



DPG 17-164

September 21, 2017

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

72-11

Docket No. 50-312  
Rancho Seco Nuclear Generating Station  
License No.: DPR-54

**Termination of the Rancho Seco 10 CFR Part 50 License, Number DPR-54**

Attention: Zahira Cruz

In accordance with 10 CFR 50.82(a)(9), the Sacramento Municipal Utility District (SMUD) requests that the Nuclear Regulatory Commission (NRC) terminate the Rancho Seco Nuclear Generating Station (RSNGS) 10 CFR Part 50 License, Number DPR-54. SMUD has completed the second and final phase of decommissioning and is requesting that the NRC release the remainder of the Rancho Seco 10 CFR Part 50 licensed facility for unrestricted use.

The NRC-approved Rancho Seco License Termination Plan (LTP) discusses SMUD's intent to release the RSNGS site for unrestricted use in two phases. At the completion of the first phase of decommissioning, SMUD submitted letter DPG 09-006, dated June 8, 2009, requesting that the NRC release a major portion of the Rancho Seco site for unrestricted use. The NRC approved the partial release of the Rancho Seco site on September 25, 2009.

The remaining area to be released includes the Interim Onsite Storage Building (IOSB) which is surrounded by a fence that defines the current boundary of the 10 CFR Part 50 site. SMUD has completed the remaining radiological decommissioning and Final Status Surveys for RSNGS in accordance with the NRC-approved LTP. The Final Status Survey Reports (FSSR) demonstrate that the facility and site meet the criteria for decommissioning and release of the site for unrestricted use in accordance with 10 CFR 20, Subpart E "Radiological Criteria for License Termination." The spent nuclear fuel and the Greater than Class C (GTCC) waste remain stored at the Rancho Seco Independent Spent Fuel Storage Installation (ISFSI), licensed under 10 CFR Part 72.

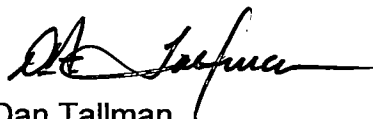
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SMUD has reviewed the survey area results to ensure that the proposed action will have no adverse impact on the ability of the site, in aggregate, to meet 10 CFR Part 20, Subpart E. Accordingly, SMUD has satisfied the requirements governing termination of a facility license as stated in 10 CFR 50.82(a)(11), and respectfully requests that the NRC approve this application and terminate the RSNGS 10 CFR Part 50 license.

Attachment 1 provides a summary of the assessment performed for the remainder of the Part 50 site. Members of your staff with questions requiring additional information or clarification may contact me at (916) 732-4893.

Sincerely,



Dan Tallman  
Manager, Rancho Seco Assets

Attachment

Cc: Jack Parrott, NRC  
William Allen, NRC  
Marc Dapas, NRC  
Kris Kennedy, NRC, Region IV  
RIC 1F.099

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

**CIVIL CODE § 1189**

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County of Sacramento )

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personally appeared Dan Tallman  
Name(s) of Signer(s)

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I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



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Signature of Notary Public

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## Attachment 1

### Termination of the Rancho Seco 10 CFR Part 50 License

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#### **1. Introduction**

Rancho Seco Nuclear Generating Station (RSNGS) was a 913-MWe Pressurized Water Reactor (PWR) designed by Babcock and Wilcox (B&W) Company. Rancho Seco began commercial operation in 1974, and SMUD shut down Rancho Seco permanently on June 7, 1989, after approximately 15 years of operation. On August 29, 1989, SMUD formally informed the NRC that the plant was shut down permanently.

On May 20, 1991, SMUD submitted the Rancho Seco Decommissioning Plan and on March 20, 1995, the NRC issued an Order approving the decommissioning plan and authorizing the decommissioning of Rancho Seco. In March 1997, SMUD submitted its Post Shutdown Decommissioning Activities Report (PSDAR), in accordance with 10 CFR 50.82. The PSDAR superseded the original Decommissioning Plan and provided the information required by 10 CFR 50.82(a)(4).

SMUD began actively decommissioning Rancho Seco in February 1997, and the NRC approved the License Termination Plan (LTP) on November 27, 2007. On June 30, 2000, the NRC issued ISFSI license SNM-2510 and on August 21, 2002, SMUD completed transferring all of the spent nuclear fuel to the Rancho Seco Independent Spent Fuel Storage Installation (ISFSI).

As described in the LTP, SMUD completed decommissioning Rancho Seco in two phases. At the completion of the first phase of decommissioning, SMUD submitted letter DPG 09-006, dated June 8, 2009, requesting that the NRC release a major portion of the Rancho Seco site for unrestricted use. The NRC approved the partial release of the Rancho Seco site on September 25, 2009.

The remaining radioactive material onsite consisted primarily of Class B & C radioactive waste stored in the Interim Onsite Storage Building (IOSB). In 2014, SMUD completed the disposal of the remaining radioactive waste at Waste Control Specialists (WCS) in Andrews, TX.

