



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 E. LAMAR BLVD
ARLINGTON TX 76011-4511

September 16, 2016

Dan Tallman, Manager
Rancho Seco Assets
Sacramento Municipal Utility District
14440 Twin Cities Road
Herald, CA 95638

SUBJECT: NRC INSPECTION REPORT 050-00312/2016-002

Dear Mr. Tallman:

This letter refers to the announced U.S. Nuclear Regulatory's (NRC) inspection conducted August 29 through September 1, 2016, at the Rancho Seco Nuclear Generating Station near Herald, California. This inspection was an examination of activities conducted under your license as they relate to public health and safety to confirm compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, site tour, and interviews with personnel. The results of the inspection were discussed with you and other members of your staff at the exit briefing conducted at the conclusion of the site visit on September 1, 2016. The enclosed report presents the results of the inspection. No violations were identified and no response to this letter is required.

During the inspection, representatives from the Oak Ridge Associated Universities (ORAU) conducted confirmatory surveys on behalf of the NRC. The final results for these surveys will be presented to you under separate correspondence at a later date.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter, its enclosure, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading_rm/adams.html. To the extent possible, your response should not include any personal privacy or proprietary information so that it can be made available to the Public without redaction.

D. Tallman

Should you have any questions concerning this inspection, please contact Mr. Don Stearns, Health Physicist, at 817-200-1176, or the undersigned at 817-200-1197.

Sincerely,

/RA LEBrookhart Acting for/

Jack E. Whitten, Chief
Fuel Cycle and Decommissioning Branch
Division of Nuclear Materials Safety

Docket No: 050-00312

License No: DPR-54

Enclosure:

NRC Inspection Report 050-00312/2016-002

w/Attachment: Supplemental Information

**U.S. NUCLEAR REGULATORY COMMISSION
REGION IV**

Docket: 050-00312

License: DPR-54

Report: 050-00312/2016-002

Licensee: Sacramento Municipal Utility District

Location: 14440 Twin Cities Road
Herald, CA 95638-9799

Date: August 29 through September 1, 2016

Inspector: Donald Stearns, Health Physicist
Fuel Cycle and Decommissioning Branch

Accompanied by: Richard Kaiser, Health Physicist
Fuel Cycle and Decommissioning Branch

Approved by: Jack E. Whitten, Chief
Fuel Cycle and Decommissioning Branch

Enclosure

EXECUTIVE SUMMARY

Rancho Seco Nuclear Generating Station Inspection Report 050-00312/2016-002

This Nuclear Regulatory Commission (NRC) inspection was a routine, announced inspection of decommissioning activities being conducted at the Rancho Seco Nuclear Generating Station near Herald, California. Overall, the licensee was conducting decommissioning activities in accordance with regulatory and license requirements.

Decommissioning Performance and Status Review at Permanently Shutdown Reactors (71801)

- The licensee maintained site staffing in accordance with license requirements and had sufficient staff for the work in progress. The licensee and contracted workforce were conducting decommissioning activities in accordance with licensed requirements. (Section 1)

Inspection of Remedial and Final Surveys at Permanently Shutdown Reactors (83801)

- The inspector reviewed the licensee's final status survey design, implementation, and sample results for the Interim Onsite Storage Building (IOSB) and surrounding area. The licensee had effectively implemented the license and regulatory requirements related to the performance of final status surveys and in accordance with the approved License Termination Plan (LTP) and written procedures. (Section 2)
- The inspector conducted confirmatory surveys of selected areas within and surrounding the IOSB. The surveys included measurements of ambient gamma radiation levels and direct contamination readings on surfaces. The confirmatory survey results indicate that the licensee had effectively remediated those areas. (Section 2)
- Representatives from Oak Ridge Associated Universities conducted confirmatory surveys on behalf of the NRC. The final results for these surveys will be presented to you under separate correspondence at a later date. (Section 2)

Report Details

Site Status

Rancho Seco Nuclear Generating Station (RSNGS) Unit No. 1 is located in Sacramento County, California approximately 25 miles southeast of Sacramento and 26 miles north-northeast of Stockton. Rancho Seco Unit No. 1 began commercial operation in 1975. The single unit on the Rancho Seco site was a pressurized water reactor supplied by Babcock and Wilcox. The unit was permanently shutdown on June 7, 1989, following passage of a public referendum. The reactor was completely defueled on December 8, 1989, and a Possession Only License became effective on April 28, 1992.

A specific license for fuel storage in the Independent Spent Fuel Storage Installation (ISFSI) under Part 72 was issued in June of 2000. Transfer of the spent fuel rod assemblies from the spent fuel pool into dry storage in the ISFSI was completed on August 22, 2002.

