down rates are predicated on a reactor operating for 20 more years, but in a large break LOCA they will be exceeded as water is injected and the reactor cools rapidly in excess of the cool down rate but afterward the unit will not be operated again. Dr. Budnitz observed there are procedures, standards and methodologies used throughout the industry and a part of what the QV organization does is to provide additional checks and a level of assurance that these procedures, standards and methodologies are being followed.

Senior Director Mr. Tom Jones introduced the next presentation. Mr. Jones introduced DCPN Nuclear Fuel and Decommissioning Director Mr. Al Bates to make that presentation. Mr.

Jones reported Mr. Bates rejoined the DCPD leadership team in 2023 after having previously served as Director of Engineering at DCPD. Mr. Jones reported Mr. Bates has responsibilities for fuel procurement for extended operation, spent fuel storage, and decommissioning planning and for engineering and budgeting for those activities. Prior to his return to DCPD 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 DCPD.

Update on Recent Campaign to Move Spent Fuel Assemblies from the Spent Fuel Pool to the Independent Spent Fuel Storage Installation.

Mr. Bates began his presentation by displaying a photo of the site of the Independent Spent Fuel Storage Installation (ISFSI) which is located above and behind the plant and he reported the ISFSI is sized to store all fuel through the end of the DCPD current operating licenses, with an additional 20 years' worth of continued operation spent fuel storage available in each of the two spent fuel pools. He observed from that perspective DCPD has sufficient storage capacity available. Mr. Bates reported DCPD has now safely completed seven loading campaigns since 2009 and is currently conducting Campaign No. 8 which provides for the storage of 12 multi-purpose canisters (MPCs) with each containing 32 fuel assemblies.

Mr. Bates described the scope of Campaign No. 8 as including the transfer of 192 spent fuel assemblies from each spent fuel pool to dry storage. This will require loading 12 canisters, 6 from each unit at the rate of one canister per week with crews working six days a week during the period from July 22 to October 18, 2024. He reported to date Campaign No. 8 has been going very well.

Mr. Bates reported safe and successful execution of a loading campaign requires robust procedures to govern all work activities and PG&E management oversight of all work activities. He stated PG&E's contract partners (the Holtec and Bragg firms) have provided experienced crews. The Holtec firm has provided the canisters and the Bragg firm performs the heavy lifting. Mr. Bates reported Holtec and Bragg also provide technical support for loading, for seal welding and for transporting the canisters. He reported the crews remain essentially intact and the personnel are used throughout the campaign and this has also been true for the vendors. Reviews to ensure radiation dose levels for workers have been kept as low as possible have continued and this has required adjustments along the way to achieve lower dose.

Mr. Bates displayed and described several photos. The first was of the process of loading a fuel assembly, each assembly is approximately 12 feet long, from a spent fuel pool into a Holtec MPC and he remarked that the fuel in the pool is covered by 22 feet of water. A second photo shows the installation of the MPC lid after loading has been completed and the removal of the loaded Holtec HI-TRAC transfer cask from the spent fuel pool. He reported the cask lid is 9 inches thick and provides substantial radiation shielding once the MPC comes out of the water.

The next photo Mr. Bates displayed and described showed the loaded transfer cask in the cask washdown area and within its seismic restraint as the lid was being seal welded in place and the bulk water removed through a forced helium dehydration backfill process which Mr. Bates stated eliminates corrosion within the MPC. He reported the seal welding of the closure ring is performed with a robotic welder and the ports used for the helium dehydration process are also welded shut upon completion of that process. He reported the welds have a 100% dye penetration examination immediately after they are in place. Dr. Peterson remarked that often radiographic inspection is required for welds and Mr. Bates responded the MPCs are designed and license for the dye penetration inspection and this is common across the industry and it pertains to the nature of the seal welds. He responded to Dr. Peterson comment that the MPC lid has a structural function and the lid placed into a recess in the MPC designed to accommodate it.

Mr. Bates next photo showed the removal of a HI-TRAC cask from the Cask Transfer Facility and reported the HI-TRAC casks are transported using the Vertical Cask Transporter which travels slowly over a period of two hours from the plant to the ISFSI. He explained the MPC is lifted a very small amount to take the weight off the bottom and the lower drawer shielded panel is then removed to allow the MPC to then be lowered into the HI-STORM storage cask below. A lid is installed and the HI-STORM cask with the MPC inside is then lifted from the from the Cast Transfer Facility. He commented radiation shielding is always in place to ensure worker safety. Mr. Bates commented the incident that happened at the San Onofre Nuclear Generating Station involving a storage cask occurred on a different system which had much different clearances than the system in use at DCP.

Mr. Bates next photo showed the installation and anchoring of the loaded HI-STORM canister on the ISFSI pad. He reported the HI-STORM cask uses passive cooling ports with cold air entering from the bottom and warm air exiting from the top.

Mr. Bates reported on the current status of spent fuel with the 2024 Campaign No. 8 which is still underway adding 12 casks containing 384 used fuel assemblies. Mr. Bates commented that the crew's focus since reaching the halfway point in the campaign has been on avoiding complacency, on the use of human performance tools, and on procedural compliance. He reported there are two more casks to be loaded to complete Campaign No. 8. At the end of this campaign, the ISFSI will contain a total of 70 casks with 2240 used fuel assemblies. He reported as of today the ISFSI pad contains 68 storage casks with 2,176 used fuel assemblies and this includes 10 casks from current on-going campaign. Mr. Bates reported the work has been performed safely, and without incident or delay and the NRC inspection yielded no violations and provided positive observations particularly on the work briefs by PG&E and its contractors. ALARA (as low as reasonably achievable dose) goals are being met and lessons learned and improvements identified are being captured. **He commented relative to ALARA at the commencement of the current campaign the dose received was at the ALARA limits, but with changes made the number were driven lower and the ALARA goal was adjusted down during the campaign. He stated he would provide the ALARA data to the Committee.**

In response to a question from Dr Meshkati, Mr. Bates replied the Bragg firm is a commercial crane company and for the spent fuel loading campaigns Bragg handles the crane

and heavy rigging work. The Bragg workforce is the smallest contingent, with the Holtec firm being split into two shifts with 12 persons on each shift for the six-day work week with 24-hour per day periods being required to complete the campaign on time. He reported the PG&E workforce consists of four persons on the day shift and two or three on the night shift performing oversight of the contractors but with radiation protection and mechanical maintenance plant staff in attendance there are probably another 30 persons from PG&E involved in the campaign.

