

PG&E Letter HBL-21-009

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Humboldt Bay Power Plant, Unit 3

Docket No. 50-133, OL-DPR-7

Supplemental Response to NRC Request for Additional Information on the License
Amendment Request to Revise the License Termination Plan

Reference:

1. PG&E Letter HBL-21-001, "License Amendment Request 21-01, Revise Methodology in License Termination Plan," dated February 8, 2021 (ML21039A515)
2. NRC Letter, "Humboldt Bay Power Plant, Unit 3 – Request for Additional Information on License Amendment Request to Revise the License Termination Plan (EPID L-2021-LLA-0012)," dated April 1, 2021 (ML21091A047)
3. PG&E Letter HBL-21-007, "Response to NRC Request for Additional Information on the License Amendment Request to Revise the License Termination Plan," dated April 29, 2021

Dear Commissioners and Staff:

In Reference 1, Pacific Gas and Electric Company (PG&E) submitted License Amendment Request 21-01, to propose revisions to the License Termination Plan for Humboldt Bay Power Plant. In Reference 2, the NRC provided a request for additional information (RAI), regarding Reference 1. In Reference 3, PG&E responded to the RAIs in Reference 2. Per a clarification phone call with the NRC on May 3, 2021, PG&E is supplementing the responses to the RAIs in the Enclosure to this letter.

PG&E makes no new or revised regulatory commitments (as defined in NEI 99-04) in this letter.

If you have any questions or require additional information, please contact Mr. Philippe Soenen at (805) 459-3701.

I state under penalty of perjury that the foregoing is true and correct.

Executed on May 20, 2021.

Sincerely,

A handwritten signature in black ink, appearing to be 'MZ' followed by a stylized flourish.

Maureen R. Zawalick
Vice President, Generation Business and Technical Services

Enclosure

cc: Humboldt Distribution

cc/enc: Scott A. Morris, NRC Region IV Administrator

Gonzalo L. Perez, Branch Chief, California Department of Public Health

Amy M. Snyder, NRC Reactor Decommissioning Branch Project Manager

Enclosure
PG&E Letter HBL-21-009

**Responses to NRC Requests for Additional Information on License
Amendment Request to Revise the License Termination Plan (EPID L-2021-
LLA-0012)**

**Responses to NRC Requests for Additional Information on License Amendment
Request to Revise the License Termination Plan (EPID L-2021-LLA-0012)**

RAI 1)

a) Identify the Quality Control (QC) measures and reference the procedures that the licensee plans to use to verify that the assumptions about the insignificant Radionuclides of Concern (ROCs) remain valid for each survey unit, and

b) explain how the licensee will use Minimum Detectable Concentration (MDC) values or QC data to verify the deselection assumptions.

Basis: 10 CFR 20.1402 Radiological criteria for unrestricted use.

Discussion: *The licensee requests an amendment for use of characterization data or general assumptions to consider select ROCs to be relatively insignificant and therefore can be “deselected” from the ROCs under consideration in a survey unit when evaluating data for Final Status Surveys. The proposed commitment for doing so is that:*

“the deselection process for radionuclides that were not specifically statistically evaluated in each specific survey area shall be performed. The sum-of-fractions for the deselected radionuclides shall be no more than 10 percent of the limit. The input for the Hard-to-Detect (HTD) isotopes for the sum-of-fractions calculation may be based on actual analytical characterization data or Minimum Detectable Concentration (MDC) values. The basis for input parameters chosen should be included with the area’s deselection documentation.”

The NRC staff note that the licensee had been previously analyzing approximately 10 percent of the samples collected in a survey unit for all ROCs for QC purposes. It is the NRC staff’s understanding from the approved LTP that the purpose of obtaining this QC data was to verify surrogate relationships established for the HTD ROCs. However, based on licensee communications and the final status survey reports submitted to date, the licensee did not use the surrogate relationship strategy and does not anticipate doing so going forward. In the proposed amendment application for the LTP, the licensee deleted (see first paragraph on pages 5-14 of the red line/strikeout in submittal HBL-21-01) this QC verification strategy. The NRC staff could not identify any similar text requiring QC analysis of all ROCs in a survey unit elsewhere in the LTP. However, in the approved LTP, the licensee effectively commits to using the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) approach for final status surveys.

Because the licensee is using assumptions potentially based on previously collected characterization data, as well as general assumptions as to what ROCs may have been present in the survey units being assessed, the NRC staff believe that some QC evaluation is warranted based on the MARSSIM approach and to confirm the assumptions that the licensee is making, as well as to confirm that no recent impacts to

the land area (due to decommissioning or restoration activities) have occurred that might disrupt anticipated radionuclide distribution across the site. Also, the NRC staff consider environmental transport mechanisms, such as resuspension/dust blowing and surface water runoff, could result in unexpected transport of the deselected ROCs to a survey unit, especially if no environmental cross contamination controls are in place. As such, if the licensee wants to delete the approved QC analysis strategy to verify surrogate relationships at the time of final status survey, it must propose another strategy that will address a QC requirement to verify its assumptions that the deselected radionuclides are not present at concentrations such that the Sum of Fractions (SOF) of the deselected ROCs would exceed 10 percent of the dose criteria. Assuming the licensee will continue to analyze samples for QC data and verify the deselection assumptions, the NRC staff requests the licensee to explain how it would use the data (for example, use the larger MDC value of the QC data for a deselected ROC value under consideration, do not use negative concentration values for assessing against the 10 percent SOF criteria [2.5 mrem/y criteria], consideration of background, etc.).

