

ENCLOSURE 2, SAFETY EVALUATION

SAFETY EVALUATION BY OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

RELATED TO AMENDMENT NO. 46 TO FACILITY OPERATING LICENSE NO. DPR-7

PACIFIC GAS AND ELECTRIC COMPANY

HUMBOLDT BAY POWER PLANT, UNIT 3

DOCKET NO. 50-133

1.0 INTRODUCTION

Title 10 of the *Code of Federal Regulations* (10 CFR) 50.82(a)(9) states, in part: "All power reactor licensees must submit an application for termination of license. The application for termination of license must be accompanied or preceded by a license termination plan [(LTP)] to be submitted for [U.S. Nuclear Regulatory Commission (NRC, the Commission)] approval." Under the provisions of 10 CFR 50.82(a)(10), the Commission approves LTPs by license amendment. Therefore, in accordance with these requirements, on May 3, 2013, Pacific Gas and Electric Company (PG&E, the licensee) submitted to the NRC for its approval an LTP for the Humboldt Bay Power Plant, Unit 3 (HBPP, the facility) via the license amendment request (LAR), "Addition of License Condition 2.C.5, 'License Termination Plan,'" for HBPP (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13130A008). On March 31, 2014 (ADAMS Accession No. ML14093A050), the licensee submitted additional information, including site-specific decommissioning cost information, as specified in the LAR. Subsequently, on August 13, 2014 (ADAMS Accession No. ML14246A164), the licensee submitted Revision 1 to the LTP, which reflects, among other things, answers to NRC requests for additional information (RAIs) associated with Revision 0.

The NRC approved the LTP through the issuance of Amendment No. 45 (ADAMS Accession No. ML15090A339) in response to the LAR. Amendment No. 45 added License Condition 2.C.5 to the HBPP license. This license condition incorporates the NRC-approved LTP into the HBPP license and allows the licensee to make certain changes to the LTP without prior NRC approval. The license condition reads as follows:

5 License Termination Plan (LTP)

NRC License Amendment No. 45 approves the LTP. In addition to the criteria specified in 10 CFR 50.59 and 10 CFR 50.82(a)(6), a change to the LTP requires prior NRC approval if the change:

- (a) Increases the probability of making a Type I decision error, as that term is described in the NRC's Multi-Agency Radiation Survey and Site Investigation Manual, NUREG-1575, Revision 1 (August 2000) (MARSSIM), above the level stated in the LTP;
- (b) Increases the radionuclide-specific derived concentration guideline levels (DCGL), as that term is described in the MARSSIM, and related minimum detectable concentrations;

- (c) Increases the radioactivity level, relative to the applicable DCGL, at which investigation occurs;
- (d) Changes the statistical test applied other than the Sign Test or Wilcoxon Rank Sum Test;
- (e) Results in significant environmental impacts not previously reviewed.

Reclassification of survey areas, as described in MARSSIM, from a less to a more restrictive classification (e.g., from a Class 3 to a Class 2 area) may be done without prior NRC notification; however, reclassification to a less restrictive classification (Class 1 to Class 2 area) will require NRC notification at least 14 days prior to implementation.

Since the issuance of Amendment No. 45 and the approval of the HBPP LTP, the NRC staff has been reviewing final status survey reports (FSSRs) of several survey units associated with HBPP. During its review, the NRC staff noted that the licensee had not been accounting for all its radionuclides of concern (ROCs) and had not been accounting for its insignificant radionuclides in a manner consistent with the LTP. When asked about these issues, the licensee responded with additional data as well as a proposed amendment to the LTP to change how it assesses insignificant/hard-to-detect (HTD) ROCs. The amendment was needed due to the licensee changing its methodology for how it would demonstrate meeting the dose criterion in 10 CFR 20.1402, "Radiological criteria for unrestricted use," from what was previously approved and incorporated into the HBPP Final Safety Analysis Report.