Dr. Meshkati remarked a serious accident in the Phillips hydro chemical plant in 1989 was attributed to issues of contractor safety and Dr. Meshkati observed he has been made aware of safety culture issues in connection with the Holtec firm and he queried how PG&E ensures that the PG&E safety culture is being replicated by all the technical personnel. Mr. Bates replied this starts with meetings between PG&E and Holtec leadership prior to commencing a loading campaign to ensure an alignment of standards and that those standards will be carried through with everyone sent to the site. He reported there is oversight of the contractors and he has on his staff a team dedicated to ensuring PG&E's standards are being met. He reported the use of procedural sign-off are intended to validate that quality and efficiency is maintained throughout. In response to Dr. Meshkati's follow up question Mr. Bates replied that structured reports follow a command and control structure and reports are provided to him through a manager and multiple supervisors and the Holtec firm reports to his manager and the manager to Mr. Bates. He commented he is involved with all aspects of the spent fuel loading campaigns and the entire plant staff is kept timely informed of nuclear significant activities and who is in charge. In response to an inquiry Mr. Bates stated that a licensed senior reactor operator is required to be involved with all movement of the fuel within a spent fuel pool, but beyond that point a senior reactor operator is not required on the separate crews. He reported after all fuel is placed in the MPC there are two independent verifications that the correct fuel assemblies from the correct locations were placed in the designated canister, the first is by a senior reactor operator which is done by use of an overhead camera that identifies the fuel assemblies which are marked with large numbers on the top and sides in the spent fuel pool and then secondarily in the canister to verify that every assembly is in its correct location.

In response to Consultant Kadak's question Mr. Jones reported there are always at least 772 assemblies in each spent fuel pool to allow for a checkerboard pattern and to act as a heat sink when doing a full core offload of the 193 assemblies from a reactor vessel. Mr. Jones stated DCPD operates in a range between 800 and approximately 1,150-1,200 available spaces in its spent fuel pools. Mr. Jones reported loading campaigns are conducted approximately every four to six years and the next campaign is planned for July 2027, after the spring refueling outages and will involve loading 8 to 10 canisters. He reported the operating licenses from the NRC required DCPD to always have space in the spent fuel pools for a full core offload at any time and this includes factoring in new fuel which might be received in anticipation of the next fuel cycle.

In response to Dr. Meshkati's query, Mr. Bates replied Campaign No. 7 was conducted approximately five and a half years ago and he confirmed Dr. Meshkati's observation that PG&E expects to use many but not all of the same workers from Campaign No. 8 in Campaign No. 9. Dr. Meshkati observed there will therefore be some impact on experiential knowledge by the contract workers and he remarked this is not an issue unique to the nuclear industry and the issue

of experiential knowledge in safety is extremely important as is the cohesiveness of the team and the acculturation that the team receives at DCP. Mr. Bates replied one cannot assume that the company you contracted with last time is the same company on a subsequent assignment and this review starts with review of qualifications and experience. He reported DCP has the right of refusal for the makeup of the spent fuel loading crews and he observed he would not accept a crew made up of all new individuals and he commented the contractors also do not want a situation where all its employees leave at the same time. He remarked for Campaign No. 8 DCP had a very well balanced crew in terms of experience levels, all of whom have the proper qualifications and PG&E personnel provide oversight of the entire process including in verifying qualifications and proficiency and dry runs of critical operations are conducted for this purpose before any spent nuclear fuel is handled. Mr. Jones added that PG&E also has the same range of experience and age dispersion on its spent fuel teams to ensure a good composition and Mr. Bates confirmed DCP has an array of personnel with different skills, abilities and experience.

In response to a question as to provision made for damaged or leaking fuel Mr. Bates responded prior to a fuel being loaded into a canister the age of the fuel is determined which he stated directly affects how many kilowatts the fuel produces and as to the radiation protection to be provided by the canister and the transfer and storage casks. Mr. Bates reported a four-face inspection is conducted of the fuel assemblies and DCP has an excellent inventory record of fuel failures from operational cycles to identify leaking or damaged fuel and any damaged or leaking fuel is not chosen for placement in a storage canister and he observed the storage of such leaking or damaged fuel will likely be addressed during decommissioning.

Mr. Jones remarked PG&E has produced some excellent YouTube videos that show the entire movement of the spent fuel and he commended these to the Committee and the members of the public present. Mr. Rathie commented the DCISC's website also includes videos on the topic of the storage of spent of nuclear fuel.

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

Dr. Peterson asked Mr. Rathie to introduce the next topic.

A. Status of Governmental Agency Interactions, Response to SB 846 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.

Mr. Rathie recognized the presence in the audience of the Deputy Director for Statewide Energy for the Department of Water Resources (DWR) Ms. Delphine Hou and Dr. Deb Luchsinger of Preferred Licensing Services and Mr. Jerry Bischof formerly Senior Vice President of Nuclear Operations with Dominion Energy who are assisting the DWR with its responsibilities in connection with the license renewal for DCP extended operations. Mr. Rathie reported DCISC representatives have met several times with DWR representatives including

during fact-finding. Mr. Rathie reported DWR representatives met with Dr. Meshkati and Mr. Rathie to provide an orientation. Mr. Rathie thanked the DWR representatives for the cooperation they have extended to the DCISC.

Mr. Rathie reported that last month he and Dr. Budnitz met with five representatives of the California Attorney General including Deputy Attorney General Ms. Megan Hey who has been instrumental in facilitating meetings between the Attorney General's appointee to the DCISC and the Attorney General's staff members. Dr. Budnitz reported during this meeting he responded to questions and briefed the Attorney General's staff on the DCISC's activities and the status of its reviews including its review pursuant to SB 846 of seismic and maintenance issues and concerning other activities in connection with license renewal.

Mr. Rathie reported that after September 2022 with the adoption of SB 846, the CPUC opened a rulemaking proceeding to implement the statutory provision of the California Government, Public Resources, Public Utilities and Water Codes which were adopted pursuant to SB 846. That proceeding is presently in Phase 2, with Phase 1 having been considered and concluded in two separate Phases with Phase 1 Track 1 dedicated principally to the operation and funding of the DCISC in the period of transition and relicensing. The Phase 1 Track 2 proceeding considered and approved, prior to the end of 2023, moving forward with the extended operation of DCPD and in that phase the findings of the Committee were considered relative to the seismic safety of the site and maintenance which might have been deferred in anticipation of the plant closing. Mr. Rathie then requested his colleague, Mr. Willis Hon a partner with the law firm Nossaman LLP who serves as special counsel to the DCISC for regulatory affairs, to address the Committee concerning the issues pending in Phase 2 that relate directly to the Committee.

Mr. Hon reported the parties in Phase 2 have submitted comments and proposals on the DCISC's forecast costs and associated activities during DCPD extended operations. Mr. Hon remarked the Committee is not a party to the rulemaking proceeding and has been advised to provide its comments directly to CPUC Energy Division staff. Mr. Hon stated with Mr. Rathie he will be soliciting the members views and direction on the Phase 2 issues he will brief, and the input received can be passed on to the CPUC staff as either the position of the Committee or of any of its individual members.

