SMUD®

March 31, 2020

DPG 20-047

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

Docket No. 72-11
Rancho Seco Spent Fuel Storage Installation
Renewed License No. SNM-2510

RANCHO SECO REPORT ON FINANCIAL ASSURANCE STATUS

Attention: William Allen

As required by 10 CFR 72.30(c) and 72.30(b)(6), this letter provides the information on the status of financial assurance for decommissioning at Rancho Seco.

Background

Rancho Seco began commercial power operation in April 1975 and shut down permanently in June 1989. In 1991, the Sacramento Municipal Utility District (SMUD) submitted the proposed Decommissioning Plan for Rancho Seco, along with a Revised Financial Assurance Plan. The NRC approved the Decommissioning Plan in March 1995. Due to revisions to 10 CFR 50.82, SMUD submitted the Post Shutdown Decommissioning Activities Report for Rancho Seco in March 1997. Rancho Seco began decommissioning in February 1997. In April 2006, SMUD submitted the License Termination Plan for Rancho Seco outlining a phased approach to decommissioning. Phase I of the decommissioning was completed in 2009 when the majority of the facility land area, including the major plant systems and structures, was released from the license. Phase II of decommissioning (a 1-acre land area that contains the Interim Onsite Storage Building) was completed in 2017. The NRC terminated the 10 CFR 50 license (DPR-054) effective August 31, 2018. The only remaining portion of the site that will require decommissioning is the approximately 14-acre ISFSI licensed under 10 CFR Part 72.

Decommissioning Financial Assurance Method and Trust Fund Status

An "External Sinking Decommissioning Trust Fund" continues to be maintained by Wells Fargo Bank on behalf of SMUD. Per the Financial Assurance Plan, SMUD made contributions to the Trust Fund through 2008, at which time it was considered to be fully

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funded. At this time, no future contributions are planned but SMUD will continue to perform Decommissioning Cost Estimates as required and compare the results with the available funds in the Decommissioning Trust Fund to ensure reasonable financial assurance.

Administration of the Decommissioning Fund

The trust fund holdings were reviewed in January 2020, and the trust fund contained $8.77 million. As discussed below, this exceeds the amount of funding estimated as required to complete decommissioning. If during the annual review the cost to complete decommissioning exceeded the available funds, a contribution would be made as required by 10 CFR 72.30(g) to provide reasonable financial assurance.

Estimating Required Decommissioning Funding

To demonstrate reasonable financial assurance in accordance with the regulation, the following comparison will be made:

- Site-specific cost estimate for remaining work vs. currently available funds

Site-Specific Decommissioning Cost Estimate

A copy of the 2019 Decommissioning Cost Estimate for Rancho Seco is included as Attachment 1. The Decommissioning Cost Estimate for Rancho Seco is $5.6 Million.

Certification of Financial Assurance

As of January 31, 2020, the available funds in the Decommissioning Trust Fund were $8.77 million, which exceeds the estimated funding needed to complete decommissioning.

Certification in accordance with 10 CFR 72.30(b)(6) is hereby made that financial assurance is being provided through an external sinking fund for $8.77 million to complete decommissioning at Rancho Seco and terminate the Part 72 license.

Adjustments to Cost Estimate and Trust Fund

With the termination of the Rancho Seco Part 50 license (DPR-054) on August 31, 2018, decommissioning costs for only the Rancho Seco ISFSI are being reported. As the base assumptions used in the development and subsequent updates of the cost basis for decommissioning the ISFSI remain unchanged, this 2019 update consists of only an inflationary adjustment.

Assumptions Regarding Rates of Trust Fund Escalation and Earnings

Since, the Trust Fund contains sufficient funding to complete all decommissioning work, no assumptions are necessary concerning the rate of return to demonstrate sufficient funding.

Contractual Obligations

There are no contractual obligations associated with SMUD's Financial Assurance Plan or the operation of the decommissioning trust fund.

