

## **NRR-PMDAPEm Resource**

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**From:** Singal, Balwant  
**Sent:** Wednesday, November 02, 2016 8:58 AM  
**To:** 'Richardson, Michael'  
**Cc:** Farzam, Farhad  
**Subject:** Diablo Canyon Power Plant, Units 1 and 2 - License Amendment Request for Adoption of Nuclear Energy Institute (NEI) 94-01, Revision 2-A - Request for Additional Information (CAC Nos. MF7731 and MF7732)  
**Attachments:** MF7731-EMCB-RAIs.docx

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing the Pacific Gas and Electric Company (PG&E, the licensee) license amendment request (LAR) application dated May 12, 2016 (Agencywide Documents Access and Management System Accession Number ML16146A100). The LAR proposes to revise Diablo Canyon Power Plant (DCPP), Units 1 and 2 Technical Specification (TS) Section 5.5.16 "Containment Leakage Rate Testing Program" by replacing the reference to Regulatory Guide 1.163 with a reference to Nuclear Energy Institute (NEI) topical report NEI 94-01, Revision 2-A, as the implementation document used to develop the DCPP performance-based leakage testing program in accordance with Option B of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix J.

The NRC staff has determined that additional information as described in the attachment is needed to complete its review. The Draft request for additional information (RAI) was transmitted to you on October 20, 2016 and a clarification call was held on November 1, 2016. It was agreed that PG&E will respond to the request within 30 days from the date of this e-mail. Please treat this e-mail as formal transmittal of RAIs.

Thanks.

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**From:** Singal, Balwant

**Created By:** Balwant.Singal@nrc.gov

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REQUEST FOR ADDITIONAL INFORMATION  
LICENSE AMENDMENT REQUEST TO ADOPT NEI 94-01, REVISION 2-A  
TO REVISE TECHNICAL SPECIFICATION SECTION 5.5.16  
“CONTAINMENT LEAKAGE RATE TESTING PROGRAM”  
DIABLO CANYON POWER PLANT, UNITS 1 AND 2  
DOCKET NOS.: 50-275 and 50-323

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing the Pacific Gas and Electric Company (PG&E, the licensee) license amendment request (LAR) application dated May 12, 2016 (Agencywide Documents Access and Management System Accession Number ML16146A100). The LAR proposes to revise Diablo Canyon Power Plant (DCPP), Units 1 and 2 Technical Specification (TS) Section 5.5.16 “Containment Leakage Rate Testing Program” by replacing the reference to Regulatory Guide 1.163 with a reference to Nuclear Energy Institute (NEI) topical report NEI 94-01, Revision 2-A, as the implementation document used to develop the DCPP performance-based leakage testing program in accordance with Option B of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix J.

The NRC staff has determined that additional information requested below is needed to complete its review.

1. Section 3.4.2 of the LAR states the following:

*“Due to misapplication of IWL-2421, the second examination of the Unit 1 containment concrete shell in the first interval that was due by November 2005, (5 years after the original examination in 2000) was not performed. This issue was entered into the plant corrective action program for resolution (Reference 13). The subsequent Unit 1 examination was performed and completed successfully in October 2010.”*

Sections 3.6 and 3.6.1 of the LAR state:

*“PG&E requested license renewal for DCPP from the NRC in letter DCL-09-079 (Reference 12) submitted November 23, 2009, but has subsequently put the application on hold.”*

*“PG&E committed to revise the plant procedures which perform the concrete inspections per ASME Section XI, Subsection IWL within a 5-year interval after receiving approval of the license renewal from the NRC.”*

The statements in Section 3.6 and 3.6.1 of the LAR give the appearance that the corrective action(s) regarding misapplication of IWL-2421 to revise the DCPP containment in-service inspection (CISI) program has not yet been implemented because it has been tied to the approval of the license renewal which its review has been put on hold. Please clarify and confirm that the DCPP CISI program has been revised and requires Units 1 and 2 containment concrete inspections, according to ASME Section XI, Subsection IWL, within a 5-year interval.

Enclosure

2. The LAR was submitted on May 12, 2016. Section 3.4.2 of the LAR indicates that the IWL examination of the DCP Unit 1 was performed in June, July, and October 2010, and the recent IWL examination began in 2015 and is ongoing. Please discuss the IWL inspection of DCP Unit 1 containment and corrective actions (if any) performed subsequent to the submittal of the LAR. Also, provide discussion relative to comparison between the findings of 2010 and 2015 IWL inspections and their respective evaluations.
3. In Reference 13 of the LAR, "PG&E Letter DCL-10-077, Response to NRC Letter dated June 21, 2010, Request for Additional Information (Set 5) for the Diablo Canyon License Renewal Application, dated July 19, 2010 (ADAMS Accession No. ML102530195)," in response to the staff's RAI B2.1.28-2, PG&E stated the following regarding the results of the IWL inspections performed during refueling outages 1R10, 2R10 and 2R13:

"All tier-two indications and areas of third-tier degradation were evaluated, using the guidance of ACI 349.3R-96, as acceptable, and having no adverse effects on the structural integrity of the Unit 1 and 2 containments. In accordance with ACI 349.3R-96, repair or replacement was deemed not necessary, as it was determined that the as-found conditions of the structure do not adversely affect the licensing bases intended function."