Mr. Hon reported the Alliance for Nuclear Responsibility has proposed term limits for DCISC membership which would limit a member's service on the Committee to two three-year terms. The Small Business Utility Advocates has expressed support for the Alliance's proposal while PG&E has not taken a position on the issue. Dr. Budnitz reported that given there was nothing in the docket expressing a contrary view, as an individual and not as a member of the Committee he submitted a letter in opposition to term limits. Dr. Budnitz remarked he does not believe the reasons put forward in support of term limits, that long service results in too close a relationship with DCPD personnel and the local community and that over a long period of service oversight becomes lax and results in fewer recommendations, are valid. Dr. Budnitz explained in some detail why he believes this is not the case. Dr. Budnitz expressed his view that the appointment discretion should remain with the entities and officials that now appoint the Committee's members. Dr. Budnitz remarked he did not feel it would be appropriate for the

Committee as a body to take a position on the issue of term limits for membership. Dr. Budnitz expressed his personal view and conviction that the intent behind the term limits proposal was principally motivated by the desire to remove him, Dr. Peterson and former member Dr. Lam from the Committee so that other people might be brought onto the panel. Dr. Budnitz provided examples of how incumbent members were exempted from the imposition of term limits on other bodies and why a limit should not apply to incumbents. He further stated he discussed this issue with the Attorney General's staff during the meeting last month. **Dr. Peterson stated in his view the CPUC should seek advice on the matter of term limits for DCISC membership from the entities that appoint its members and the question is really how much discretion on the appointment process do those agencies wish to maintain. He remarked it is reasonable for the DCISC to inform the appointing entities of the issue. Mr. Rathie summarized the direction to counsel was to formally advise the CPUC to seek advice for the appointing entities and to notify the entities as to the existence of the proposal and to advise that the Committee as a body takes no position on the issue.**

Mr. Hon reviewed the topic in Phase 2 of the methodology for the Committee's funding during the period of extended operation. **He reported PG&E made a proposal that included input received from Mr. Rathie which would provide baseline funding in an amount equal to the average of the Committee's expenditures for calendar years 2023, 2024 and 2025, or the amount now provided per previous CPUC decisions whichever is greater with any funds unspent in a calendar year returned to PG&E for credit to the ratepayers providing the funds. This amount would be increased each year in an amount equal to the increase in the Consumer Price Index not to be less than 3%. For overspending in any calendar year the DCISC would provide an invoice to PG&E at the commencement of the following year along with a 10% contingency.** Mr. Hon reported the Alliance for Nuclear Responsibility expressed general agreement with this proposal. Mr. Rathie observed that at present, should the Committee expend more in any calendar year than it receives in funding in that event the Committee begins the next year with a deficit. He remarked preliminary estimates are that the new funding formula may result in approximately a 13% increase in funding for the Committee over the existing formula. Senior Director Mr. Tom Jones observed PG&E believes the proposal is reasonable and is linked to California cost increases. Mr. Jones reported there is now a provision in the DCISC Third Restated Charter which provides for budgetary discretion over the budgeted amount in the event a shortfall is incurred as a result of public communication activities by the Committee. **Mr. Hon remarked the direction from the Committee on this issue is that the Committee supports the proposal by PG&E.**

Mr. Hon reviewed the revisions to the Committee's current Charter which have been proposed in Phase 2 and reported the Small Business Utility Advocates proposed that recommendations made by the Committee go in a more direct and rapid fashion to the CPUC and to the NRC. The Alliance for Nuclear Responsibility has opposed the proposed change and PG&E has argued such a revision to the Charter is not necessary as the current provisions are adequate. Mr. Hon reported the Small Business Utility Advocates have also proposed that the Committee have immediate and enforceable power to address urgent operational safety issues as they emerge. **Dr. Peterson observed a key point is that the Committee has no enforcement authority for its recommendations and it is through the entities appointing its members that the recommendations receive effective and substantial leverage. Dr., Budnitz observed**

the Committee also has a direct link to the NRC resident inspection team through its frequent meetings with the resident inspectors at DCPP and he remarked Part 21 of the NRC regulations provide an avenue for any citizen to report a safety concern to the NRC. Mr. Hon observed and the Committee Members agreed the apparent direction is to provide input that the proposed revisions to the Charter are not necessary.

Mr. Hon reported the final regulatory issue which concerns the DCISC in Phase 2 pertains to the provision of the funds for its operation which the Small Business Utility Advocates suggest should require PG&E to provide funding for the Committee's operation to the CPUC and for the CPUC to then provide those funds to the DCISC. He observed that PG&E has stated its position that this change is not necessary. The Alliance for Nuclear Responsibility has indicated it does not object to the proposed change. Mr. Rathie commented that at this point everything has worked well as far as the funding and the timing of the funding for the Committee's operations including the additional funding received for its transition and relicensing activities and adding a role for the CPUC in the matter would probably complicate and delay the receipt of the required funding. He observed by past practice the Committee accesses its annual funding on a quarterly basis and must at all times operate on a "cash and carry" basis with respect to its activities. **The Committee members were then in agreement that this proposed revision is simply not necessary.**

Mr. Hon summarized the Committee's position on the issues he briefed: (1) concerning term limits to let the appointing entities know about the pending proposal and inform them the Committee does not have a formal position on the matter; (2) concerning funding methodology the Committee supports the position of PG&E; (3) concerning the Charter revision and funding logistics proposals the Committee believes those proposals are not necessary. Mr. Hon reported the parties have filed and submitted their opening and reply comments in Phase 2 and the Commission is working on a proposed decision. Mr. Hon stated with Mr. Rathie they will put the Committee's positions on these issues into a brief to be submitted to Mr. David Zizmor of the CPUC Energy Division.

The Members then took up the matter of ratification of Amendment No. 4 to the Contract with Dr. Mark Kirk to increase its not to exceed amount of \$100,000. On a motion by Dr. Budnitz, seconded by Dr. Peterson, Amendment No. 4 was ratified.

The Members discussed engaging in the search directed earlier for a consultant or consultants to undertake a peer review of the seismic contentions raised by Dr. Peter Bird and they observed the Committee's requested Dr. Bird to document his concerns in a report suitable for peer review. Dr. Kadak observed this review might need to wait for receipt of a suitable report. Dr. Meshkati volunteered to work on the matter including assembling a list of possible candidates together with counsel and the Committee's consultants to conduct the interview process. Dr. Budnitz invited the members of the public present to provide names for consultants who might be suited for this task and the members and consultants discussed assembling a strong list of potential subject matter independent experts and to return the matter to the Committee at the February 2025 public meeting. **Dr. Peterson observed the subject matter experts who addressed the Committee at this public meeting each identified gaps in information which would be necessary to have from Dr. Bird in**

order to conduct an appropriate review and he commented at present identification of those gaps would be required in order to conduct a sufficient review. Dr. Budnitz commented if may be necessary to engage more than one consultant for this review and Dr. Peterson commented as Dr. Meshkati is leading the process of identifying consultants part of that task will be identifying the disciplines needed.

Mr. Rathie called the Committee's attention to the two draft Committee policies in the agenda packet for consideration. He reported the first is a policy which would document the Committee's present practice of reviewing fact finding reports in a manner which precludes the sharing of information between the members in the interim between public meetings. The second policy proposes a protocol for a response by the Committee in the event of an event notification at the power plant.