Modifications to Financial Assurance Method

No modifications have been made since last year's report. The Trust has been fully funded since 2008 and remains in an external sinking fund as previously described.

Material Changes to the Trust Fund Agreement

No material changes to the Trust Fund Agreement have been made since last year's report. The Trust remains with Wells Fargo Bank, N.A.

If you or members of your staff have questions or require additional information, please contact me by email at Brad.Gacke@smud.org or by phone at (916) 732-4812.

Sincerely,

Brad Gacke
Manager, Rancho Seco Assets

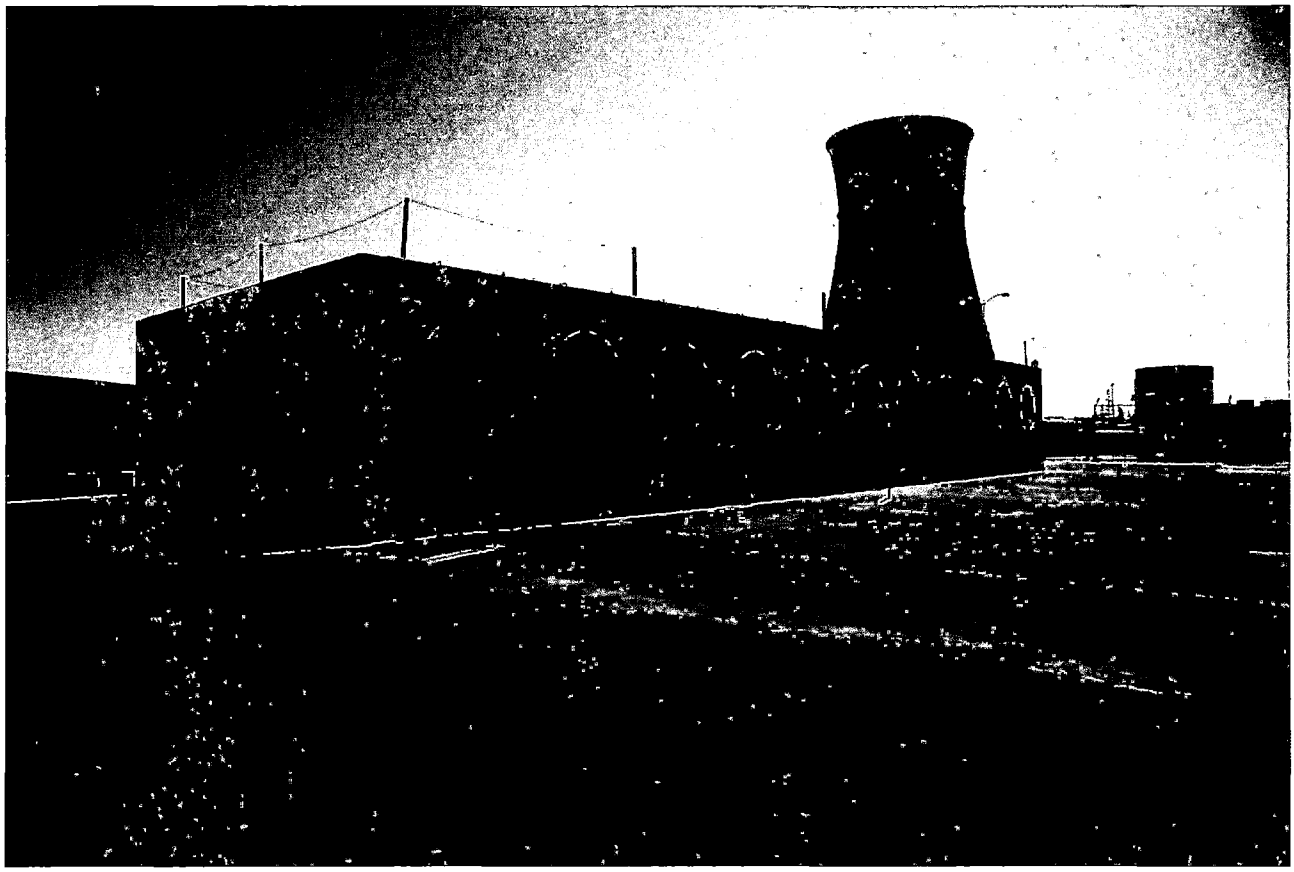
Attachment 1: DPG 20-46, 2019 Rancho Seco ISFSI Decommissioning Cost Estimate