The LTP amendment request, dated February 8, 2021, is available in ADAMS at Accession No. ML21039A515. On April 1, 2021 (ADAMS Accession No. ML21091A047), the NRC staff sent an RAI to the licensee. The licensee responded to the RAI on April 29, 2021 (ADAMS Accession No. ML21119A214) and supplemented its RAI response on May 20, 2021 (ADAMS Accession No. ML21140A395) after an RAI clarification call between the NRC staff and the licensee on May 3, 2021 (ADAMS Accession No. ML21158A108).

Also of relevance to the LTP amendment request and to the NRC staff's review of it is the licensee reply, dated March 4, 2021 (ADAMS Accession No. ML21063A474), to a separate RAI, dated September 29, 2020, related to the staff's review of the licensee's FSSR for the Caisson, Survey Units NOL01-09 and NOL01-09-FSR. The March 4, 2021 RAI response included Attachment 1, "Humboldt Bay Power Plant HTD Dose Contribution Position Paper Rev. 02." This position paper was referenced in the licensee's April 29, 2021 RAI response and May 20, 2021 RAI response supplement.

## 2.0 REGULATORY EVALUATION

### 2.1 Background

HBPP was issued an operating license on August 28, 1962. On July 2, 1976, HBPP was shut down for annual refueling and to conduct seismic modifications. In 1983, updated economic analyses indicated that restarting HBPP would probably not be cost-effective and in June 1983, the licensee announced its intention to decommission the unit. On July 16, 1985, the NRC issued Amendment No. 19 to the HBPP license to change its status to possess-but-not-operate, and the plant was placed into a SAFSTOR<sup>1</sup> status.

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<sup>1</sup> SAFSTOR is an NRC-approved method of decommissioning a nuclear facility where the nuclear facility is placed

On December 15, 2003, PG&E submitted a license application to the NRC in accordance with 10 CFR Part 72 to construct and operate an independent spent fuel storage installation (ISFSI) on the HBPP site. On November 17, 2005, the NRC issued site-specific Materials License No. SNM-2514 to PG&E for an ISFSI at the HBPP site. The transfer of spent fuel from the HBPP fuel storage pool to the ISFSI was completed in December 2008. As discussed above, the LTP for HBPP was approved by the NRC via Amendment No. 45.

The decontamination and dismantlement phase of HBPP decommissioning is complete. The remaining activities consist of final status surveys (FSSs). Upon approval of the FSSs and notification from the licensee that all FSSs and reporting requirements have been met, license termination will be addressed. The approval of the proposed revision to the LTP would allow the licensee to take the final steps that will result in the termination of its 10 CFR Part 50 operating license.

## 2.2 Regulatory Requirements

With respect to LTPs, 10 CFR 50.82(a)(10) states:

If the [LTP] demonstrates that the remainder of decommissioning activities will be performed in accordance with the regulations in this chapter, will not be inimical to the common defense and security or to the health and safety of the public, and will not have a significant effect on the quality of the environment and after notice to interested persons, the Commission shall approve the [LTP], by license amendment, subject to such conditions and limitations as it deems appropriate and necessary and authorize implementation of the [LTP].

## 3.0 TECHNICAL EVALUATION

In its February 8, 2021 license amendment request, the licensee proposed to remove all the parts in the NRC-approved LTP for HBPP that address its position on the use of surrogate measurements (a position that the licensee never utilized, as the NRC staff determined upon its review of submitted FSSRs) and to modify its approach used to deal with its deselection process for HTD ROCs. Previously, the licensee had committed to base its deselection process on a sample analysis of a conservative site area. If the HTD ROCs in the sample were considered insignificant (i.e., < 10% of the dose criteria in total, or < 2.5 mrem/year potential dose), then those ROCs could be deselected from the survey unit sample analyses and accounted for using the conservative sample's minimum detectable concentration (MDC) values, or actual values if greater than the MDC. In contrast to this commitment, however, the licensee was using the conservative sample's actual reported analytical values even when the reported values were less than the MDC or negative in value.

