



DPG 16-167

July 14, 2016

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

Docket 50-312  
Rancho Seco Nuclear Generating Station  
License DPR-54

Docket 72-11  
Rancho Seco Independent Spent Fuel Storage Installation  
License SNM-2510

**RANCHO SECO BIENNIAL REPORT**

Attention: Jack Parrot  
Attention: William Allen

In accordance with 10 CFR 50.59(d)(2); Rancho Seco Quality Manual Appendix A, Sections 1.5.3 and 1.5.5b; and 10 CFR 72.48(d)(2), we are submitting the enclosed Rancho Seco biennial report covering the period May 1, 2014 through April 30, 2016.

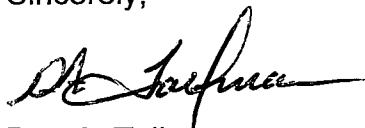
For 10 CFR Part 50 decommissioning activities, the enclosed report includes:

1. Shutdown statistics,
2. A narrative summary of shutdown activities,
3. Environmental report information, and
4. A summary of safety evaluations documented pursuant to 10 CFR 50.59 and 10 CFR 72.48.

*NM5526*

If you or members of your staff require additional information or clarification, please contact me at (916) 732-4893.

Sincerely,



Dan A. Tallman  
Manager, Rancho Seco Assets

Enclosure

Cc w/Att.: Marc Dapas, NRC Region IV Administrator  
Robert Jones, SMUD  
RIC 1F.099

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## **Shutdown Statistics**

1. On June 7, 1989, Rancho Seco permanently ceased nuclear power operations.
2. On December 8, 1989, Rancho Seco staff completed de-fueling the nuclear reactor.
3. On March 17, 1992, the NRC amended the Rancho Seco 10 CFR Part 50 operating license to a Possession-Only license
4. On March 20, 1995, the NRC issued the Rancho Seco Decommissioning Order. The Order authorized the decommissioning of Rancho Seco and accepted the Rancho Seco decommissioning funding plan.
5. In March 1997, SMUD revised the Rancho Seco Decommissioning Plan to conform to the content requirements of the Post Shutdown Decommissioning Activities Report (PSDAR).
6. On June 30, 2000, the NRC issued Material License No. SNM-2510 for the Rancho Seco Independent Spent Fuel Storage Installation (ISFSI), a 10 CFR Part 72 facility located adjacent to the Rancho Seco 10 CFR Part 50 nuclear facility.
7. On April 2, 2001, Rancho Seco staff began loading spent nuclear fuel stored in the Rancho Seco spent fuel pool into canisters for transfer to the ISFSI.
8. On August 21, 2002, Rancho Seco staff completed the transfer of all spent nuclear fuel from the Rancho Seco spent fuel pool to the ISFSI.
9. On April 12, 2006, Rancho Seco staff submitted the License Termination Plan (LTP) for the Rancho Seco Nuclear Generating Station (License DPR-54) and associated proposed license amendment No. 199.
10. On August 22, 2006, the GTCC canister was loaded into the 22<sup>nd</sup> HSM on the ISFSI pad.
11. On November 27, 2007, the NRC approved the LTP.
12. In December 2008, all physical decommissioning activity was completed for Phase I of the LTP.
13. On June 8, 2009, SMUD submitted a letter to the NRC requesting release of the site under Phase I of the decommissioning process following completion of Final Status Surveys.

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14. On August 11, 2009, Amendment 3 to the ISFSI Technical Specifications was approved by the NRC. This amendment addresses issues with misclassification of some fuel that is damaged and is stored in non-designated canisters. The amendment indicates that the fuel is being stored safely.
15. On September 25, 2009, the NRC approved release of the land as requested. As of this date, the land licensed under 10 CFR 50 is an approximately 1-acre fenced parcel containing the Interim Onsite Storage Building that houses the stored low-level radioactive waste. The 10 CFR 72 licensed area for storage of the used nuclear fuel and GTCC material remains unchanged.

### **Summary of Shutdown Activities**

1. SMUD currently stores all the Rancho Seco used nuclear fuel in 21 canisters (20 canisters containing 24 fuel assemblies and one canister containing 13 fuel assemblies) at the Rancho Seco ISFSI. The GTCC material is also stored at the ISFSI in a single canister.
2. On September 25, 2009 the NRC issued a letter approving the request to remove most of the facility land and structures from the 10 CFR 50 license. The facility remaining under license consists of the Interim Onsite Storage Building (IOSB) and approximately 1-acre of land surrounding the building. The IOSB was built specifically for the storage of low-level radioactive waste, and the waste Class B and Class C materials resulting from decommissioning were stored in the building until a suitable disposition option became available. Following offsite disposition of the materials, Phase II of decommissioning will be conducted that will result in termination of the 10 CFR Part 50 license.
3. With completion of Phase I of decommissioning, the licensed facilities are in a stable configuration with a focus on monitoring the materials at the two facilities to ensure continued safe storage of that material. All of the material stored in both facilities is packaged for eventual shipment, although the damaged fuel stored in non-designated canisters requires additional evaluation prior to eventual shipment.
4. In November 2010, staffing changes were implemented at the facility. Onsite security was transitioned to a contracted security force and the "ISFSI Technician" and "ISFSI Supervisor" positions were eliminated. SMUD security continues to staff the Primary Alarm Station. The onsite security force now includes a Security Shift Supervisor who assumes the onsite management responsibilities of the ISFSI Technician.