Cc: NRC, Region IV (w/Attachment)
RIC: 1F.099

ATTACHMENT 1
2019 DECOMMISSIONING COST ESTIMATE
RANCHO SECO ISFSI DECOMMISSIONING

2019 DECOMMISSIONING COST ESTIMATE

RANCHO SECO ISFSI DECOMMISSIONING



APPROVALS

Prepared by:
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Approved by:
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On the cover: ISFSI – regulated by Part 72 License

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2019 DECOMMISSIONING COST ESTIMATE

SUMMARY

The Rancho Seco 10 CFR Part 50 license was terminated by the NRC effective August 31, 2018; therefore, no further decommissioning costs are anticipated for the Part 50 license and no further reporting of the associated costs will be made.

The projected cost to complete the decommissioning of the Rancho Seco Nuclear Station Independent Spent Fuel Storage Installation (ISFSI) is $5.6 million. This includes all projected costs to terminate the 10 CFR Part 72 license.

Decommissioning activities related to the ISFSI include the transfer of the used nuclear fuel and Greater Than Class "C" (GTCC) radioactive waste to the Department of Energy (DOE) in 2021[1] followed by decommissioning and license termination activities necessary to demonstrate compliance with the facility release standards in 10 CFR 20 for the Part 72 licensed area.

Since 2009, used fuel management costs are considered a normal operation and maintenance (O&M) expense, recoverable from the DOE, and are not included in the Decommissioning Cost Estimate.

[1] Based on the DOE's "Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste", January 2013.

BACKGROUND

Rancho Seco is located approximately 25 miles southeast of Sacramento, California. The Industrial Area (IA) is 87 acres and sits within a 2,480-acre plot of land that is owned by the Sacramento Municipal Utility District (SMUD). The original nuclear station within the IA was comprised of a single B&W-designed generation unit with support facilities.

Rancho Seco commenced reactor operations on September 16, 1974 and began commercial operation April 18, 1975. SMUD permanently terminated operations at Rancho Seco on June 7, 1989 following passage of a public referendum June 6, 1989. The reactor was completely defueled on December 8, 1989 and a Possession Only License, along with Permanently Defueled Technical Specifications, became effective April 28, 1992.

On May 20, 1991, SMUD submitted a proposed Decommissioning Plan to the NRC that outlined the decommissioning option of Hardened SAFSTOR. This alternative put the fuel in dry storage and placed the plant in a safe, dormant condition with a small site maintenance staff until 2008 when a Decommissioning Operations Contractor would be brought in to complete decommissioning. This allowed for the Decommissioning Trust Fund to be fully funded before dismantlement began. The NRC issued a decommissioning order and approved the Rancho Seco decommissioning funding plan on March 20, 1995.

Beginning in 1995, TLG Services, Inc. (TLG) provided SMUD with alternative cost estimates that included options for the decommissioning of the facility. Delays in the Dry Fuel Storage project caused increases in projected costs, and alternatives were provided to take advantage of available opportunities, including: availability of SMUD staff on site to support dismantlement due to delays in the Dry Fuel Storage project, and; availability of Envirocare's Clive, Utah disposal facility (Envirocare is now EnergySolutions) as an appealing option for low level radioactive waste (LLRW) disposal.