Concerning establishing a policy for a Committee response to events at the plant Mr. Rathie remarked that it would be important for the Committee not to interfere with the response, but he stated the Committee does have a responsibility to understand the nature of an event so that the Committee may be in a position to inform the entities that appoint its members and he observed the Committee does have a role for public outreach, although during an event that would not be its primary function. He reported Senior Director Tom Jones and Ms. Brandy Lopez reviewed the draft policy and have provided suggestions. **Mr. Rathie stated at this time the second policy concerning a Committee response to an event was not before the Members for approval but rather for information and discussion and he observed this might be an appropriate topic to address in a future fact finding.** Mr. Rathie reported Consultants McWhorter and Wardell have been instrumental in the development of this policy. Dr. Peterson remarked his principal concern is related to the Committee's lack of regulatory or enforcement authority and he remarked the most counterproductive outcome would be if the Committee were to serve as a distraction or impediment to those entities that do have those explicit responsibilities. Consultant McWhorter reported that his input on the policy stemmed from his experience during the earthquake at the North Anna Nuclear Power Plant in Virginia when he was representing the minority owner, as the minority owner is not a part of the emergency response organization but needed to have access to a flow of information on the situation. He remarked there is no intent to be intrusive in this effort, but it is very valuable to have a plan for maintaining access to information when a real event occurs and on occasion rumors can start after an event and the Committee needs to be prepared for questions from the public. PG&E Senior Director Mr. Tom Jones remarked there are ways to employ the DCISC's expertise during an event and he observed the appointing authorities already have defined roles in the State of California's incident command structure and he suggested the DCISC might function on behalf of the public as a technical liaison. **He suggested the DCISC review this issue with the San Luis Obispo County Office of Emergency Services and the Governor's Office of Emergency Services and the NRC. Dr. Peterson agreed that this is a good topic to take up in a future fact finding and he offered to sponsor the topic in that context.** Dr. Budnitz observed the most likely scenario might be that the policy would come into play after an event had successfully terminated and questions are being posed in which case the Committee could be thrust into the discussion and it would be prudent to have groundwork laid so the Committee could respond effectively.

On a motion made by Dr. Budnitz, seconded by Dr. Meshkati, the Committee unanimously adopted Committee Policy 8 "Review of Fact Finding Reports."

Mr. Rathie provided his report on financial matters and reported the Committee is current solvent, but if expenditures continue for the remainder of 2024 as they did for the same period in 2023 the Committee will have overspent the funds it receives both from the PG&E ratepayers and under the Diablo Canyon Transition and Relicensing Memorandum Account which was set up in part to fund transition and relicensing activities by the Committee. He reported that overspending would be recouped in 2025 but as the Committee must always operate on a "cash and carry" the matter of having an adequate cash flow is always of great import to the Committee's operations.

Mr. Rathie reported the DCISC website has been averaging 365 visits per month and the traffic increases during those months when the Committee conducts its public meetings. Visitors come largely from the United States following by visitors from Canada, China, South Korea, India, Brazil and Japan. He reported the website includes informational videos on the DCISC and on DCPD operations and photos of the Committee members and Consultants during fact finding. He remarked the DCISC informational video has become somewhat dated and in the event the Committee conducts future tours with members of the public it would be good to update the video.

Consultant McWhorter remarked he has discussed with Consultant Wardell changing how the Committee documents recommendations in its fact finding reports. He observed the current practice is to generally document the DCISC's internal conclusions and infrequently recommendations to PG&E. Mr. McWhorter stated their proposal is to include recommendations by the fact finding teams to the Committee separately from those directed to PG&E and to clearly and specifically document that distinction and at the conclusion of the fact finding report summarize the recommendations made by category. Dr. Meshkati commented he believes Consultant McWhorter's suggestion that the Committee document recommendations by the fact finding teams to the Committee as a whole has merit and he commented in his review of past fact finding reports he found there were very good recommendations that the fact finding teams made to the Committee as a whole and he commented the reports could also serve to document recommendations made to the Committee's appointing agencies. Dr. Peterson expressed his support and commented that the reduced number of recommendations made by the DCISC to PG&E over the past few years is principally due to the fact that a recommendation is not needed because the action is or has already been taken by DCPD and in that case the Committee expressed the action as a Concern. Dr. Budnitz observed the Committee needs to remain cognizant of the threshold for making a recommendation and he remarked he believes the current threshold employed by the Committee is appropriate and he commented the proposal to include recommendations the Committee in the reports is a good idea. He also remarked and observed that the number of recommendations made by the Committee to PG&E has declined over past years due to changes by PG&E and not due to a change in the threshold for the Committee to make a recommendation and he warned against any tendency to lower the threshold in order to simply make more recommendations. **The consensus of the Committee was to adopt Mr. McWhorter and Consultant Wardell's suggestion concerning future fact finding reports.**

Mr. David Weisman of the Alliance for Nuclear Responsibility was recognized. Mr. Weisman read from two paragraphs which concern the Alliance for Nuclear Responsibility's proposal for term limits for membership on the DCISC from his organization's Opening Comments in Phase 2 of the present CPUC rulemaking proceeding concerning the extension of operations by DCPP. He stated the proposal would limit membership to two three-year terms and is modeled on the seven-year limit the NRC imposes on its resident inspection teams at individual power plants. Mr. Weisman stated his view that SB 846 codified the DCISC's responsibilities to be more proactive and assertive than the DCISC has performed for the last ten years. He reported the new legislation, Public Utilities Code 712.1 characterizes the DCISC's purpose as to make findings and recommendations appropriate to enhance and improve safety. He contrasted this with what he described as more passive responsibilities described in CPUC Decision 88-012083 which he stated described as assessing and monitoring safety. Mr. Weisman observed the DCISC has had a steady decline in its recommendations, as from 2001 to 2014 there were a total of 66 recommendation and since then there has been only single recommendation made which was made following the passage of SB 846. He described the current members of the DCISC as individuals of exceptional distinction who have each contributed valuable public service, but he reported their initial terms on the Committee commenced in 2004, 2007 and 2009 respectively and he remarked his organization has asked the CPUC to consider whether a mechanism for gradual turnover in the members would better meet the public's expectations as created by SB 846. Mr. Weisman stated the Alliance's emphasis is on what he described as the newly designation of enhance and improve safety with recommendations and not a remedial action over past occurrence, but it is in response to a perception that improvement can be made rather than as a form of compensatory behavior.

Mr. Bruce Severance was recognized. Mr. Severance thanked the DCISC for its dedication to safety and commented it was his perception there is sincerity in the Committee's effort to review at safety issues. He remarked there was debate about adding the DCISC to a role in the event of an emergency and that could create discord in the response and he stated he disagrees with such a conclusion. He remarked he believes the DCISC would have a responsibility to participate and bring attention to the issues as they arise even though other agencies made by involved and he stated he hoped each member of the Committee would see it as a duty to respond without creating confusion and in a proactive effort in furtherance of adding to a concerted effort toward a reasonable solution if an event were to arise.