The license amendment request proposes a survey unit dose compliance strategy that takes advantage of the sample analyses that the licensee has performed to support its FSSs. Specifically, the proposed strategy would consider the average concentration of the HTD radionuclides from across the HBPP site. The licensee proposed to use the average values of the HTD radionuclides calculated from sample analyses across the site to determine the dose contribution from the HTD ROCs in assessing the potential dose of a survey unit. As noted above, the licensee submitted a position paper as part of its supplemental response to the

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and maintained in such a condition that the nuclear facility can be safely stored and subsequently decontaminated to safe levels (i.e., deferred decontamination).

NRC's September 29, 2020, RAI in which it developed an average concentration of the HTD ROCs for Class 1, Class 2, and Class 3 survey units. It proposed to use these values for the dose contribution from the HTD ROCs in the corresponding survey units that it is evaluating. The average concentration and impact of the HTD ROCs with respect to dose contribution, however, is much less than what would have previously been determined using the MDC values of the conservative sample.

During the NRC staff's review of the license amendment request, an RAI clarification call was held on May 3, 2021 (ADAMS Accession No. ML21158A108) between the NRC staff and the licensee. From this call, the NRC staff understood that the licensee believed that it had obtained all of the samples relevant for demonstrating the FSS of the site. The NRC staff also understood that the licensee did not archive its samples and that additional analysis of the samples was not possible. The following is the NRC staff's evaluation of whether, as proposed to be amended, the LTP continues to demonstrate that the remainder of decommissioning activities will be performed in accordance with the NRC's regulations, will not be inimical to the common defense and security or to the health and safety of the public, and will not have a significant effect on the quality of the environment. This evaluation takes into consideration the licensee's submittals, as well as the information discussed above regarding sample archiving.

The approved LTP for HBPP considers insignificant HTD ROCs as being part of its deselection process. As stated in NUREG-1757, "Consolidated Decommissioning Guidance," Vol. 2, Characterization, Survey, and Determination of Radiological Criteria," Rev. 1, Section 3.3, "Insignificant Radionuclides and Exposure Pathways":

NRC staff considers radionuclides and exposure pathways that contribute no greater than 10% of the dose criteria to be insignificant contributors. Because the dose criteria are performance criteria, this 10% limit for insignificant contributors is an aggregate limitation only. That is, the sum of the dose contributions from all radionuclides and pathways considered insignificant should be no greater than 10% of the dose criteria.

Consistent with this guidance, and conservatively, the licensee previously committed to deselect its HTD ROCs when, based on a conservative sample analysis, the dose contribution from the HTD ROCs was less than a sum-of-fraction (SOF) of 0.1. The licensee used a combination of the conservative sample analysis as well as logic to assess which HTD ROCs to deselect from each survey unit and this logic was described in its FSS reports. As presented in submitted FSSRs for HBPP, the NRC staff noted that the licensee had determined the SOF from the analytical values reported in the conservative sample analysis to assess the potential dose from the HTD ROCs which it deselected. As previously mentioned, this practice was not consistent with the commitment in the LTP to use the MDC values for the deselected ROCs when assessing their potential dose contribution to each survey unit being evaluated.

Also, consistent with NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)," Rev. 1 (August 2000), the licensee had committed to analyze at least 5% of the samples collected in the survey unit for quality control purposes. The NRC staff noted that the licensee did analyze select samples from each survey unit for the suite of HTD ROCs and that the results generally did not necessitate additional actions on the part of the licensee. This, combined with remedial support survey data and characterization data, resulted in a large data set of HTD ROC analytical data from across the site that the licensee ultimately documented in the previously referenced position paper.

The LTP license amendment request for HBPP proposes to remove the text regarding the use of surrogate measurements (a process that the licensee did not utilize for HBPP) and to change how it assesses its deselected ROCs and their dose contribution to a survey unit. The proposed revised LTP text would state:

It has been determined that due to the time since reactor shutdown, surrogate ratios are not appropriate due to decay of shorter half-life gamma emitters. In lieu of surrogate ratios, a deselection of specific radionuclides will be implemented. 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% 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.