In January of 1997, the SMUD Board of Directors (the Board) approved the Incremental Decommissioning Project, and physical dismantlement of the facility began later that year. In 1999, the Board approved expansion of the Incremental Decommissioning Project to include all activities necessary for license termination. In April of 2006, SMUD submitted the License Termination Plan (LTP) to the NRC, outlining the activities necessary for the NRC to allow license termination in two Phases. The LTP was approved by the NRC in November 2007. In September 2009, following completion of Phase I decommissioning, the NRC approved SMUD's request for modification of the Part 50 license. This modification left only the Interim Onsite Storage Building (IOSB) and the land enclosed by the exterior fence (approximately 1 acre) licensed under Part 50.

In the interim, the NRC issued SMUD a specific license for fuel storage in the Independent Spent Fuel Storage Installation (ISFSI) under Part 72 in June of 2000. Transfer of all nuclear fuel to dry storage in the ISFSI was completed August 22, 2002. With the closure of the Barnwell, S.C. waste disposal facility, there were no options for disposition of Class B and Class C LLRW available to SMUD beginning in 2008. The Class B and Class C LLRW was stored in the IOSB until the Waste Control Specialists, Inc. (WCS) facility in Andrews, Texas was deemed by SMUD as a suitable facility for disposal of the material. Shipping of the stored waste was completed in November 2014. Phase II decommissioning of the IOSB and surrounding land was completed in 2016 and the NRC terminated the 10 CFR 50 license effective August 31, 2018.

As a precursor to the decommissioning of the ISFSI, the estimated date for DOE acceptance of the used nuclear fuel and GTCC waste is 2021 based on the DOE's "Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste". That report, and the 2012 report by the Blue-Ribbon Commission on America's Nuclear Future still provides the best available published information on the potential for DOE to take possession of the material stored at the ISFSI. SMUD recognizes that the schedule provided within the DOE report has been severely compromised by the failure of Congress to pass the necessary enabling legislation, however, considering that the Decommissioning Trust Fund is fully funded, and SMUD is not relying on increases in trust fund value through investment growth to ensure available funds for decommissioning, the uncertainty in the schedule for used fuel removal does not impact SMUD's ability to fund all decommissioning activities.

With the continued failure of congress to pass the required enabling legislation allowing the DOE to meet its contractual obligations, SMUD submitted a license renewal application for the ISFSI on March 19, 2018 pursuant to 10 CFR 72.42(a) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18101A024). On March 9, 2020, the NRC approved the renewal of SNM-2510 through June 30, 2060 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20065N277).

INTRODUCTION

This decommissioning cost estimate is prepared to satisfy the requirements of Title 10 of the Code of Federal Regulations, Part 72.30. As the base assumptions used in the development and subsequent updates of the cost basis for decommissioning the ISFSI remain unchanged, this 2019 update consists of only an inflationary adjustment.

This Estimate includes all ISFSI decommissioning costs. The current cost estimate for decommissioning Rancho Seco is $5.6 million.

Financial assurance for ISFSI decommissioning has been required since December 2013. This cost estimate carries forward the information necessary to allow compliance with the regulations in 10 CFR 72.30 which is being updated in this report in accordance with those regulations.

Financial Assurance for ISFSI Decommissioning

SMUD fully funded the Part 50 Decommissioning Trust Fund by making the last contribution in 2008. However, because of the level of uncertainty inherent in power reactor decommissioning, the amount of funding provided was conservative. When the decommissioning and license termination of the 10 Part 50 license was completed in 2018 enough funds remained to assure available funding for the Part 72 ISFSI decommissioning. Therefore, no additional contributions to the Trust Fund are currently planned.

10 CFR 72.30 contains specific requirements for documenting the financial assurance for ISFSI decommissioning. These specifics are addressed here.

72.30(b)(1) requires documentation of how funds will be provided: The Trust Fund initially established for Part 50 Decommissioning was over-funded. The remaining funds will be maintained in the Trust Fund to provide financial assurance for the ISFSI decommissioning. The activities to decommission Rancho Seco include activities necessary for terminating the Part 72 NRC license. This cost estimate demonstrates that sufficient funds are available in the Trust Fund to provide financial assurance for ISFSI decommissioning.

