

**From:** Lee, Samson  
**Sent:** Wednesday, April 14, 2021 11:12 AM  
**To:** 'Soenen, Philippe'  
**Cc:** Richardson, Michael  
**Subject:** Request for additional information - Diablo Canyon proposed technical specifications and revised license conditions for the permanently defueled condition (EPID: L-2020-LLA-0261)

By letter dated December 3, 2020, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20338A546) Pacific Gas and Electric Company (PG&E, the licensee), proposed an amendment to Facility Operating License (FOL) Nos. DPR-80 and DPR-82 for Diablo Canyon, Units 1 and 2. This proposed license amendment would revise the operating licenses and the Technical Specifications (TSs) of the licenses to Permanently Defueled TSs. The proposed changes are consistent with the permanent cessation of reactor operation and permanent defueling of the reactor and would come into effect following docketing of the certifications required by 10 CFR 50.82(a)(1) and other conditions specified in the amendment have been met. The NRC staff has reviewed the license amendment request (LAR) and determined that additional information is required to complete the review. The NRC staff's requests for additional information (RAIs) are listed below. The staff may have additional RAIs. The NRC staff held a draft RAI clarification call with the PG&E staff on April 5, 2021. The PG&E staff requested, and NRC agreed, to a RAI response by May 14, 2021.

The NRC staff considers that timely responses to RAIs help ensure sufficient time is available for staff review and contribute toward the NRC's goal of efficient and effective use of staff resources. Please note that if you do not respond to this request by the agreed upon date or provide an acceptable alternate date, we may deny your application for amendment under the provisions of Title 10 of the Code of Federal Regulations, Section 2.108. If circumstances result in the need to revise the agreed upon response date, please contact me at (301) 415-3168 or via e-mail Samson.Lee@nrc.gov.

#### Applicable Regulatory Requirements

The provisions in Title 10 of the Code of Federal Regulations (10 CFR) 50.36(c)(6), "Decommissioning," in part, apply only to nuclear power reactor facilities that have submitted the certifications required by 10 CFR 50.82(a)(1). For such facilities, technical specifications involving safety limits, limiting safety system settings, and limiting control system settings; limiting conditions for operation; surveillance requirements; design features; and administrative controls will be developed on a case-by-case basis. In the application the licensee states that the proposed changes to the operating licenses and TSs are in accordance with 10 CFR 50.36(c)(1) through (c)(5) and also include administrative changes.

#### Fuel Handling Accident (FHA) Analysis

Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," Rev. 0, July 2000, provides the methodology for analyzing the radiological consequences of several design-basis accidents (DBAs) to show compliance with 10 CFR 50.67. RG 1.183 provides guidance to licensees on acceptable application of alternate source term (AST) submittals, including acceptable radiological analysis assumptions for use in conjunction with the accepted AST.

NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition," (SRP) Section 15.0.1, "Radiological Consequence Analyses Using Alternative Source Terms," Rev. 0, July 2000, provides review guidance to the staff for the review of AST amendment requests. Section 15.0.1 states that the NRC reviewer should evaluate the proposed change against the guidance in RG 1.183. The dose acceptance criteria for the FHA are a Total Effective Dose Equivalent (TEDE) of 6.3 rem at the exclusion area boundary (EAB) for the worst 2 hours, 6.3 rem at the outer boundary of the low population zone (LPZ), and 5 rem in the control room for the duration of the accident.

In Section 2.1 of the license amendment request (LAR), PG&E states that a new FHA analysis was performed to determine the Control Room (CR), EAB, and LPZ doses at Diablo Canyon.

#### Staff Request for FHA

The LAR indicates that the analysis demonstrates compliance with 10 CFR 50.67 and conforms to RG 1.183 and that the limits of RG 1.183 continue to be met, however, many of the assumptions and parameters used are not specified and the doses calculated are not specified. The LAR also specifies that the calculations demonstrate that the EAB dose will be less than 1 rem when projected over four days, as specified in the EPA Protective Action Guides (PAG) Manual. The licensee specifies that the calculations were performed using RADTRAD 3.0.3.

