



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

May 24, 2019

Edward D. Halpin  
Senior Vice President  
Pacific Gas and Electric Company  
P.O. Box 56  
Avila Beach, CA 93424

SUBJECT: NUCLEAR REGULATORY COMMISSION'S ANALYSIS OF PACIFIC GAS AND ELECTRIC COMPANY'S INITIAL AND UPDATED DECOMMISSIONING FUNDING PLANS FOR THE HUMBOLDT BAY POWER PLANT UNIT 3 INDEPENDENT SPENT FUEL STORAGE INSTALLATION

Dear Mr. Halpin:

By letter dated December 17, 2012, Pacific Gas and Electric Company (PG&E) submitted, for U.S. Nuclear Regulatory Commission (NRC) staff review and approval, initial decommissioning funding plan (initial DFP) for the independent spent fuel storage installation (ISFSI) at Humboldt Bay Power Plant Unit 3 (HBPP3) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12353A316). In addition, by letter dated December 17, 2015, PG&E submitted, also for NRC staff review and approval, an updated decommissioning funding plan (updated DFP) for the ISFSI at Humboldt Bay (ADAMS Accession No. ML15351A510). In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), Sections 72.30(b) and (c) and using NUREG-1757, Vol. 3, Rev. 1, "Consolidated Decommissioning Guidance," the NRC staff reviewed the initial and updated DFPs submitted by PG&E, including the initial and updated decommissioning cost estimates (DCE) and the method of assuring funds for decommissioning.

Pursuant to 10 CFR 72.30(b), each holder of, or applicant for, a license under Part 72 must submit for NRC review and approval a DFP containing information on how reasonable assurance will be provided that funds will be available to decommission its ISFSIs. The DFP must contain a detailed DCE, in an amount reflecting: (1) the cost of an independent contractor to perform all decommissioning activities, (2) an adequate contingency factor, and (3) the cost of meeting the 10 CFR 20.1402 unrestricted use criteria (or the cost of meeting the 10 CFR 20.1403 restricted use criteria, provided the licensee can demonstrate its ability to meet these criteria). The licensee's DFP must also identify and justify using the key assumptions contained in the DCE. Further, the DFP must describe the method of assuring funds for ISFSI decommissioning, including means for adjusting cost estimates and associated funding levels periodically over the life of the ISFSI. Additionally, the DFP must specify the volume of onsite subsurface material containing residual radioactivity that will require remediation to meet the criteria for license termination, and contain a certification that financial assurance for ISFSI decommissioning has been provided in the amount of the DCE.

The NRC staff reviewed and analyzed the information submitted by PG&E in its initial DFP on how reasonable assurance will be provided, that funds will be available to decommission the

ISFSIs, including the amount of the DCE, and the method of assuring funds for decommissioning.

PG&E estimated that the total cost to decommission the ISFSI at HBPP3 for unrestricted use is \$1,066,900, in 2012 dollars. Based on its analysis of PG&E's initial DFP, the NRC staff finds that the submitted DCE: is based on reasonable costs of a third party contractor; include an adequate contingency factor; reflects the cost of meeting the 10 CFR 20.1402 criteria for unrestricted use; and are based on reasonable and documented assumptions. Therefore, the NRC finds that the DCE adequately estimated the cost to carry out required ISFSI decommissioning activities prior to license termination, and that the DCE is acceptable.

PG&E relied on an external sinking fund as financial assurance for ISFSI decommissioning, a method authorized by 10 CFR 72.30(e). The external sinking fund is based on site-specific cost estimates that include estimated ISFSI decommissioning costs. The NRC staff finds that the aggregate dollar amount of the licensee's financial instruments provide adequate financial assurance to cover its cost estimates, and therefore, that this financial instrument is acceptable.

Pursuant to 10 CFR 72.30(c), at the time of license renewal and at intervals not to exceed 3 years, the Initial DFPs required to be submitted by 10 CFR 72.30(b) must be resubmitted with adjustments as necessary to account for changes in costs and the extent of contamination (updated DFPs). The updated DFPs must update the information submitted with the original or prior-approved plan. In addition, the updated DFPs must specifically consider the effect of the following events on decommissioning costs, as required by 10 CFR 72.30(c)(1)-(4): (1) spills of radioactive material producing additional residual radioactivity in onsite subsurface material, (2) facility modifications, (3) changes in authorized possession limits, and (4) actual remediation costs that exceed the previous cost estimate.

In its 2015 updated DFP submittal, PG&E estimates that the total cost to decommission the ISFSI at Humboldt Bay for unrestricted use is \$1,140,300, in 2015 dollars. The updated decommissioning cost estimate (updated DCE) considered the requirements of 10 CFR 72.30(c)(1)-(4) and the licensee provided a discussion of each requirement. The licensee stated:

1. There have not been any spills of radioactive material in the Humboldt Bay ISFSI area that is surrounded by the ISFSI security boundary fence.
2. There have been no modifications to the Humboldt Bay ISFSI vault design that could impact decommissioning costs, and no modifications are expected in the future.
3. The Humboldt Bay ISFSI vault design consists of five storage casks containing spent fuel, and one storage cask containing greater than Class C waste. There will be no additional spent fuel casks nor GTCC waste casks placed in the Humboldt Bay ISFSI beyond the original design.
4. There have been no actual remediation costs that exceed previous cost estimates.

Based on its review of PG&E's submittal, the NRC staff finds that the updated DCE: is based on reasonable costs of a third party contractor; includes an adequate contingency factor; reflects the cost of meeting the 10 CFR 20.1402 criteria for unrestricted use; and is based on

reasonable and documented assumptions. Therefore, the staff finds that the updated DCE adequately estimates the cost, at this time, to carry out required ISFSI decommissioning activities prior to license termination, and that the updated DCE is acceptable.

PG&E currently relies on an external sinking fund as financial assurance for ISFSI decommissioning, a method authorized by 10 CFR 72.30(e). The external sinking fund is based on site-specific cost estimates that include estimated ISFSI decommissioning costs. The NRC staff reviewed the licensee's updated DFP, and finds that the aggregate dollar amount of the licensee's financial instrument provides adequate financial assurance to cover its updated DCEs.

Therefore, based on its review, the NRC staff finds that the initial and updated DFPs contain the information required by 10 CFR 72.30(b) and (c) and that PG&E has provided reasonable assurance that funds will be available to decommission the Humboldt Bay ISFSI. In addition to the NRC's review of the PG&E's initial and updated DFPs, the NRC completed an environmental review. On May 20, 2019, the NRC staff published the results of that review in an environmental assessment and finding of no significant impact in the *Federal Register* (84 FR 22913). The NRC staff determined there were no environmental impacts from the NRC's review and approval of PG&E's initial and updated DFPs.

If you have any questions regarding this matter, please contact me at (301) 415-5722 or Pamela Longmire, of my staff, at (301) 415-7465.

Sincerely,

**/RA/**

John McKirgan, Branch Chief  
Spent Fuel Licensing Branch  
Division of Spent Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 72-27  
CAC No: 001028  
EPID No.: L-2017-FPR-0034

Enclosure:  
Final Environmental Assessment

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**ADAMS Package No.: ML19148A422      Memo: ML19148A423**

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