Dr. Peterson asked Consultant Wardell to lead the review of the 34th Annual Report.

B. Approval of the DCISC 34th Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations, July 1, 2023 – June 30, 2024.

Mr. Wardell reported that the draft of the Committee's 34th Annual Report for the period July 1, 2023 through June 30, 2024 has been through several reviews and the Executive Summary, including the Committee's Conclusions and Recommendations, was part of the public agenda packet for this meeting. Dr. Meshkati thanked Mr. Wardell for assembling the report and remarked while he has no issues with regard to its contents, as he was not a member of the DCISC during the report period it would not be appropriate for him to vote on its approval. Dr.

Budnitz observed he was satisfied with the Executive Summary and the sections of the report concerning seismic safety. Dr. Budnitz then offered a motion that the Committee accept the Annual Report as presented which was seconded by Dr. Peterson. **Dr. Peterson observed the report includes a specific recommendation to PG&E that while the results from testing of surveillance Capsule B from Unit 1 are not necessary to assure Unit 1 reactor vessel embrittlement is acceptable with reference to the five-year extension, the DCISC recommends that Capsule B be removed during the next refueling outage for Unit 1 and that a reevaluation of reactor vessel integrity including both for PTS and USE be performed when the new data from Capsule B becomes available.**

Mr. Rathie proposed, and the members agreed, as many computers no longer have CD readers, that for the 34th Annual Report copies continue to be produced in USB format but not in CD format.

Mr. Rathie remarked in its 34th Annual Report the Committee has made a formal recommendation to the CPUC that the CPUC and all other necessary California state authorities support the funding of plant upgrades recommended by DCCP.

Ms. Julie Mansfield Wells, speaking as a member of the public, was recognized. Ms. Wells thanked the Committee and welcomed Dr. Meshkati. Ms. Wells requested that Dr. Digby Macdonald and Dr. Peter Bird's reports as well as Mr. Severance's communications to the DCISC be included in the 34th Annual Report. Dr. Peterson confirmed those documents are included in the report as exhibits [in Volume II] as well as posted on the DCISC's website.

Mr. Bruce Severance was recognized. Mr. Severance stated the vote earlier in the meeting to include Dr. Kirks Report in the 34th Annual Report was tantamount to an endorsement unless other views including those of Dr. Macdonald are included. Mr. Severance stated his view that the Committee should either clearly endorse or not endorse Dr. Kirk's Report. Mr. Severance remarked he believes any ambiguity to be dangerous due to circumstances connection with the 2011 Westinghouse PTS evaluation and its revision of RT_{PTS} value uncertainty ranges of all prior reports and calculations which he stated he has debated with Dr. Kirk in connection with what he termed a gross under prediction in a 1987 Report. He stated he has submitted a report to the DCISC showing a seven fold increase in the likelihood of a PTS event which he characterized as the new information the Committee has asked to see. He further remarked the Capsule Y data report states the results of the analysis are within range which he stated makes the actual value 268°F. which he stated is at the screening limit by the end of license. He commented none of the capsule reports clearly state what the embrittlement values are as to the end of license and Dr. Kirk has admitted this and informed Mr. Severance they are reported elsewhere. Mr. Severance stated he has not seen those report after having read 5,000 pages of information in the NRC docket in this matter and he is concerned the DCISC may not have seen the data. He stated endorsement of Dr. Kirk's Report is to him highly questionable.

Dr. Peterson commented the discussion on Unit 1 reactor vessel embrittlement in the Executive Summary of the 34th Annual Report contains a set of conclusions that the Committee reached as part of drafting the Annual Report and those conclusions are being approved. Dr. Peterson emphasized the Committee is going to continue to investigate this

question in some depth. He reported it currently appears the Unit 1 reactor vessel is in compliance with NRC requirements for embrittlement and that it will remain in compliance for the five year period of the license extension, although information from Capsule B's removal could change the longer term conclusions.

The Committee then voted, with two Members in favor and Dr. Meshkati abstaining, to approve the DCISC's 34th Annual Report on the Safety of Diablo Canyon Nuclear Power Plant Operations for the period July 1, 2023 through 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.

In response to a Committee question, PG&E Senior Director Mr. Tom Jones reported PG&E has a sufficiency determination from the NRC which allows the continued operation of DCP. He reported the license renewal process has two tracks, one for safety and the second for environmental issues. He reported there will be meetings in November 2024 on environmental issues and DCP has a referral to the California Coastal Commission for a Coastal Zone Management Act consistency review of the Coastal Commission's original report to the California Secretary of Natural Resources. Mr. Jones stated the California Legislature stated a coastal development permit was not required and PG&E developed its application for consistency based on that understanding and was informed late in the process that thinking on the matter had evolved and a permit was being required. Mr. Jones PG&E does not believe the requirement for a coastal development permit is valid and PG&E is now in negotiation with the agencies involved. He observed the legislation provides for five years of extended operation and the license renewal action with the NRC is for 20 years' reauthorization of operation. Mr. Jones stated there are some issues to be resolved in this context between the NRC and the state processes, but he confirmed these issues are not holding up the license renewal process with the NRC as they are not now on the critical path but he stated they could be in the future.

Mr. Jones reported that Mr. Severance earlier in this meeting gave a brief and vague update about a threatening correspondence addressed to the Diablo Canyon Decommissioning Engagement Panel and Mr. Jones reported this matter has been referred to the appropriate law enforcement agencies.

XXXI ADJOURNMENT OF THE ONE HUNDRED AND NINTH PUBLIC MEETING

There being no further business, DCISC Chair Dr. Per Peterson expressed his appreciation to all participants in this public meeting, to PG&E and DCP senior management, to the AGP Video team, and to the members of the public for their active participation and to the other members and the technical consultants of the DCISC. The Chair then adjourned the afternoon session and this 109th public meeting at 4:45 p.m.

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE	
AGENDA TRANSMITTAL FORM	
MEETING DATE:	February 19, 2025
AGENDA ITEM:	XXI-H
AGENDA TITLE:	Review and Discussion of the Open Items List.
CONSENT [☐] ACTION [☒] INFORMATION [☒]	
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 11/23 Pressurizer Safety Valve internal leak Root Cause Evaluation (1X25 forced outage) at 9/24FF.</i>	9/24FF	Post-trip FFs & PMs
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 5/24FF	2Q25FF
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.)	11/23FF <i>12/24FF</i>	<i>2/25PM Then Close</i>
<i>CO-15</i>	<i>F</i>	<i>Causes and corrective actions for August 2024 dropped rod event. 11/24FF Recommendation to the DCISC: "The DCISC should follow up on future corrective actions that may be initiated in response to an August 2024 dropped rod event."</i>	<i>11/24FF</i>	<i>4Q25FF</i>
CM		Conduct of Maintenance (CM)		
CM-7	I	Review PG&E's progress in complying with (1) the amendment to 10CFR50.55a, which provides the requirements for ISI of containment structures (degradation) and (2) ASME Code requirements for steel liner weld inspections.	5/22FF 7/22FF	Each Pair of RFOs 12/24FF