With the disposal of the remaining Class B and C waste, SMUD re-entered active decommissioning and has now completed its second and final phase. In SMUD letter DPG 17-038, dated February 28, 2017, SMUD submitted the Final Status Survey Report (FSSR) for the remaining RSNGS site, for NRC review. In letter REVIEW OF FINAL STATUS SURVEY REPORT FOR RANCHO SECO GENERATING STATION INTERIM ONSITE STORAGE BUILDING, dated May 16, 2017, the NRC responded that, based on their review of the FSSR and the results of NRC confirmatory surveys, SMUD has met the criteria in 10 CFR 20.1402 and that the 10 CFR Part 50 license can be terminated and the remainder of the RSNGS site is suitable to be released for unrestricted use.

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#### 2. Regulatory Basis for License Termination

NRC Regulation 10 CFR 50.82(a)(11) states:

*The Commission shall terminate the license if it determines that--*

*(i) The remaining dismantlement has been performed in accordance with the approved license termination plan, and*

*(ii) The final radiation survey and associated documentation, including an assessment of dose contributions associated with parts released for use before approval of the license termination plan, demonstrate that the facility and site have met the criteria for decommissioning in 10 CFR Part 20, Subpart E .*

SMUD has satisfied the criteria of 10 CFR 50.82(a)(11)(i) and (ii), which will allow the NRC to terminate the Rancho Seco 10 CFR Part 50 license. Regarding 10 CFR 50.82(a)(11)(i), SMUD has completed the remaining decommissioning activities including radioactive waste disposal, decontamination, and confirmatory final radiation surveys, in accordance with the NRC-approved Rancho Seco LTP. The remaining radioactive waste has been disposed of and the IOSB has been decontaminated to levels well below regulatory site release criteria, meeting the ALARA criteria as described in the Rancho Seco LTP, Chapter 4.

Regarding 10 CFR 50.82(a)(11)(ii), the Final Status Surveys and associated documentation demonstrate that the RSNRS site has met the criteria for decommissioning in 10 CFR Part 20, Subpart E. On February 28, 2017, SMUD submitted the FSS Reports for NRC review. In letter REVIEW OF FINAL STATUS SURVEY REPORT FOR RANCHO SECO GENERATING STATION INTERIM ONSITE STORAGE BUILDING, dated May 16, 2017, the NRC responded that, based on their review of the FSS Report and the results of NRC confirmatory surveys, SMUD has met the criteria in 10 CFR 20.1402 and that the 10 CFR Part 50 license can be terminated and the remainder of the Rancho Seco site is suitable to be released for unrestricted use.

#### 3. Evaluation

##### **Areas to be Released and FSS Results**

The remaining area that we are requesting the NRC to release consists of the IOSB and the surrounding area, which constitutes the remaining 10 CFR Part 50 licensed site. SMUD letter DPG 17-038, dated February 28, 2017, provided the Final Status Survey Report which included a complete package of information relating to each survey unit so that the NRC staff could verify that the LTP has been fully implemented for each survey unit and that the final status survey

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results support unrestricted release of the land from License DPR-54 in accordance with the proposed license amendment. In letter REVIEW OF FINAL STATUS SURVEY REPORT FOR RANCHO SECO GENERATING STATION INTERIM ONSITE STORAGE BUILDING, dated May 16, 2017, the NRC responded that, based on their review of the FSS Report and the results of NRC confirmatory surveys, SMUD has met the criteria in 10 CFR 20.1402 and that the 10 CFR Part 50 license can be terminated and the remainder of the RSNGS site is suitable to be released for unrestricted use.

#### **Remaining Decommissioning Activities**

SMUD has completed all decommissioning and dismantlement activities required to terminate the 10 CFR Part 50 license. SMUD has met the criteria in 10 CFR 20.1402 and the 10 CFR Part 50 license can be terminated. The remainder of the Rancho Seco site is suitable to be released for unrestricted use.

The spent nuclear fuel and Greater than Class C (GTCC) waste remain stored at the ISFSI, licensed under 10 CFR Part 72.

#### **Controls to Prevent Recontamination**

As stated above, SMUD has completed the remaining FSSs for RSNGS in accordance with the NRC-approved LTP. Since the FSS Reports show that RSNGS is well below SMUD's Derived Concentration Guideline Level (DCGLs), there is no mechanism to re-contaminate the RSNGS site due to any activities at that site. Accordingly, RSNGS will continue to meet the criteria for releasing the site for unrestricted use in accordance with 10 CFR 20, Subpart E and the released site will continue to meet the radiological criteria for unrestricted release.