72.30(b)(2) requires a detailed cost estimate for decommissioning the ISFSI: This document provides the information required.

72.30(b)(2)(i) requires that the cost estimate include the cost of an independent contractor to perform decommissioning activities: This cost estimate assumes all activities are conducted by an independent contractor in compliance with this requirement, in addition to including the cost of a SMUD Project Manager.

72.30(b)(2)(ii) requires an adequate contingency factor: A factor of 15% is used. This is sufficient to account for project uncertainties and demonstrates compliance with this requirement. Contingency is provided to account for uncertainties in the decommissioning process. Given that detailed information exists documenting the radiological conditions of the facility, and the robust nature of the sealed fuel storage systems, there is little radiological uncertainty regarding the condition of the facility and 15% provides a sufficient margin.

72.30(b)(2)(iii) requires inclusion of the cost of meeting the radiological criteria for license termination contained in 10 CFR 20: Those activities are specifically included in this cost estimate demonstrating compliance with this requirement.

72.30(b)(3) requires identification and justification of the key assumptions used in the cost estimate: That information is specifically included later in this document, demonstrating compliance with this requirement.

72.30(b)(4) requires a description of assuring funds for decommissioning and a means for adjusting the cost estimate periodically over the life of the facility: The funds for decommissioning were already contained in a Decommissioning Trust Fund set aside for Part 50 license termination. 72.30(c) requires that the decommissioning funding plan be resubmitted at intervals not to exceed 3 years. In 2014 through 2018 updated plans were submitted annually, reflecting the updated schedule for Part 50 decommissioning. As required pursuant to 72.30(c), the Rancho Seco Independent Spent Fuel Storage Installation decommissioning funding plan was resubmitted with the license renewal application. As none of the baseline assumptions for decommissioning and license termination costs of the Rancho Seco ISFSI have changed, this 2019 update consists of only an inflationary adjustment of the 2018 update, and the financial instrument used to demonstrate assurance with 72.30(e) will continue to be the existing Trust Fund.

72.30(b)(5) requires information regarding the subsurface residual radioactivity that will require remediation to meet the radiological criteria for license termination: No removal of subsurface materials will be required to meet the radiological release criteria. The radiological condition of the land area of the ISFSI was evaluated prior to construction and no residual radioactivity was evident. Given that the material in storage at the facility resides in robust, sealed containers and there is no reasonable design basis accident that can occur to cause failure of the containers, there is no reasonable likelihood that the stored radioactive materials will enter the environment. Detailed radiological surveys conducted during the process of moving the fuel from wet to dry storage document that no contamination of the area occurred during operations. In addition, radiological surveys conducted during occupation of the FTESB and periodically since have detected no detectable contamination of the structure or pad. With no credible method of introducing radioactive materials into the land within the ISFSI facility, there is no reasonable expectation that subsurface materials will require remediation. This documents compliance with the requirement.

72.30(b)(6) requires certification that financial assurance for decommissioning be provided: Compliance with this requirement was satisfied by a separate letter: RANCHO SECO REPORT ON FINANCIAL ASSURANCE STATUS, DPG 20-47, dated March 31, 2020

As discussed previously, SMUD fully funded the Part 50 Decommissioning Trust Fund by making the last contribution in 2008. However, because of the level of uncertainty inherent in power reactor decommissioning, the amount of funding provided was conservative. With the Part 50 decommissioning and license termination activities now complete, an excess of available funds exists in the Decommissioning Trust Fund. This excess provides more than enough funds to assure available funding for future ISFSI decommissioning. Therefore, no additional contributions to the Trust Fund are currently planned.