In the licensee's May 20, 2021, supplemental response to the NRC's RAI, the licensee commits to affirming the dose contribution from the deselected HTD ROCs as follows:

A minimum of 5 percent randomly selected samples from each survey unit will be analyzed for a suite of deselected hard-to-detect (HTD) radionuclides.... If the QC [quality control] 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.

[I]f 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 (DCGL) (essentially greater than 2.5 mrem/[year] potential dose), then that radionuclide will no longer be "deselected" (i.e., considered insignificant).

The licensee stated in its RAI response that the maximum contribution from HTD ROCs from any survey unit was less than 3 mrem/year based on the sample analyses that it had compiled. In its HTD Dose Contribution Position Paper, Table 8, "Maximum Hypothetical HTD Dose for FSS Units," the licensee provides data allowing the NRC staff to calculate the maximum potential dose based on the analytical data and applicable DCGLs. The NRC staff independently calculated the estimated maximum potential dose to be 2.9 mrem/year and confirmed the licensee's position that the maximum contribution from the HTD ROCs from any survey unit was less than 3 mrem/year based on the sample analyses it had compiled. Finally, in its May 20, 2021, RAI supplemental response, the licensee stated that the statement in the proposed revised LTP that "The sum-of-fractions for the deselected radionuclides shall be no more than 10% of the limit" should be that "The sum-of-fractions for the deselected radionuclides shall be no more than 12% of the limit" to address the bounding hypothetical HTD dose that includes QC data.

The NRC staff determined that the proposed change to the HTD ROC dose contribution strategy could best be evaluated by looking at its impact on past submittals of FSSRs. As such, the NRC staff reviewed the past HBPP FSSR submittals for land area surveys received by the NRC. For each of the survey units in the previously submitted HBPP FSSRs that the NRC staff reviewed, the staff noted the overall dose estimate and the associated dose contribution from deselected HTD radionuclides for each survey unit. The NRC staff then independently calculated the revised survey unit dose estimate applying the proposed HTD Dose Contribution per the licensee’s position paper for comparison. A summary table of the comparison of the results is presented below.

Table: Past Licensee Land Area Submittals Assessing Likely Impacts from HTD ROCs

Survey Units	SU Class	Report Reference ML no and sub references within	Survey Unit dose estimate (mrem/year)	HTD dose portion (mrem/year)	Revised HTD dose portion (mrem/year)	Revised Survey Unit dose estimate (mrem/year)
HBPP-FSS-OOL10-05	3	ML19291A014	0.01	n/a	0.568	0.578
HBPP-FSS-OOL10-06	3		0.14	n/a	0.568	0.708
HBPP-FSS-OOL10-14	3		2.2	n/a	0.568	2.768
HBPP-FSS-OOL10-15	3		1.8	n/a	0.568	2.368
HBPP-FSS-OOL10-19	3		2.8	n/a	0.568	3.368
HBPP-FSS-OOL10-23	3		2.3	n/a	0.568	2.868
HBPP-FSS-ISFS01-01-00	3	XR326378	0.007	n/a	0.568	0.575
HBPP-FSS-OOL-10-04	3	E180719t013526_HBL-18-008	0.032	n/a	0.568	0.600
HBPP-FSS-NOL01-09	1	E200401t054_HBL-20-0007	7.88	n/a	0.187	8.067
HBPP-FSS-NOL09-FSR	1		0.88	0.79	0.187	0.277
HBPP-FSS-OOL09-01	1	E200521t111207_HBL-10-010	2.15	2.15	0.187	0.187
HBPP-FSS-OOL09-01-FSR	1		2.24	2.15	0.187	0.277
HBPP-FSS-OOL09-02	1		2.21	2.15	0.187	0.247
HBPP-FSS-OOL09-02-FSR	1		2.20	2.15	0.187	0.237
HBPP-FSS-OOL09-03	1		2.21	2.15	0.187	0.247
HBPP-FSS-OOL09-03-FSR	1		2.19	2.15	0.187	0.227
HBPP-FSS-OOL09-04	1		2.26	2.15	0.187	0.297
HBPP-FSS-OOL09-04-FSR	1		2.23	2.15	0.187	0.267
HBPP-FSS-OOL09-05	1		2.24	2.15	0.187	0.277
HBPP-FSS-OOL09-05-FSR	1		2.25	2.15	0.187	0.287
HBPP-FSS-OOL09-06	1		2.34	2.15	0.187	0.377