In April, 2006, the licensee submitted the License Termination Plan (LTP) outlining a phased approach to decommissioning. Phase 1 of the decommissioning included radiological dismantlement of the nuclear facility. Phase 1 was completed in 2009 when the Rancho Seco property, except for the area associated with the Interim Onsite Storage Building (IOSB), was released from the NRC license. At that time, the licensee continued to store canisters and liners containing Class B and C waste in the IOSB. This was the only facility remaining under the Part 50 license and consists of approximately one acre of land that contains the IOSB.

In April, 2014, the licensee notified the NRC that it planned to ship the containers of Class B and C wastes to a disposal site in Texas. Shipment of the 23 containers of waste began in July 2014. All shipments were completed by the end of 2014. At that time, the only building remaining to undergo decommissioning was the IOSB and the 1 acre surrounding the building.

1 Decommissioning Performance and Status Review at Permanently Shutdown Reactors (71801)

1.1 Inspection Scope

The NRC inspector reviewed the status of decommissioning to ensure that the licensee was conducting decommissioning activities in accordance with license requirements. The inspector also assessed the performance of plant staff and contractors to verify that the license and license termination plan requirements are being met and implemented. The inspector also conducted a site tour to observe the condition of the facility and land areas.

1.2 Observations and Findings

At the time of the inspection, there were four licensee employees onsite. The Manager, Rancho Seco Assets, was the highest ranking manager onsite. The organizational structure during decommissioning consists of the Manager, Rancho Seco Assets who reports to the Director, Power Generation. The Director then reports to the Chief, Energy Delivery Officer. The Chief, Energy Delivery Officer reports to the Chief Executive Officer & General Manager who reports to the Sacramento Municipal Utility District (SMUD) Board of Directors. Site staff reporting to the Manager, Rancho Seco

Assets included the Assistant Superintendent, Rancho Seco Assets, the Senior Project Manager, Decommissioning and Final Status Survey, the Dosimetry Technician, and the Securitas Project Manager. To support the final remediation and survey of the IOSB, two contract organizations report to the Project Manager, Decommissioning. The Securitas Project Manager is a contractor in charge of site security.

During the tour of the site the inspector observed that the licensee maintained the overall condition of the site structures, fences, and gates in good condition. Access to other buildings which have been released for unrestricted use is controlled by lock and key. Large openings in buildings such as the turbine building have been closed with fencing and locked gates. Access to the protected area is controlled by the contract security forces. The inspector confirmed that the licensee had sufficient staff for the work in progress including final status surveys and remediation, and for site security.

The inspector reviewed the licensee's implementation of its Quality Assurance (QA) program including routine audits. The QA audit requirements are specified in the Quality Assurance Manual. The manual required periodic audits to be conducted at specified frequencies. The inspector noted that all required audits had been completed at the required frequency. The inspector reviewed two audits completed in April 2016; the radiation protection program and ALARA program audit, and the Process Control Program and Radioactive Waste audit. The inspector noted that both audits were limited in scope due to the reduced program requirements in effect at the time of the audits. The licensee auditors did not identify any deviations or adverse conditions during these audits.

The licensee has made one shipment of radioactive waste to date in 2016. That shipment was made to Philotechnics in Oak Ridge, Tennessee; Manifest Number 1881-072716PH, and consisted of six – 55 gallon drums of low level waste. The waste was shipped on July 27, 2016, and received by Philotechnics on August 1, 2016. The inspector reviewed the shipping documentation and confirmed that the forms were properly completed and signed. Emergency contact information was included with the documentation.

The licensee hopes to complete final status surveys and submit report to NRC by the end of November, 2016, and submit a License Termination Request by the end of December, 2016.

1.3 Conclusions

The licensee maintained site staffing in accordance with license requirements and had sufficient staff for the work in progress. The licensee was conducting decommissioning activities in accordance with license requirements. Land areas and facilities were being maintained in acceptable condition. Quality audits are performed at the required frequency in accordance with the Quality Manual.

2 Inspection of Remedial and Final Surveys at Permanently Shutdown Reactors (83801)

2.1 Inspection Scope

The inspector evaluated whether the licensee and its contracted workforce were conducting decommissioning activities in accordance with license and regulatory requirements.

2.2 Observations and Findings

The inspector conducted a tour of the IOSB and outside areas. During tour, the inspector observed area postings, signs, and boundaries. All postings and signs were found to be consistent with regulatory requirements.

The inspector conducted radiological surveys of accessible portions of the interior and exterior of the IOSB using a Thermo Model Radeye B20 survey meter (NRC serial number 12400, calibration due date of 28 October, 2016). Normal background radiation levels in the area were approximately 0.01 milliRoentgen per hour (mR/hr). Most areas around the exterior of the building measured between 0.01 and 0.015 mR/hr. Two areas, already identified by the licensee and ORAU, read as high as 0.045 mR/hr. The licensee confirmed that those two areas will be remediated prior to the areas being released for unrestricted use.