72.30(c) At the time of license renewal and at intervals not to exceed 3 years, the decommissioning funding plan must be resubmitted with adjustments as necessary to account for changes in costs and the extent of contamination. If the amount of financial assurance will be adjusted downward, this cannot be done until the updated decommissioning funding plan is approved. The decommissioning funding plan must update the information submitted with the original or prior approved plan and must specifically consider the effect of the following events on decommissioning costs:

72.30(c)(1) spills of radioactive material producing additional residual radioactivity in onsite subsurface material: Section 9.6 of the Rancho Seco ISFSI FSAR states "Due to the zero-leakage design of the NUHOMS DSCs, SMUD expects no residual contamination on the ISFSI concrete base pad." Therefore, neither liquid spills of substances containing radioactive material, nor those that may come in contact with radioactive material are considered credible at this stage of decommissioning, since the remaining radioactive material is in solid form and not dispersible. This lack of credibility extends to the potential for contamination of the soil in contact with the ISFSI concrete pad.

10 CFR 72.30(c) (2) facility modifications: As reported to the NRC in SMUD letter "RANCHO SECO BIENNIAL REPORT" dated July 14, 2016 (ADAMS Accession No. ML 16208A109), SMUD installed a 400 square foot Fuel Transfer Equipment Storage Building (FTESB) within the Part 72 licensed boundary. This structure, external to the ISFSI pad, provides environmentally sheltered storage for fuel handling equipment contaminated with licensed radioactive material. This contamination is either fixed (as in the case of the MP-187 Transfer Cask) or containerized to preclude its spread while in storage. SMUD anticipates a maximum of 27 final status survey units to demonstrate satisfaction of the release criteria contained in 10 CFR 20. As contamination of this new structure is not anticipated, an additional Class 3 survey unit for the ESB interior and exterior would be added. As the survey design criteria for Class 3 survey units are minimal, the impact on the overall cost of decommissioning the ISFSI would be insignificant.

10 CFR 72.30(c) (3) changes in authorized possession limits: SMUD completed the transfer of all SNF and GTCC waste to the ISFSI in 2006. SNM-2510, Amendment 4 (11/24/2017) provided for the storage of a 200 μCi Sr-90 byproduct material source for use as a check source for radiological detection equipment identified within SMUD's Radiation Protection and Emergency Preparedness Plans. This is a change to the authorized possession limits since the approval of the ISFSI Decommissioning Funding Plan. The impact on the overall cost of decommissioning the ISFSI resulting from this increase will be insignificant.

10 CFR 72.30(c) (4) actual remediation costs that exceed the previous cost estimate: SMUD will not begin to decommission the Rancho Seco ISFSI until after the U.S. Department of Energy takes possession of the spent fuel and GTCC waste. Therefore, there have been no actual remediation costs that exceed previous cost estimates.

METHODOLOGY AND APPROACH

Overview of Decommissioning Cost Estimate Components

The cost estimate provides an overall cost for the duration of the ISFSI decommissioning project. This includes all costs incurred after removal of the spent nuclear fuel and GTCC waste through the Part 72 license termination.

Staff costs include the cost for contract staff to perform the Final Status Surveys and remaining license termination activities of the ISFSI.

Miscellaneous costs have been included to document the support costs that are specifically identified for the duration of the ISFSI decommissioning project. These costs also include material costs for decommissioning.

FINANCIAL COMPONENTS OF THE COST MODEL

The decommissioning cost estimate in total is defined as the funding required to complete decommissioning through license termination. Historically, the estimate consisted of a large number of calculated costs based on cost factors, and the cost assigned to a given line item within the estimate was not as rigorously defended as the total. A basic assumption of the estimating process has been that when specific line items have been over-estimated, the unspent funds will be required to cover the costs associated with other line items that have been under-estimated. The historical costs for the Part 50 decommissioning reflect that the cost of the work completed was, in general, over-estimated and similar assumptions are anticipated to be applicable to the ISFSI decommissioning process.
Examples of remaining contingencies include changes in the regulatory environment and cost or regulatory changes that would impact remaining license termination activities. The cost impacts of these uncertainties have been defined by TLG in previous estimates under the term "financial risk". To date, financial risk has not been specifically

addressed within any Rancho Seco decommissioning cost estimate. Outside of the scope of the cost estimate itself, staff deals with these uncertainties on a project-by-project basis. An overall risk assessment taking into account any anticipated risk factor would typically be addressed through a probability analysis, perhaps utilizing a Monte Carlo-type probability simulation. Such a detailed risk analysis is considered to be outside of the scope of the decommissioning cost estimate. However, contingency is included as a component of the estimate.