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5. On March 19, 2014, 10 CFR Part 37 became effective, with new security requirements for the material in storage at the IOSB. Some of these new security requirements were different than those required by the orders issued in November 2010. SMUD implemented all of the required security measures before the implementation date of March 19, 2014.
6. In March 2014, the Post-Shutdown Decommissioning Activities Report was revised and provided to the NRC in April 2014. This revision reflects the updated schedule for shipping the Class B and Class C low-level radioactive waste generated during Phase I of decommissioning to the recently licensed disposal facility near Andrews, TX and operated by Waste Control Specialists, Inc. The updated schedule reflects disposal of the stored material in 2014, followed by the completion of license termination activities for the remaining infrastructure under the Part 50 license over the next two to three years.
7. In October 2014, SMUD completed shipping the Class B and Class C low-level radioactive waste generated during Phase I of decommissioning to the recently licensed disposal facility near Andrews, TX and operated by Waste Control Specialists, Inc. Following completion of waste disposal activities, SMUD commenced license termination activities in and around the IOSB. These activities are being conducted in accordance with the approved License Termination Plan.
8. In December 2014, RSNAP-202, IOSB Physical Security Plan, was voided since there was no longer any material in storage in the IOSB subject to the security requirements of 10CFR37. During a subsequent NRC inspection conducted in February 2016, the NRC inspectors reviewed security plans and procedures, radiation protection procedures, training programs, the personnel access authorization program, and the establishment of security zones related to 10 CFR 37 materials. No findings were identified.

### **Environmental Reports**

One new permit was issued related to protection of the environment. Permit-to-Operate No. 24406 was issued by the Sacramento Metropolitan Air Quality Management District (SMAQMD) in August 2015 for a diesel fired engine driving an emergency standby generator. This emergency generator will provide back-up power to the Rancho Seco facility in the event of a loss of normal power. This new emergency generator is replacing a previous emergency generator that became inoperable in 2014. The previous emergency generator was operated under SMAQMD Permit-to-Operate No. 11344.

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## **10 CFR 50.59(d)(1) and 10 CFR 72.48(d)(1) Safety Evaluation Summary**

The following is a summary of facility changes, tests, and experiments that required a documented evaluation pursuant to 10 CFR 50.59(d)(1) or 10 CFR 72.48(d)(1). No changes were implemented that required prior NRC approval.

1. RSIP-300, Revision 0, Radioactive Material and Waste Shipments, was implemented to replace the voided procedure RP.309.I.01, Revision 9 of the same name. RSIP-300 includes the use of additional radioactive waste transportation and disposal companies as well as incorporating new regulations and requirements involved in the shipping of low level radioactive waste.
2. RP.309.I.01, Revision 9 was voided and replaced with RSIP-300, Revision 0. RSIP-300 includes the use of additional radioactive waste transportation and disposal companies as well as incorporating new regulations and requirements involved in the shipping of low level radioactive waste.
3. The Independent Spent Fuel Storage Installation Safety Analysis Report was updated in Revision 4. The change included the completed ISFSI and updates to reflect the organizational structure supporting the Part 72 license.
4. RSNAP-202 was updated in Revision 1. The change updated RSNAP-202 to reflect the required 10 CFR37 security requirements.
5. The Radioactive Material Storage and Decommissioning Safety Analysis Report was updated in Revision 2. The change updated the organizational structure of the facility, the shipment of Class B and Class C waste from the IOSB, and the implementation of 10 CFR37 security requirements.
6. RSNAP-202, IOSB Physical Security Plan was voided following removal of the Class B and Class C low-level radioactive waste from the IOSB.
7. RSLBD-010, Rancho Seco Quality Manual, was updated in Revision 2. The change updated the Policy and Organization sections to reflect organizational and title changes.
8. RSNAP-050, Fire Protection Plan was updated in Revision 1. The change modified the current pre-action system to a wet pipe system and was made to support the decommissioning of the building without reducing the effectiveness of the program.

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9. DCP R15-001 was issued to install a 40' x 100' fuel transfer equipment storage building outside the ISFSI protected area, but within the ISFSI license controlled area.
10. SPIP-07, ISFSI Patrol Officer, SAS & PAS Operator Duties, was updated in Revision 4. The change made the duties described in SPIP-07 consistent with those described in the Physical Protection Plan and also incorporated updates to the organizational structure at the facility.