February 19-20, 2025 Public Meeting
2/10/25

FF = Fact-finding Meeting

PM = Public Meeting

Q=Quarter

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 <i>11/24FF</i>	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	6/24PM <i>1/25FF</i>	<i>1Q26FF</i>
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.	8/24FF <i>1/25FF</i>	<i>4Q25FF</i>
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 <i>1/25FF</i>	<i>2Q26FF</i>
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 8/24FF – satisfactory.] [Observed Corrective Action Review Board 5/24 – satisfactory.]	See list at end of OIL 8/24FF	Annually
<i>PI-2</i>	<i>F</i>	<i>Follow DCCP's use of electronic procedures and work orders to begin in 2025.</i>	<i>12/24FF</i>	<i>5/25FF PFP</i>

PI-3	F	Follow DCCP's use of Artificial Intelligence (Atomic Canyon)	12/24FF 1/25FF	5/25FF PFP
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]	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.	1/25FF	4Q25FF
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).	8/24FF 11/24FF	4Q25FF RJB
RA-6	F	Review DCCP response to NRC re: 10CFR50.59 risk-informed rule changes. Review in FF.	8/24FF 11/24FF	2/25PM 4Q25FF
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 11/24FF	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.	11/24FF 1/25FF	4Q25FF
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 12/24FF	4/25FF 5/25FF

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
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
OE		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	3Q25FF
SE		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 2Q25FF
SE-51	F	Cause Evaluation for Auxiliary Saltwater Pump 2-2 Failure – Extended to include observations during 7/24 pump motor overhaul. 5/24FF Recommendation for DCISC: <i>"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."</i> 1/24FF Closed the 5/24FF DCISC Recommendation and opened a Recommendation for PG&E: <i>"PG&E should perform a more extensive evaluation of why a 2018 Root Cause Evaluation for a failed Auxiliary Saltwater Pump motor bearing did not result in sufficiently effective procedure changes."</i>		5/24FF 11/24FF	11/25FF
SE-52	F	Causes and corrective actions for Secondary System steam leaks. Reviewed Cause Evaluation for 5/24 steam leaks on Moisture Separator Reheater drain at 11/24FF.		11/24FF	Close
OM		Outage Management (OM)			

OM-3	M	During outages, monitor Outage Coordination Center, Control Room, and containment walkdown/inspection (end of outage). Review outage turbine work. Review Steam Generator performance metrics and inspection results.	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.	6/24PM 1/25FF	2/25PM 3Q25FF
SEC		Security (SEC)		
SEC-3	M	Monitor interaction of Security and Operations, Engineering, Maintenance, and Emergency Preparedness for effects on nuclear safety. Plant security per se not reviewed but reviewed only in the context of impact on plant operation.	12/20FF 12/22FF	4Q24FF
SEC-4	M	Review status of DCCPP cyber security (but not physical security) program in compliance with NRC requirements.	1/23FF 3/24FF	2Q25FF 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 12/24FF	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	4/24FF 7/25FF
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.). <i>Met with Geosciences Staff 11/24FF (LTSP, IPRP, Dr. Peter Bird) 11/24FF Recommendation to the DCISC: "The DCISC should continue its work to develop its own independent understanding of the seismic hazard at the DCP site."</i>	5/23FF 9/24FF 11/24FF	4Q25FF
SC-12	F	Workplace seismic safety – review annually. 12/24FF Recommendation to PG&E: "PG&E should review why an extent of condition for an unbraced cabinet found by the DCISC in July 2024 did not prevent the identification of a similar condition by the DCISC in December 2024."	5/23FF#1 7/24FF 12/24FF	5/25FF PFP
SC-14	M	Monitor the Work of the Independent Peer Review Panel, <i>Including Future Reports</i>	5/24FF#2 9/24FF 10/24PM	3Q25FF
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
LD-6	F	Observe operator license, re-qualification, classes periodically in FF meetings.	4/23FF 1/24FF 12/24FF	4/25FF 4Q25FF
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 DCP 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 DCP 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	DCPP'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)		

February 19-20, 2025 Public Meeting

FF = Fact-finding Meeting

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Q = Quarter

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	6/25PM
EO-4	M	Monitor the NRC License Renewal Application and Review Process, including any seismic-related activities.	12/23FF 8/24FF	2/25PM
EO-5	M	Monitor Staffing for Extended Operations	11/23FF 2/24PM 12/24FF	9/25FF
EO-9	F	Review new seismic safety-related information from the IPRP, Dr. Peter Bird, NRC petitions, and any other third-party sources. <i>Consider all future actions.</i>	6/24PM 10/24PM	2/25PM
EMB		Unit 1 RPV Embrittlement [New]		
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
6	F	Review and comment on any <i>all</i> new questions or requests for information related to vessel embrittlement in LRA proceedings.	2Q25FF	
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
O-3	F	<i>Review studies/reviews of drone activity at DCP.</i>	2/21PM 11/20FF	2Q25FF
		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)] <i>[Reviewed at 12/24FF: DCP to begin electronic procedures in 2025.]</i>	2/23PM 8/23FF#1 12/23FF 12/24FF	Close to PI-2
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	Close to PI-2

2/24 PM 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	Close to PI-2
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.	1/25FF	Close
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 June PM due to unavailability of the DCCP Simulator in October and February.]		6/25PM
10/24 PM 1	F	<i>In response to Consultant McWhorter's request Mr. Rogers reported that following Unit 2's recent refueling outage the unit experience a steam leak from a valve on the secondary system¹ and power was stabilized, with the turbine off line but with the reactor on line, to investigate the leak which required a power reduction to repair. A cause evaluation is being performed which will include review of the extent of condition to assess if broader corrective actions are necessary. Dr. Budnitz and Mr. McWhorter stated the DCISC would take an action to review the cause evaluation report when it is complete.</i>	10/24PM	
2	F	<i>In response to Dr. Meshkati's request Dr. Kottke offered to provide Dr. Meshkati with the basis used by Dr. Bird in his work setting forth Dr. Bird's basis for connecting ground motion to core damage frequency.</i>	10/24PM	
3	F	<i>Consultant Wardell reported this program at both the corporate and plant level seeks to protect people by bracing office furniture. He reported in the past few years the DCISC has found DCCP to be in compliance but during this visit a cabinet was found in a conference room that was unsecured. The Maintenance Director who happened to be present initiated a notification in the Corrective Action Program. Mr. Wardell stated the FFT issued a concern on this issue.</i>	10/24PM	
4	F	<i>Dr. Meshkati stated this is a very important issue and unfortunately corporate culture and safety was a major issue for the Boeing firm. He remarked on the relationship between the PG&E Board of Directors over the operation of DCCP in terms of safety and quality and he stated he hopes to learn more about the functioning, responsibility, role, accountability and oversight provided by the PG&E Board of Directors Nuclear Oversight Committee.</i>	10/24PM	
6	F	<i>Mr. McWhorter reported the FFT has a follow up scheduled to review what types of things after a human performance event occurs trigger doing an analysis under HFAC principles. He reported the FFT found the Corrective Action Program was performing well and human performance tools were being adequately used.</i>	10/24PM	
6	F	<i>Dr. Peterson reported the Committee had hoped to hold a plant tour with members of the public at this meeting but due to training exercises the Simulator facility was unavailable for a visit. He suggested that consideration be given to conducting a public tour in conjunction with the February 2025 DCISC public meeting as the public tours have in the past been an important aspect of the Committee's public outreach activities.</i>	10/24PM	

¹ 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.