Within the IOSB, the wastes were stored in 15 concrete cells. All wastes have been removed and shipped to appropriate burial sites. At the time of the inspection, the licensee had performed final status surveys of 3 cells. Access to the storage cells involved removal of a concrete shield assembly on the top of the cell and use of an overhead crane and personnel basket to lower personnel to the bottom of the cell. Due to limited air flow in each cell, each cell is considered a confined space. In accordance with licensee procedures, a briefing was held prior to access into the cell. Air monitoring was conducted prior to access and during access to ensure air quality meant Occupational Safety and Health Administration (OSHA) requirements. Fall protection was worn by all individuals entering the cells or in attendance at the top of the cell. A job hazards analysis was performed for entry into the cells addressing confined space, heat stress, protective equipment, and other industrial hazards.

During the inspection, representatives from ORAU conducted confirmatory surveys on behalf of the NRC, including independent confirmatory surveys and side-by-side surveys with the licensee's contract staff. During the performance of side-by-side surveys, the final status surveys of two additional cells were completed. Surveys included surface scans, fixed point surveys, and swipe samples. ORAU representatives also collected soil samples from random areas outside of the IOSB. The results of soil samples taken outside the OISB will be provided to the licensee and reported in a future NRC inspection report.

Two Radiation Work Permits (RWP's) were generated to control work within and surrounding the IOSB. RWP 16-001 controlled support activities including routine surveys, inspections, and maintenance, but did not allow entry into a posted radiation area or posted contaminated area. The second RWP, 16-101, controlled

pre-decommissioning surveys of the IOSB and perimeter. This RWP did allow entry into posted areas or areas of unknown contamination or radiation levels. Prior to work in the IOSB, workers were required to read the RWP and sign that they understood the requirements.

The contractor for the final status surveys utilized appropriate survey instrumentation to perform those surveys. The inspector verified that the contractor had adequate types and quantities of instruments available to perform the required surveys. Instrument checks were performed each day prior to survey of an area and again at the completion of the survey process to ensure the instrument continued to operate properly during the entire survey time period. The inspector verified that all instruments in use were within the current calibration period.

2.3 Conclusions

The inspector reviewed the licensee's final status survey design, implementation, and sample results for the Interim Onsite Storage Building (IOSB) and surrounding area. The licensee had effectively implemented the license and regulatory requirements related to the performance of final status surveys and in accordance with the approved License Termination Plan (LTP) and written procedures.

The inspector conducted confirmatory surveys of selected areas within and surrounding the IOSB. The surveys included measurements of ambient gamma radiation levels and direct contamination readings on surfaces.

Representatives from Oak Ridge Associated Universities also conducted confirmatory surveys on behalf of the NRC. The final results for these surveys will be presented under separate correspondence at a later date.

3 Exit Meeting

The inspector reviewed the scope and results of the inspection at the conclusion of the onsite inspection on September 1, 2016. During the inspection, the licensee did not identify any information reviewed by the inspector as proprietary.

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Rancho Seco Nuclear Generating Station

D. Tallman, Manager, Rancho Seco Assets
B. Gacke, Assistant Superintendent, Rancho Seco Assets
D. Koontz, Senior Project Manager, Decommissioning/FSSS

INSPECTION PROCEDURES USED

71801 Decommissioning Performance and Status Review at Permanently Shutdown Reactors
83801 Inspection of Remedial and Final Surveys at Permanently Shutdown Reactors (83801)

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
ALARA	As Low As Reasonably Achievable
CFR	<i>Code of Federal Regulations</i>
IOSB	Interim Onsite Storage Building
ISFSI	Independent Spent Fuel Storage Installation
LTP	License Termination Plan
mR/hr	milliRoentgen per hour
NRC	U.S. Nuclear Regulatory Commission
ORAU	Oak Ridge Associated Universities
QA	Quality Assurance
RWP	Radiation Work Permit
RSNGS	Rancho Seco Nuclear Generating Station
SMUD	Sacramento Municipal Utility District

D. Tallman

Should you have any questions concerning this inspection, please contact Mr. Don Stearns, Health Physicist, at 817-200-1176, or the undersigned at 817-200-1197.

Sincerely,

/RA LEBrookhart Acting for/

Jack E. Whitten, Chief
Fuel Cycle and Decommissioning Branch
Division of Nuclear Materials Safety

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w/Attachment: Supplemental Information

DISTRIBUTION:

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ADAMS ACCESSION NUMBER: ML16259A414

<input checked="" type="checkbox"/> SUNSI Review By:	ADAMS: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Non-Sensitive <input type="checkbox"/> Sensitive	<input checked="" type="checkbox"/> Publicly Available <input type="checkbox"/> Non-Publicly Available	Keyword NRC-002
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NAME	DLStearns		JWhitten	
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DATE	9/16/16		9/16/16	

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Letter to Dan Tallman from Jack Whitten dated September 16, 2016

SUBJECT: NRC INSPECTION REPORT 050-00312/2016-002

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