#### RAI-1

Please provide sufficient technical details of the new FHA to allow for NRC staff evaluation. The NRC staff requests this information to include, but not necessarily limited to: key input variables, calculated dose to CR, EAB, and LPZ, source term use in the new FHA analysis, fall height of fuel assembly, water coverage, decontamination factors, and atmospheric dispersion factors.

#### Quality Assurance (QA) and Human Factors

The staff also reviewed the December 5, 2019 letter (ADAMS Accession No. ML19339F388) in which PG&E requested Amendment Nos. 237 and 239. The amendments requested to relocate TS 5.3, "Unit Staff Qualifications," to Chapter 17, "Quality Assurance," of the Updated Final Safety Analysis Report (UFSAR). PG&E stated that moving the personnel qualification requirements (i.e., TS 5.3.1 a, b, c, and 5.3.2) from the Diablo Canyon TS to the UFSAR will provide flexibility in adopting updated NRC endorsed standards and will eliminate the need for future license amendments for each specific position. This is consistent with the guidance contained in the NRC's Administrative Letter (AL) 95-06, "Relocation of Technical Specification Administrative Controls Related to Quality Assurance." The staff concluded that the change was consistent with the guidance in AL 95-06 for relocating a licensee's TS administrative controls to a licensee-controlled document and that there is reasonable assurance that the requirements of 10 CFR 50.36 and 10 CFR 50.120 will continue to be met. Therefore, the NRC staff found the proposed change acceptable as documented in safety evaluation (SE) dated September 11, 2020 (ADAMS Accession No. ML20218A276).

The regulations in 10 CFR 50.4(b)(7)(ii) requires that a change to the Safety Analysis Report QA program description under 10 CFR 50.54(a)(3) or 50.55(f)(3), or a change to a licensee's NRC-accepted QA topical report under 10 CFR 50.54(a)(3) or 50.55(f)(3), must be submitted to the NRC's Document Control Desk.

The regulations in 10 CFR 50.34, "Content of applications; technical information," require that every applicant for an operating license include information in its FSAR on the managerial and administrative controls to be used to ensure safe operation. The information on the controls shall also include a discussion on how the applicable requirements of Appendix B will be satisfied.

The regulations in 10 CFR 50.54 require each power plant subject to the requirements of Appendix B to implement a QA program and 10 CFR 50.54(a)(4) require licensees to submit to the NRC, changes to their QA Program that reduce commitments.

#### Staff Request for QA and Human Factors

Based on PG&E's request and the NRC's approval of Amendment Nos. 237 and 239, the staff is seeking clarification for the following that affects the current proposed amendment to revise the Operating Licenses:

#### RAI-2

Clarify why TS 5.3 was not moved to the Quality Assurance Program Description (QAPD) in its entirety consistent with AL 95-06. Changing the pointer from the UFSAR to the QAPD does not change the fact that a LAR would be needed if there was a change to TS 5.3.

#### RAI-3

Following the basis of Amendment Nos. 237 and 239, as approved by the NRC staff, clarify why the requirements of proposed TS 5.3.2 are not located in Chapter 17, "Quality Assurance," of the UFSAR.

#### RAI-4

The Certified Fuel Handler Training and Retraining Program ensures that the qualifications of Certified Fuel Handlers are commensurate with the tasks to be performed and the conditions requiring response. 10 CFR 50.120, "Training and qualification of nuclear power plant personnel," requires training programs to be derived using systems approach to training (SAT) as defined in 10 CFR 55.4. Although the requirements of 10 CFR 50.120 apply to holders of an operating license issued under 10 CFR Part 50, and the Diablo Canyon, Units 1 and 2, licenses will no longer authorize operation following docketing of the certifications required by 10 CFR 50.82(a)(1), the Certified Fuel Handler Training and Retraining Program nonetheless will align with those requirements.