7	F	Dr. Peterson commented it would be good if Dr. Meshkati could review the dates for Committee activities which were necessarily selected without his input.	10/24PM	
8	F	Director Tom Jones was recognized. Mr. Jones reported PG&E completed an update re-analysis of tsunami hazard wave height including storm surge and sea level rise projections. The work was completed in July 2024 and was communicated on August 16, 2024 to the California Coastal Commission and Mr. Jones stated it will be sent directly to Mr. Johnson and to Dr. Seitz and directly to the IPRP and to the DCISC. He described the work as quite extensive and done at the request of the Coastal Commission for the Coastal Zone Management Act process as part of the License Renewal process. Dr. Peterson stated this a Committee review of this report should be scheduled for a future fact finding.	10/24PM	
9	F	He commented relative to ALARA at the commencement of the current campaign the dose received as at ALARA limits but with changes the number were driven down and the ALARA goal was adjusted down during the campaign. He stated he would provide the ALARA numbers to the Committee.	10/24PM	
10	F	Dr. Peterson stated in his view the CPUC should seek advice on the matter of term limits for DCISC membership from the entities that appoint its members and the question is really how much discretion on the appointment process do those agencies wish to maintain. He remarked it is reasonable for the DCISC to inform the appointing entities of the issue. Mr. Rathie summarized the direction to counsel was to formally advise the CPUC to seek advice for the appointing entities and to notify the entities as to the existence of the proposal and to advise that the Committee as a body takes no position on the issue.	10/24PM	
11	F	He reported PG&E made a proposal that included input received from Mr. Rathie which would provide baseline funding in an amount equal to the average of the Committee's expenditures for calendar years 2023, 2024 and 2025, or the amount now provided per previous CPUC decisions, whichever is greater with any funds unspent in a calendar year returned to PG&E for credit to the ratepayers providing the funds. This amount would be increased each year in an amount equal to the increase in the consumer price index not to be less than 3%. For overspending in any calendar year the DCISC would provide an invoice to PG&E at the commencement of the following year along with a 10% contingency.	10/24PM	
12	F	Dr. Peterson observed a key point is that the Committee has no enforcement authority for its recommendation and it is through the entities appointing its members that the recommendations receive effective and substantial leverage. Dr., Budnitz observed the Committee also has a direct link to the NRC resident inspection team through its frequent meetings with the resident inspectors at DCCPP and he remarked Part 21 of the NRC regulations provide an avenue for any citizen to report a safety concern to the NRC. Mr. Hon observed and the Committee Members agreed the apparent direction is to provide input that the proposed revisions to the Charter are not necessary.	10/24PM	
13	F	Mr. Hon remarked the direction from the Committee on this issue is that the Committee supports the proposal by PG&E.	10/24PM	
14	F	Mr. Hon reported the final regulatory issue which concerns the DCISC in Phase 2 pertains to the provision of the funds for its operation which the Small Business Utility Advocates suggest should require PG&E to provide funding for the Committee's operation to the CPUC and for the CPUC to then provide those funds to the DCISC.	10/24PM	
15	F	Small Business Utility Advocates proposes that recommendations made by the Committee go in a more direct and rapid fashion to the CPUC and the NRC.	10/24PM	

16	F	He (Mr. Hon) reported PG&E made a proposal that included input received from Mr. Rathie which would provide baseline funding in an amount equal to the average of the Committee's expenditures for calendar years 2023, 2024 and 2025, or the amount now provided per previous CPUC decisions, whichever is greater with any funds unspent in a calendar year returned to PG&E for credit to the ratepayers providing the funds. This amount would be increased each year in an amount equal to the increase in the consumer price index not to be less than 3%. For overspending in any calendar year the DCISC would provide an invoice to PG&E at the commencement of the following year along with a 10% contingency. Mr. Hon remarked the direction from the Committee on this issue is that the Committee supports the proposal by PG&E.	10/24PM	
17	F	The Members discussed engaging in the potential search directed earlier for consultants to undertake a peer review of the seismic contentions raised by Dr. Bird and they observed the Committee's request Dr. Bird to document his concerns in a report suitable for peer review and Dr. Kadak observed the review might need to wait for receipt of that report. Dr Meshkati volunteered to work on that matter including assembling a list of possible candidates together with counsel and the Committee's consultants to conduct the interview process. Dr. Peterson observed the subject matter experts who addressed the Committee at this public meeting each identified gaps in information which would be necessary to have from Dr. Bird in order to conduct an appropriate review and he commented at present identification of those gaps would be required in order to conduct a sufficient review. Dr. Budnitz commented if may be necessary to engage more than one consultant for this review and Dr. Peterson commented as Dr. Meshkati is leading the process of identifying consultants part of that task will be identifying the disciplines needed.	10/24PM	
18	F	He (Tom Jones) suggested the DCISC review this issue (response by the Committee in the event of an event notification at the power plant), with the San Luis Obispo County Office of Emergency Services and the Governor's Office of Emergency Services and the NRC. Dr. Peterson agreed that this is a good topic to take up in a future fact finding and he offered to sponsor the topic in that context.	10.24PM	
19	F	Consultant McWhorter remarked he has discussed with Consultant Wardell changing how the Committee documents recommendations in its fact-finding reports. He observed the current practice is to generally document the DCISC's internal conclusions and infrequently recommendations to PG&E. Mr. McWhorter stated his and Consultant Wardell's proposal is to include recommendations by the fact finding teams to the Committee separately from those directed to PG&E and to clearly and specifically document that distinction and at the conclusion of the fact finding report summarize the recommendations made by category. The consensus of the Committee was to adopt Mr. McWhorter and Consultant Wardell's suggestion concerning future fact finding reports.	10/24PM	
20	F	Dr. Peterson observed the report includes a specific recommendation to PG&E that while the results from testing of surveillance Capsule B from Unit 1 are not necessary to assure Unit 1 reactor vessel embrittlement is acceptable with reference to the five-year extension, the DCISC recommends that Capsule B be removed during the next refueling outage for Unit 1 and that a reevaluation of reactor vessel integrity including both for PTS and USE be performed when the new data from Capsule B becomes available.	10/24PM	

