

## **NRR-DMPSPEm Resource**

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**From:** Sebrosky, Joseph  
**Sent:** Wednesday, September 12, 2018 2:01 PM  
**To:** Richardson, Michael  
**Cc:** Vasavada, Shilp; Reisi Fard, Mehdi; Valentin-Olmeda, Milton; Titus, Brett  
**Subject:** Clarification questions associated with staff assessment of Diablo Canyon seismic probabilistic risk assessment report dated April 24, 2018

To: Michael Richardson PG&E  
From: Joe Sebrosky  
Subject: Clarification questions associated with staff assessment of Diablo Canyon seismic probabilistic risk assessment report dated April 24, 2018

Mr. Richardson,

By letter dated April 24, 2108 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18120A20), Pacific Gas and Electric, (the licensee) provided its seismic probabilistic risk assessment (SPRA) report in response to Enclosure 1, item (8) of the March 12, 2012, 10 CFR 50.54(f) letter (ADAMS Accession No. ML12053A340) for Diablo Canyon Power Plant, Unit Nos. 1 and 2 (Diablo Canyon). By letter dated July 6, 2017 (ADAMS Accession No. ML17177A446), the NRC issued a generic audit plan and entered into the audit process described in Office Instruction LIC 111, "Regulatory Audits," dated December 29, 2008 (ADAMS Accession No. ML082900195), to assist in the timely and efficient closure of activities associated with the 50.54(f) letter. To support the staff's audit of the April 24, 2018, Diablo Canyon SPRA report the staff has developed the clarification questions found below. After you have time to review the clarification questions, please let me know when you could support an audit phone call to discuss these questions.

Sincerely,

Joe Sebrosky  
Senior Project Manager  
Division of Licensing Projects  
Office of Nuclear Reactor Regulation  
301-415-1132

### **Clarification Questions on Diablo Canyon Power Plant (DCPP) Seismic Probabilistic Risk Assessment (SPRA) Submitted in Response to 10 CFR 50.54(f) Letter**

#### **Plant Response**

1. Given the high human error probabilities (HEP) for the battery load shedding and auxiliary feed water manual level control Diverse and Flexible Coping (FLEX) actions, discuss any enhancements or improvements (e.g. frequency of training) that were considered to decrease the HEPs.
2. Discuss seismic-specific considerations behind the selection of the modifications to the plant committed to in Section 6 (480 Volt switchgear room ventilation ducts and supports for Units 1 and 2) given the minimal impact on the seismic risk per Section 5.7.13 of the submittal.
3. Describe how the same basic events, which were discretized by binning during the development of the licensee's SPRA, were then combined to develop representative importance measures.

4. Section A2.3.3 in Appendix A of the submittal notes the “fragility cutoff at the [High Confidence of Low Probability of Failure] HCLPF capacity.” The use of the HCLPF cutoff appears to be an important assumption in the development of the SPRA. Provide the impact of the removal of the “fragility cutoff” on (i) the risk metrics, (ii) the top seismic CDF and seismic LERF contributors, and (iii) the contribution from each ‘bin’ to the seismic CDF and seismic LERF.
5. Explain:
  - a. The difference between Sequence 6 and Sequence 9 in Table 5.4-1 of Enclosure 1 to the submittal, especially the significance of ‘SFL9’ in Sequence 9.
  - b. The approach used to perform the sensitivity study for ‘robust’ components described in Section 4.4.1 of Enclosure 1 to the submittal because the value of  $5E-7$  per year represents 2 percent of the licensee’s quantified SCDF but the discussion of the sensitivity states that no change in the SCDF was noted.
6. Clarify if the SPRA model incorporates the dispositions to all IEPRA peer review F&Os. If not, confirm that the resolutions of the following F&Os for IEPRA were incorporated into the SPRA model used for the 10 CFR 50.54(f) submittal: SC-A4-01, SC-A5-01, SC-A5-02, SC-B3-01, SC-B5-01, SY-B10-01, DA-C1-01, DA-C6-01, and LE-D7-01 or provide justification that the exclusion of the resolutions to the cited F&Os from the SPRA model does not significantly change the risk significant SSCs and operator actions reported in the submittal and their associated importance measures.

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