All of the spent nuclear fuel and Greater than Class C (GTCC) radioactive waste are stored at the Rancho Seco ISFSI, in a NUHOMS horizontal storage system. The NUHOMS canisters have double closure seal welds to form a pressure retaining confinement boundary and to maintain a helium (i.e., non-oxidizing) atmosphere. Chapter 8 of the Rancho Seco ISFSI Final Safety Analysis Report (FSAR) analyzes normal, off-normal, and accident operating conditions and shows that there are no normal, off-normal, or accident conditions that would result in the release of radioactive material to areas that have been released for unrestricted use. Consequently, there is no release of radioactive material from the adjacent ISFSI.

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#### **Impact of Proposed Site Release on Programs and Documents**

All of the Rancho Seco Licensing Basis Documents (LBDs) will be evaluated against the criteria in 10 CFR 50.59 and 10 CFR 72.48. The LBDs associated with the 10 CFR Part 50 license only will be voided upon termination of the Part 50 license. The LBDs that are still applicable to the ISFSI will be revised to reflect the termination of the Part 50 license and the remaining LBDs will reflect a stand-alone ISFSI. The following LBDs have criteria for requiring prior NRC approval beyond the criteria in 10 CFR 50.59 and 72.48:

a. Rancho Seco Quality Manual (RSQM)

Rancho Seco maintains an NRC-approved Quality Assurance (QA) program that satisfies the requirements of 10 CFR Part 50, Appendix B. In accordance with 10 CFR 71.101(f) and 10 CFR 72.140(d), SMUD also applies this program to satisfy the QA requirements of 10 CFR Part 71, Subpart H and 10 CFR Part 72, Subpart G.

SMUD letter DPG 17-019, dated March 30, 2017, submitted RSLBD-010 "Rancho Seco Quality Manual," Revision 4 for NRC approval. The letter states that, upon NRC approval, SMUD will issue RSLBD-010, Revision 4 concurrent with the termination of the 10 CFR Part 50 license.

In accordance with the provisions of 10 CFR 71.101(f) and 10 CFR 72.140(d), the Rancho Seco QA program will be accepted as satisfying the requirements of 10 CFR 71.17(b), 10 CFR 71.101(c), and CFR 72.140 (c). Accordingly, upon issuance of RSLBD-010, Revision 4, SMUD will satisfy the QA requirements of 10 CFR Part 71, Subpart H and 10 CFR Part 72, Subpart G.

b. Emergency Plan

Emergency Plan, Change 7, Revision 0, reflects the termination of the 10 CFR Part 50 license and will become effective upon termination of the Part 50 license. The changes to the E-Plan are administrative and include deleting references to 10 CFR Part 50, deleting the Part 50 EPZ, and deleting the Part 50 Emergency Action Levels (EALs). These changes do not reduce the effectiveness of the Emergency Plan and hence, do not require prior NRC approval to implement.

c. Physical Protection Plan

The Physical Protection Plan (PPP) applies to the 10 CFR Part 72 licensed ISFSI only and is not affected by the termination of the Part 50 license.

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#### **NRC Inspections and Confirmatory Surveys**

At the request of the NRC, the Oak Ridge Institute for Science and Education (ORISE), managed by Oak Ridge Associated University (ORAU), performed confirmatory radiation surveys at the IOSB during the week of August 29, 2016. The confirmatory survey activities included beta and gamma surface scans, direct and removable confirmatory measurements, side-by-side direct measurements, and soil sampling activities. Samples were tested by gamma spectroscopy for Co-60, Cs-137, and other gamma emitting radionuclides associated with the Rancho Seco site.

ORISE documented the conduct and results of its survey activities in a report dated March 22, 2017. ORISE concluded that SMUD implemented the FSSs appropriately. Soil samples collected by ORISE were in the range of typical background concentrations. Soil samples collected by SMUD and analyzed by ORISE were in the typical range for background concentrations.

Based on their review of the individual survey unit reports, the NRC concluded that SMUD's FSS data adequately and accurately demonstrate that the IOSB and the two-acre surrounding area is well below SMUD's Derived Concentration Guideline Level (DCGLs) and therefore meets the criteria of 10CFR 20.1402. Reports of ORAU and NRC surveys and sample analysis are public records and verify the Final Status Survey program implemented at Rancho Seco.

#### **4. Conclusions**

On November 27, 2007, the NRC approved the Rancho Seco LTP and determined that the proposed DCGLs would ensure that the 10 CFR 20, Subpart E release criteria would be met. The FSS reports are consistent with the LTP and demonstrate compliance with the release criteria contained therein. The FSS results demonstrate that the survey areas to be released meet the radiological criteria for unrestricted release.

NRC inspections and confirmatory measurements verified that the decommissioning and FSS programs adequately addressed the radiological conditions at the RSNGS site and the remainder of the Rancho Seco site is suitable to be released for unrestricted use. Accordingly, the NRC should approve the termination of the Rancho Seco 10 CFR Part 50 license.