ASSUMPTIONS

The following are the assumptions used in developing the Rancho Seco ISFSI cost estimate. Some assumptions are generic in nature, and some are specific to the Rancho Seco site.

Used Fuel

1. The cost to remove and dispose of the used fuel from the site is not reflected within the estimate to decommission Rancho Seco. The Nuclear Waste Policy Act assigns this responsibility to the DOE's Waste Management System.

2. The ISFSI will remain operational under the 10 CFR 72 license until the DOE takes possession of, or accepts responsibility for, the fuel and GTCC waste. The cost for maintenance of the ISFSI is considered O&M and is not included in this cost estimate.

3. DOE acceptance of the fuel and GTCC waste in 2021. This will be reviewed for each subsequent estimate as there is currently great uncertainty with the acceptance date. Note that the actual date of fuel acceptance is currently not a factor in demonstrating financial assurance because the decommissioning costs are fully funded and do not rely on a return on investments over time.

ISFSI Decommissioning

1. No remediation will be required for any structures or land areas at the ISFSI. Evaluation of Reference 4 indicates that activation of materials at the ISFSI will not result in contamination that requires remediation. No loose contamination at the ISFSI was measured during the fuel movement activities in 2000 through 2002, and fuel canister leakage is beyond the ISFSI design basis. No surface contamination has been detected, nor is anticipated, at the FTESB.

Reactor Vessel Internal Components

1. The reactor vessel internal components classified as GTCC material is stored in the ISFSI until the DOE takes possession of the material. However, the DOE has not yet established acceptance criteria or a disposition schedule for this material. Therefore, this cost estimate is based upon industry-accepted assumptions regarding

DOE schedules. Industry assumptions for the acceptance criteria are modeled on the packaging for the used nuclear fuel: the GTCC is stored in a canister with the same outer geometry as the used fuel canisters.

2. The cost for transfer and disposal of the GTCC material is not included in this cost estimate. Legal opinions and court decisions indicate that the GTCC disposal is the responsibility of the DOE.

Transportation Methods

1. Contaminated materials resulting from any remaining decommissioning activities will qualify under Title 49 of the Code of Federal Regulations Part 173 as LSA –I, –II, or –III, or SCO–I or –II.

2. Transportation of Class A LLRW is by truck or rail to EnergySolutions in Clive, UT or Radioactive Waste Processing Facilities appropriately licensed and approved by SMUD.

Low-Level Radioactive Waste Disposal

1. The amount of the LLRW generated during decommissioning will be minimal based on the absence of contamination present. Future disposal rates for Class A waste used in the estimate are based upon historical rates and disposal cost escalation factors listed in NUREG-1307, Revision 17.

Estimating Basis

1. Future decommissioning costs are in general reported in the current year's currency regardless of the scheduled year of the expenditure; therefore, changes in schedule do not impact the cost estimate.

2. Remaining costs are based upon an estimate of the remaining activities including contract staff to perform the activities and other costs such as waste disposal.

Labor Costs

1. The craft labor required to complete decommissioning is obtained through standard SMUD contracting practices.

2. Future activities such as waste shipments and license termination activities will be performed by contracted staff.

3. Engineering services for such items as writing activity specifications, detailed procedures, and work procedures are assumed to be performed by contracted staff.

General

1. The approximately 14-acre ISFSI remains under the Part 72 license. Following transfer of the used fuel and GTCC material to the DOE, a decommissioning project will commence to terminate this license.