21	F	Dr. Peterson commented the discussion on Unit 1 reactor vessel embrittlement in the Executive Summary of the 34 th Annual Report contains a set of conclusions that the Committee reached as part of drafting the Annual Report and those conclusions are being approved. Dr. Peterson emphasized the Committee is going to continue to investigate this question in some depth.	10/24PM	
REC	F	RECOMMENDATIONS - (SB 846 requires the DCISC to "make recommendations appropriate to enhance the safety of the operation at the Diablo Canyon powerplant.")		
REC	DCISC	RECOMMENDATIONS to DCISC:		
	D10/24-1	<u>The DCISC should convene one or more experts with expertise in Neotectonics to further evaluate Dr. Bird's concerns.</u>	10/24PM	
	D11/24FF-3.6	<u>The DCISC should continue its work to develop its own independent understanding of the seismic hazard at the DCCP site.</u>	11/24FF	
	D11/24FF-3.13	<u>The DCISC should follow up on future corrective actions that may be initiated in response to an August 2024 dropped rod event.</u>	11/24FF	
	D12/24-3.2	<u>Recommendation to the DCISC: Because expanded use of electronic procedures can enhance plant operational safety, the DCISC should review this topic regularly.</u>	12/24FF	
	D12/24FF-3.4	<u>Recommendation to DCISC: Because the application of Artificial Intelligence tools has significant potential to change and to improve DCCP's operational safety, the DCISC should review this topic frequently.</u>	12/24FF	
	D12/24FF-3.12	<u>Recommendation to DCISC: Review in future fact-finding meeting how/when various accident mitigation and management strategies and guidelines are used.</u>	12/24FF	
	D1/25FF-3.3	<u>The DCISC should review the Organizational Learning Tool and Safety Culture sections in all Root Cause Evaluations and Cause Evaluations conducted in 2024.</u>	1/25FF	
	D1/25FF-3.8	<u>The DCISC should try to meet with members of the Safety and Nuclear Oversight Committee of the PG&E Board to review matters related to Nuclear Safety Culture at the corporate level.</u>	1/25FF	
	D1/25FF-3.9A	<u>The DCISC should review the results of a PG&E employee safety culture survey following its completion.</u>	1/25FF	
	D1/25FF-3.9B	<u>The DCISC should further review the higher than typical numbers and nature of anonymous Notifications received in 2024 for any significant themes or concerns.</u>	1/25FF	
	D1/25FF-3.12	<u>The DCISC should further review if DCCP should have considered developing FLEX procedures for providing an alternative discharge path for the ASW System following a Beyond Design Basis event that may cause a collapse of the Discharge Structure.</u>	1/25FF	
REC	PG&E	RECOMMENDATIONS to PG&E:		
	P11/24FF-3.11	<u>PG&E should perform a more extensive evaluation of why a 2018 Root Cause Evaluation for a failed Auxiliary Saltwater Pump motor bearing did not result in sufficiently effective procedure changes.</u>	11/24FF	
	P12/24FF-3.2	<u>Recommendation to PG&E: The DCISC recommends that PG&E further expand their use of electronic-procedures-type applications because the improved human performance and documentation of work can directly improve the safety of operations.</u>	12/24FF	

Sixth Draft

P12/24FF-3.6	Recommendation to PG&E: PG&E should review why an extent of condition for an unbraced cabinet found by the DCISC in July 2024 did not prevent the identification of a similar condition by the DCISC in December 2024.	12/24FF
P1/25FF-3.3A	PG&E should review its cause evaluation processes and initiate actions to ensure that deficiencies observed via the Organizational Learning Tool and Safety Culture Assessment are captured and tied to the initiation of appropriate corrective actions.	1/25FF
P1/25FF-3.3B	PG&E should review its cause evaluation processes and initiate actions to ensure that periodic trending is performed across the multiple Organizational Learning Tools and Safety Culture Assessments that are performed as a part of Cause Evaluations and Root Cause Evaluations.	1/25FF

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
 Aux Bldg Ventilation – July 2023
 Chemical & Volume Control System and High Pressure Injection – **Nov 2024**
 Component Cooling Water – Mar 2023
 Compressed Air – Apr 2023

DCPP Programs Reviewed Periodically [Yellow = Upcoming FF]

10CFR50.59 Program – **Nov 2024**
 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
 Emergency Preparedness– Dec 2023
 Employee Concerns Program – Aug 2023
 Equipment Environmental Qualification – Dec 2022
 Equipment Reliability – May 2024
 Fire Doors & Door Life Cycle Mgm't. Plan – Jan 2022
 Fire Protection Program (NFPA-805) – Sep 2024
 FLEX Program – Jul-2023 **1/25FF**
 Flow Accelerated Corrosion – May 2022
 Foreign Material Exclusion – April 2024
 Greater Than Class C Waste – Aug 2022 PFP

Safety Injection Pumps – **Nov 2024**
 Spent Fuel Pool Cooling & HVAC – July 2021
 Steam Generators – Aug 2023
 Special Protection System – Mar 2020
 Turbine-Generator – Jan 2023

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

Sixth Draft

In-service Inspection Program – Jul 2023
Integrated Risk Assessment Program – Mar 2022
Large Motors – Jul 2023
Long-Term Capital Planning Process – May 2023
MIDAS – May 2024
Maintenance Rule – Nov 2023
Margin Management Program – 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 – *Dec 2024*
Plant Health Prioritization Committee – Aug 2023
Plant Staff Review Committee – Nov 2024
Reactivity Management – Apr 2024
Safety-Security Interface – Dec 2022
Self-Assessment – Jan 2023
Single Point Vulnerabilities – Jan 2022
Seismic PRA – *Feb 2025 PM*
Seismically Induced System Interactions – Mar 2024
Software QA - Aug 2021
Spent Fuel Management – Aug 2023
System Engineering – Mar 2022
Transformers, Large – July 2023
Troubleshooting – Dec 2022
Tsunami Hazard Analysis – *Jan 2025*
Vibration Monitoring – Mar 2021

February 19-20, 2025 Public Meeting
2/10/25

FF = Fact-finding Meeting

PM = Public Meeting

Q = Quarter

DIABLO CANYON INDEPENDENT SAFETY COMMITTEE

AGENDA TRANSMITTAL FORM

MEETING DATE: February 19, 2025

AGENDA ITEM: XXIII - I

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. 5 to Consulting Agreement with Dr. Mark Kirk), 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 and proposing certain changes to the Committee's Third Restated Charter.

The Committee is also expected to take up the ratification of Amendment No. 5 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.

AMENDMENT No. 5
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 February ____, 2025.

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 "Agreement") as amended by Amendment No. 1 on December 11, 2023, by Amendment No. 2 on February 21, 2024, by Amendment No. 3 on May 22, 2024, and by Amendment No. 4 on August 19, 2024. 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 \$120,000.00 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 \$100,000.00 provided by Amendment No. 4 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. 5 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. 5 shall be subsequently ratified by vote of the Members at the earliest opportunity, the February 19-20, 2025 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

Dated

CONSULTANT

By _____
Dr. Mark T. Kirk

Dated