HBPP-FSS-OOL09-06-FSR	1		2.27	2.15	0.187	0.307
HBPP-FSS-OOL09-07	1		2.25	2.15	0.187	0.287
HBPP-FSS-OOL09-07-FSR	1		2.22	2.15	0.187	0.257
HBPP-FSS-OOL09-08	1		0.86	0.794	0.187	0.253
HBPP-FSS-OOL09-08-FSR	1		0.84	0.794	0.187	0.233
HBPP-FSS-OOL09-09	2		2.32	2.15	0.12	0.29
HBPP-FSS-OOL09-09-FSR	1		2.22	2.15	0.187	0.257
HBPP-FSS-OOL09-10	2		2.25	2.15	0.12	0.22
HBPP-FSS-OOL09-10-FSR	1		2.24	2.15	0.187	0.277

The NRC staff determined that the potential change in the estimated HTD ROC dose for these survey units remains insignificant when demonstrating compliance with the unrestricted release criterion (dose limit criterion) of 25 mrem/year. The highest hypothetical dose estimate applying the HTD Dose Contribution strategy would not be expected to exceed half of the dose limit criterion. The NRC staff considers this to be well below the dose limit criterion for compliance.

The NRC staff also determined that the dose estimate would not be expected to exceed half of the dose limit criterion if the bounding dose from the HTD ROCs was used (i.e., 3 mrem/year) when applying the HTD Dose Contribution strategy. In the past, the NRC staff has seen licensees use the estimate of insignificant or surrogate dose based on a statistically bounding concentration of the HTD radionuclides (e.g., avg + 2 sigma) instead of the average site value; however, in this case, the NRC staff determined it acceptable to use the proposed approach because the expected dose estimate result would still result in a relatively insignificant impact compared to the dose criterion. The NRC staff also determined that the licensee’s proposed increase of the maximum allowable impact of the deselected ROCs from 10% of the dose criterion to 12% of the dose criterion (corresponding to 3 mrem/year) is similarly acceptable in this case.

Based on the above, the NRC staff finds that the method that the licensee proposes to use is adequate for demonstrating compliance with the unrestricted release criterion in this case. Therefore, the NRC staff concludes that the LTP, as amended, continues to demonstrate that the remainder of decommissioning activities will be performed in accordance with the NRC’s regulations, will not be inimical to the common defense and security or to the health and safety of the public, and will not have a significant effect on the quality of the environment. Finally, the changes to the license approve the LTP, as amended, by license amendment and, therefore, are acceptable.

#### 4.0 STATE CONSULTATION

In accordance with the Commission’s regulations, the Radiological Health Branch of the California Department of Public Health was notified of the proposed issuance of the amendment on June 4, 2021 (ADAMS Accession No. ML21155A219). The state official had no comments.



## 5.0 ENVIRONMENTAL CONSIDERATION

The amendment relates to changes in recordkeeping, reporting, or administrative procedures or requirements. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

## 6.0 CONCLUSIONS

The NRC has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations; and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

## 7.0 LIST OF CONTRIBUTORS

G. Chapman, NMSS  
A. Snyder, NMSS

## 8.0 LIST OF ACRONYMS

CFR	Code of Federal Regulations
DCGL	Derived Concentration Guideline Limit
FSS	Final Status Survey
FSSR	Final Status Survey Report
HTD	Hard-To-Detect
LTP	License Termination Plan
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDC	Minimum Detectable Concentration
mrem/y	millirem per year
NRC	Nuclear Regulatory Commission
PG&E	Pacific Gas and Electric
RAI	Request for Additional Information
ROC	Radionuclides of Concern
SER	Safety Evaluation Report
SOF	sum-of-fraction

## 9.0 REFERENCES

10 CFR Part 20. Code of Federal Regulations, Title 10, Energy, Part 20, "Standards for Protection Against Radiation," U.S. Government Printing Office, Washington, DC.