2. NRC oversight of the decommissioning process is estimated based on previous license termination activities. The amount of oversight effort is proportioned based on the number of Survey Units for license termination as a reasonable basis for the estimate.

3. Equipment costs for use during decommissioning are included as Miscellaneous Costs.

4. Demonstration of compliance with the radiological criteria for license termination of the Part 72 facilities will require documentation of no more than 27 Survey Units as follows;

# Units	Description	Location	Classification
22	HSMs	ISFSI	Class 1
1	Concrete Pad	ISFSI	Class 2
1	Concrete Apron	ISFSI	Class 3
1	Land Area	ISFSI	Class 3
1	Equipment Storage Building Interior	ISFSI	Class 3
1	Equipment Storage Building Exterior	ISFSI	Class 3

5. Equipment such as administrative equipment (desks, chairs, etc.), forklifts, trucks, other mobile equipment and items of personal property owned by SMUD will be easily removed without the use of special equipment at no cost or credit to the project.

6. The decommissioning activities are performed in accordance with applicable regulations.

7. The principles of ALARA used in determining work duration adjustment factors are minimal for the remaining work scope but remain an element in the cost estimate.

8. SMUD provides the electrical power required for the decommissioning project at no cost to the project.

GLOSSARY OF ACRONYMS AND ABBREVIATIONS

1. ALARA: As Low As Reasonably Achievable
2. Barnwell: The Barnwell, SC LLRW Disposal Facility
3. DOE: Department of Energy
4. Energy Solutions: EnergySolutions, Inc., formerly Envirocare of Utah, Inc. - headquartered in Salt Lake City that operates the LLRW disposal facility in Clive, UT and is a partner in "Sempra-Safe, LLC", a licensed resin processing technique in TN
5. GTCC: Greater Than Class "C" Waste - disposal of this waste is the responsibility of the DOE
6. IOSB: Interim Onsite Storage Building
7. ISFSI: Independent Spent Fuel Storage Installation
8. LLRW: Low Level Radioactive Waste
9. LTP: License Termination Plan
10. NRC: Nuclear Regulatory Commission
11. O & M: Operation and Maintenance
12. PWR: Pressurized Water Reactor
13. Part 50: Title 10 of the Code of Federal Regulations, Part 50 – regulations governing the former operating plant license
14. Rancho Seco: Used in reference to Rancho Seco ISFSI (Part 72)
15. SMUD: Sacramento Municipal Utility District
16. TLG: TLG Services, Inc
17. WCS: Waste Control Specialist, Inc. - operates the LLRW disposal facility being constructed in Andrews, TX

REFERENCES

1. "2016 Decommissioning Cost Estimate for the Rancho Seco Nuclear Generating Station", March 23, 2017
2. Letter to NRC, "Rancho Seco Report on Decommissioning Funding Status", March 22, 2017
3. Rancho Seco Part 72 License Termination cost basis, TLG Services, Inc "Independent Spent Fuel Storage Installation Decommissioning" Cost Summary, 2003; ARO Response to Data Request and Assumptions, Attachment S11-1481-0302
4. SMUD Engineering Calculation #Z-XXX-N0057, Revision 1, October 4, 1993, "Neutron Activation of a Pacific Nuclear NUHOMS"
5. "Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste", Department of Energy, January 2013
6. "Report to the Secretary of Energy", Blue Ribbon Commission on America's Nuclear Future, January 2012

Table 1
Decommissioning Cost Estimate
(Thousands of 2019 Dollars)

	COSTS BY ACTIVITY								COSTS BY YEAR			
	Waste Disposal					%						
DESC	SHIP	BURY	STAFF	MISC	CNTGCY	CNTGCY	TOTAL		2019	2027	2028	TOTAL
License Termination Activities												
Part 72 license termination	2	33	3,308	1,490	725	15%	5,558		0	0	5,558	5,558
TOTAL COST (DCE 2019)	2	33	3,308	1,490	725	15%	5,558		0	0	5,558	5,558

Total Decommissioning Cost 5,558

Notes