Proposed TS 5.3.2., states "A training and retraining program for Certified Fuel Handlers shall be maintained." Clarify what these measures are that will establish the certification program for the Certified Fuel Handlers.

#### RAI-5

Requirements in 10 CFR 50.54(a)(4) would be applicable to the QAPD developed for the decommissioning phase as the existing QAPD in Chapter 17 of the UFSAR is not the same as any other license facility that has undergone decommissioning. Clarify if PG&E is planning to submit a request for staff evaluation of the QA program that would be implemented during the decommissioning phase of Diablo Canyon, Units 1 and 2.

## Final Safety Analysis Report (FSAR)

The FSAR is the principal document upon which the NRC bases its safety evaluation supporting the issuance of an operating license for a nuclear power plant. The UFSAR incorporates changes made to the FSAR in accordance with 10 CFR 50.71(e). The UFSAR serves as a major source of information on the current plant design and supporting analyses.

NRC decommissioning guidance (e.g., RG 1.184, "Decommissioning of Nuclear Power Reactors") discusses that the FSAR, which provides a licensing basis for the evaluation of licensing activities under 10 CFR 50.59, will have to be updated to cover decommissioning activities.

The Diablo Canyon LAR Attachment 1 reflects revisions to change the term "Final Safety Analysis Report" to "Defueled Safety Analysis Report" in License Conditions 2.A and 2.B.(2) and to add the term "Defueled Safety Analysis Report" to new License Condition 2.C.(13). LAR Attachment 3, "Proposed Technical Specification Changes – Markup," reflects in the Administrative Controls Section under TS 5.2, "Organization," a revision in TS 5.2.1.a to change the reference from "FSAR" to "DSAR." In TS 4.3.1.1.b and TS 4.3.1.1.c, the references to "FSAR" have been revised to "DSAR."

## Staff Request for FSAR

### RAI-6a

Given that NRC regulations, such as 10 CFR 50.59, are written in terms of FSAR, and DSAR is not a term that is described, defined, or required in NRC regulations; please explain how the DSAR (replaces FSAR in TSs 4.3.1.1.b, 4.3.1.1.c, and 5.2.1.a above) will remain subject to the provisions of 10 CFR 50.59.

### RAI-6b

Additionally, 10 CFR 50.71(e)(6) states, "The updated FSAR [UFSAR] shall be maintained by the licensee until the Commission terminates their license." Given NRC requirements for licensees to maintain the updated FSAR until the Commission terminates their license and that a DSAR is not described, defined, or required in NRC regulations; please explain how the Diablo Canyon TSs (DSAR replaces FSAR in TSs 4.3.1.1.b, 4.3.1.1.c, and 5.2.1.a above) will be maintained consistent with the updated FSAR under this proposed title change.

## Editorial Comments

There appears to be an editorial error in Attachment 3 of the LAR (pg. 251/381). There is a reference to the use of the acronym "DSAR" for the first time in the TS without spelling it out or providing a description/definition. If DSAR is retained (could be changed based on a response to other RAI questions), please spell out the acronym on its first use in the TS.

There appears to be an editorial error in Enclosure 1 of the LAR in the basis discussion for proposed changes to TS 4.3.1.1 (pg. 141/381). The basis states that the TSs are revised to reflect the conversion of the "Final Safety Analysis Report" to the "Defueled Safety Analysis Report" upon implementation of this LAR. In Attachment 3 of the LAR (pg. 251/381), TS 4.3.1.1 is revised to change "FSAR" to "DSAR." There

should be no difference between the changes proposed in LAR Enclosure 1 and those reflected in LAR Attachment 3. Please identify the desired proposed change and update the LAR as appropriate.

The staff notes the TS Bases Control Program in TS 5.5.14 did not have any proposed changes. If changes are being made to change FSAR to DSAR in the other sections of the TS, those changes should also be reflected in TS 5.5.14 and justification provided according to the RAI above.

Docket Nos. 50-275 and 50-323

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