In Section 3.4.2 of the LAR, the results of the IWL examinations of DCP Units 1 and 2 containments in 2010 and 2011, respectively, are described. It is stated that (1) examination of the containment concrete employs a three-tier acceptance process similar to that described in ACI 349.3R-96; and (2) a total of 990 and 2096 reportable indications were identified in DCP Units 1 and 2, respectively, with a high percentage of these indications exceeding first-tier criteria for acceptance. Please provide a discussion that compares the 2010 and 2011 findings and the IWL inspection results of refueling outage 1R10, 2R10 and 2R13. The response should include sufficient information for further understanding of the rate of progression and determining the effectiveness of management of age-related concrete degradation.

4. Tables 3.4.2-1 and 3.4.2-2 indicate the schedule of the IWE containment examinations of DCP Units 1 and 2, performed as part of period 2 of the second interval of the ISI, from September 9, 2011 to January 8, 2015. More specifically, the planned refueling outages 1R18 and 2R18 is shown being scheduled on February 2, 2014 and September 28, 2014, respectively. The LAR was submitted on May 12, 2016. Section 3.4.2 of the LAR only includes a summary of the IWE inspections for refueling outage 1R17 (Spring 2012) and 2R17 (Spring 2013). Please discuss the highlights of those inspections and corrective actions (if any) performed subsequent to refueling outages 1R17 and 2R17 that relate to DCP Units 1 and 2 containment liner structural integrity and leak-tightness.

5. Section 3.5.4 of the LAR states that the floor-to-liner junction at DCPD is thoroughly inspected through both the Containment Inspection Program and the Coatings Quality Monitoring Program, with no adverse indications identified to date. However, in Reference 13 of the LAR, "PG&E Letter DCL-10-077, Response to NRC Letter dated June 21, 2010, Request for Additional Information (Set 5) for the Diablo Canyon License Renewal Application, dated July 19, 2010 (ADAMS Accession No. ML102530195)," in response to the staff's RAI B2.1.27-2, PG&E stated that the small gaps identified in isolated spots along the Unit 2 containment liner plate and concrete floor interface will be closed by the installation of sealant (caulking) and this repair work was scheduled for Unit 2 refueling outage 16 (scheduled in May 2011). Please confirm that this repair work has been completed. If this repair work, which prevents potential intrusion of liquid into the small gaps between the liner plate and concrete floor, has not been completed due to unforeseen circumstances, provide a new schedule for completing this repair work and justify this postponement.

Also, PG&E's response to RAI B2.1.27-2 indicates that an inspection of Unit 1 containment liner plate during Unit 1 refueling outage 16 was planned to determine if similar small gap conditions exist. Discuss Unit 1 inspection results and corrective actions (if any).

6. Note 1 of Table 3.4.2-7 and Table 3.4.2-8 of the LAR describes that there are currently no containment liner surface areas requiring augmented examinations. It is also noted that the recirculation sump wall adjacent to the self-contained sump structure is no longer a thickness grid area. However, in Sections 3.5.4 and 3.5.5 of the LAR, the following is noted:

*"The RHR recirculation sump area is a potentially corrosive environment for which an augmented inspection is performed. ... The augmented inspections are performed in accordance with ASME Section XI, IWE-2500. The augmented examination includes an ultrasonic thickness inspection of the containment liner in the RHR sump area. The liner within the sump area is gridded into 12-inch by 12-inch squares and ultrasonic readings are obtained at the grid intersection points."*

*"The DCPD IWE program consists of the code required visual inspections of the liner plate (augmented ultrasonic inspection in the RHR sump was performed prior to sump replacement with a closed system that made this augmented exam unnecessary)."*

Please provide clarification (1) regarding the statements in Tables 3.4.2-7 and 3.4.2-8 versus those in Sections 3.5.4 and 3.5.5 of the LAR; and (2) whether there are containment liner surface areas requiring augmented examinations.

7. Provide information of instances during implementation of DCPD CISI program in accordance with IWE/IWL, where existence of or potential for degraded conditions in inaccessible areas of the concrete containment structure and steel liner were identified and evaluated based on conditions found in accessible areas, as required by

10 CFR 50.55a(b)(2)(viii)(E) and 10 CFR 50.55a(b)(2)(ix)(A). If there were any instances of such conditions, discuss the findings and corrective actions taken to disposition the findings.