Intent of RAIs: *The NRC staff expects that a licensee describe, as a commitment in the LTP, the QC steps it will take to verify its assumptions for deselected radionuclides hold true when evaluating a survey unit. In such case, a licensee is expected to also provide the mathematical method it will use for deselecting ROCs.*

- A licensee is expected to identify both when it will utilize the MDC values versus actual sample results, and from where it will obtain the MDC values (e.g., from the QC sample analyses or from the maximum MDC commitment values in the LTP or other?).*
- A licensee is expected to identify how it will verify the deselected radionuclides assumptions (e.g., use QC data to do a 10 percent SOF compare [2.5 mrem/y]?). If the assumptions are not based on data but rather general knowledge as to the absence of select ROCs, the NRC staff expects that a licensee identify the criteria it would apply to the QC data to verify a general knowledge assumption.*
- If a licensee plans to use previous characterization data to deselect ROCs, the NRC staff expects a licensee to identify the mathematical methods it will use for demonstrating consistency with the <2.5 mrem/y dose criterion (e.g., average values of ROC concentrations from what may be a limited data set are not likely to be considered suitably conservative in this case and negative concentrations are not to be utilized to directly compare against a dose based criterion [i.e., to estimate dose] although they may be used to generate suitable statistical information associated with a data set).*

Pacific Gas and Electric (PG&E) Response to RAI 1:

- PG&E will continue to use the guidance in MARSSIM section 4.9.2, which is included in Humboldt Bay Power Plant (HBPP) Procedure HBAP C-202 "Final Status Survey Quality Assurance Project Plan" and HBPP Implementing Procedure RCP*

FSS-2 "Preparation of FSS Survey Plans." These documents prescribed, for quality control (QC) purposes, a minimum of 5 percent randomly selected samples from each survey unit be analyzed for a suite of deselected hard-to-detect (HTD) radionuclides. During the data quality assessment, Procedure RCP FSS-14 "Data Quality Assessment," the QC data results of these analyses are to be compared to the deselection assumptions. If the QC results for a survey unit indicate the deselected radionuclides are all less than the Minimum Detectable Concentration (MDCs), then the deselected Radionuclides of Concern (ROC) assumptions are confirmed and the classification deselection average dose is assigned to that survey unit (see Reference 1: HBL-21-002, Attachment 1, "HTD Dose Contribution Position Paper, Rev. 2") as the contribution from deselected radionuclides.

Survey units that have been surface scanned and sampled in accordance with Procedure RCP FSS-2 were controlled to prevent recontamination in accordance with HBPP Procedure C-220, "Cross Contamination Prevention and Monitoring Plan." Additionally, work instructions for decommissioning activities in adjacent areas contained instructions to limit the potential for spread of contamination into previously surveyed areas. Whenever events were identified that could have resulted in contamination to a previously surveyed unit, follow up surveys were performed in the previously surveyed areas to determine any need for additional remediation and/or repeat final status survey.

- b) When evaluating the HTD QC results for a survey unit, if any greater than MDC value(s) are identified, the sum of fractions will be determined (using deselected ROC QC results greater than zero) and will be used for the deselected ROC radionuclides dose contribution in that survey unit. Also, if any of the individual radionuclide results is greater than 10 percent of the applicable Derived Concentration Guideline Level for the average residual radioactivity in a survey unit (DCGLw) (essentially greater than 2.5 mrem/y potential dose), then that radionuclide will no longer be "deselected" (i.e., considered insignificant).

MDC values for HTDs were to be utilized early in the project until sufficient analytical final status surveys data were available for statistical analysis. Once the compiled data was reviewed and qualified, an average for deselected dose by survey unit class was calculated. These average doses can be used as the deselected ROC dose contributions for the survey unit classification (see Reference 1: HBL-21-002, Attachment 1, "HTD Dose Contribution Position Paper, Rev. 2").

PG&E does not plan to modify or include additional data for the deselected ROC doses. To develop a "bounding HTD dose", the maximum hypothetical HTD dose was calculated from the compiled data set. The resultant bounding hypothetical HTD dose was determined to be 3 mrem/yr for a survey unit.

To address the resultant bounding hypothetical HTD dose that includes QC data, PG&E desires to change its statement in the proposed License Amendment Request (see Reference 2: HBL-21-001, ADAMS Accession No. ML21039A515) which currently states in Section 5.2.1.3:

“The sum-of-fractions for the deselected radionuclides shall be no more than 10% of the limit.”

It should instead state:

“The sum-of-fractions for the deselected radionuclides shall be no more than 12% of the limit.”

References:

1. PG&E Letter HBL-21-002, “Response to NRC Request for Additional Information on the Final Status Survey Report for the Caisson, Survey Units NOL01-09 and NOL01-09-FSR,” dated March 4, 2021.
2. PG&E Letter HBL-21-001, “License Amendment Request 21-01, Revise Methodology in License Termination Plan,” dated February 8, 2021 (ML21039A515).