10 CFR Part 50. Code of Federal Regulations, Title 10, Energy, Part 50, "Domestic Licensing of Production and Utilization Facilities," U.S. Government Printing Office, Washington, DC.

10 CRF 72. Code of Federal Regulations, Title 10, Energy, Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and \ Reactor- Related Greater Than Class C Waste," U.S. Government Printing Office, Washington, DC.

PG&E, 2013a. "License Amendment Request 13-01 Addition of License Condition 2.C.5, License Termination Plan," HBL-13-007, May 3, 2013, ADAMS Accession No. ML13130A008, ML13130A009, ML13130A011.

PG&E, 2013b. "Humboldt Bay Power Plant, Unit 3, License Termination Plan Supplemental Information," HBL-13-008, May 3, 2013, ADAMS Accession No. ML13130A131.

PG&E, 2014a. "Humboldt Bay Power Plant. Unit 3. License Termination Plan Responses to Requests for Additional Information," HBL-14-008, February 14, 2014, ADAMS Accession No. ML14045A387.

PG&E, 2014b. "Revised LTP RAI Responses in HBL-14-008," Email from David Sokolsky to John Hickman, April 2, 2014, ADAMS Accession No. ML14204A150.

PG&E, 2014c. "Humboldt Bay Power Plant. Unit 3, License Termination Plan Responses to Requests for Additional Information (Chapter 6 and Supplemental Information)," HBL-14-007, May 13, 2014, ADAMS Accession No. ML14134A001.

PG&E, 2014d. "Humboldt Bay Power Plant, Unit 3. License Termination Plan. Revision 1," HBL-14-015, August 13, 2014, ADAMS Accession No. ML14246A157.

PG&E, 2021a. "Humboldt Bay Power Plant, Unit 3 - License Amendment Request 21-01 Revise Methodology in License Termination Plan," February 8, 2021, ADAMS Accession No. ML21039A515.

PG&E, 2021b. "Humboldt Bay Power Plant, Unit 3 - Response to NRC Request for Additional Information on the Final Status Survey Report for the Caisson, Survey Units NOL01-09 and NOL01-09-FSR," March 4, 2021, ADAMS Accession No. ML21063A474.

PG&E, 2021c. "Humboldt Bay Power Plant, Unit 3 - Response to NRC Request for Additional Information on the License Amendment Request to Revise the License Termination Plan," April 29, 2021, ADAMS Accession No. ML21119A214.

PG&E, 2021d. "Humboldt Bay Power Plant, Unit 3 - Supplemental Response to NRC Request for Additional Information on the License Amendment Request to Revise the License Termination Plan," May 20, 2021, ADAMS Accession No. ML21140A395

U.S. NRC, "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)," NUREG-1575, August 2000.

U.S. NRC, "Standard Review Plan for Evaluating Nuclear Power Reactor License Termination Plans," NUREG-1700, April 2003.

U.S. NRC, "Final Generic Environmental Impact Statement (GEIS) on Decommissioning of Nuclear Facilities" NUREG-0586, October 2002, Supplement 1

U.S. NRC, "Residual Radionuclide Contamination Within and Around Commercial Nuclear Power Plants," NUREG/CR-4289, February 1986.

U.S. NRC, "Technology, Safety and Cost of Decommissioning," NUREG/CR-0130, June 1978.  
U.S. Environmental Protection Agency Federal Guidance Report No. 11, "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion," September 1988.

U.S. NRC, "Consolidated NMSS Decommissioning Guidance, Characterization, Survey, and Determination of Radiological Criteria," NUREG-1757, Volume 2, September 2003.

U.S. NRC, "Request for Additional Information Clarification Call Meeting Summary," May 3, 2021, ADAMS Accession No. ML21158A108.