



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511

December 15, 2022

Mr. Doug Bauder
Vice President and Chief Nuclear Officer
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, CA 92674-0128

**SUBJECT: SAN ONOFRE NUCLEAR GENERATING STATION – NRC INSPECTION
REPORT 05000206/2022-006, 05000361/2022-006, AND 05000362/2022-006**

Dear Mr. Bauder:

This letter refers to the U.S. Nuclear Regulatory Commission (NRC) inspection conducted on November 28-December 1, 2022, at the San Onofre Nuclear Generating Station (SONGS), Units 1, 2, and 3. The inspector discussed the results of the inspection with you and members of your staff during the final exit meeting on December 1, 2022. The inspection results are documented in the enclosure to this letter.

This inspection examined activities conducted under your license as they relate to public health and safety, the common defense and security, and to confirm compliance with the Commission's rules and regulations, and with the conditions of your licenses. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, performance of independent radiation measurements, and interviews with personnel. Specifically, the inspector reviewed decommissioning activities for SONGS Units 1, 2 and 3, and the radioactive waste management and transportation program. Within the scope of the inspection, no violations were identified, and no response to this letter is required.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter, the 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 Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC's Website 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.

If you have any questions regarding this inspection report, please contact Stephanie Anderson at 817-200-1213, or the undersigned at 817-200-1249.

Sincerely,



Signed by Warnick, Gregory
on 12/15/22

Gregory G. Warnick, Chief
Decommissioning, ISFSI, and Operating
Reactor Branch
Division of Radiological Safety and Security

Docket Nos. 50-206, 50-361, 50-362
License Nos. DPR-13, NPF-10, NPF-15

Enclosure:

Inspection Report 050-00206/2022-006; 050-00361/2022-006;
050-00362/2022-006
w/Attachment: Supplemental Inspection Information

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 05000206/2022006, 05000361/2022-006, AND 05000362/2022-006

ADAMS ACCESSION NUMBER: **ML22348A041**

☒ SUNSI Review	ADAMS:	☐ Sensitive	☐ Non-Publicly Available	Keyword
By: SGA	☒ Yes ☐ No	☒ Non-Sensitive	☒ Publicly Available	NRC-002
OFFICE	DRSS/DIOR			C:DIOR
NAME	SGAnderson			GGWarnick
SIGNATURE	/RA/			/RA/
DATE	12/14/2022			12/15/2022

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

Docket Nos. 05000206; 05000361; 05000362

License Nos. DPR-13; NPF-10; NPF-15

Report Nos. 05000206/2022-006; 05000361/2022-006; 05000362/2022-006

Licensee: Southern California Edison Company

Facility: San Onofre Nuclear Generating Station, Units 1, 2, and 3

Location: 5000 South Pacific Coast Highway
San Clemente, California

Dates: November 28-Decemebr 1, 2022

Inspector: Stephanie G. Anderson, Senior Health Physicist
Decommissioning, ISFSI, and Operating Reactor Branch
Division of Radiological Safety and Security

Accompanied By: M. Troy Johnson, Health Physicist
Decommissioning, ISFSI, and Operating Reactor Branch
Division of Radiological Safety and Security

Approved By: Gregory G. Warnick, Chief
Decommissioning, ISFSI, and Operating Reactor Branch
Division of Radiological Safety and Security

Attachment: Supplemental Inspection Information

Enclosure

EXECUTIVE SUMMARY

San Onofre Nuclear Generating Station, Units 1, 2, and 3
NRC Inspection Report 05000206/2022-006; 05000361/2022-006; 05000362/2022-006

This U.S. Nuclear Regulatory Commission (NRC) inspection was a routine, announced inspection of decommissioning activities being conducted at the San Onofre Nuclear Generating Station, Units 1, 2, and 3. In summary, the licensee was conducting decommissioning activities in accordance with site procedures, license requirements, and applicable NRC regulations.

Decommissioning Performance and Status Review at Permanently Shutdown Reactors

- The licensee was implementing decommissioning activities in accordance with the instructions provided in the Post Shutdown Decommissioning Activities Report. The inspector also determined that the licensee was adequately controlling decommissioning activities and radiological work areas at the facility. (Section 1.2)

Solid Radioactive Waste Management and Transportation of Radioactive Materials

- The licensee's contractor conducted waste management and transportation activities in accordance with the waste management plan, and site procedures. (Section 2.2)

Report Details

Summary of Plant Status

On June 12, 2013, the Southern California Edison Company (SCE), the licensee, formally notified the NRC that it had permanently ceased power operations at the San Onofre Nuclear Generating Station (SONGS), Units 2 and 3, effective June 7, 2013 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML131640201). By letters dated June 28, 2013 (ML13183A391), and July 22, 2013 (ML13204A304), the licensee informed the NRC that the reactor fuel had been permanently removed from the Units 3 and 2 reactor vessels as of October 5, 2012, and July 18, 2013, respectively. The NRC subsequently issued the permanently defueled technical specifications on July 17, 2015 (ML15139A390), along with revised facility operating licenses to reflect the permanent cessation of operations at SONGS, Units 2 and 3.

As required by Title 10 the *Code of Federal Regulations* (10 CFR) 50.82(a)(4), the licensee submitted its Post-Shutdown Decommissioning Activities Report (PSDAR) to the NRC on September 23, 2014 (ML14269A033). The PSDAR outlines the planned decommissioning activities. The current version of the PSDAR is dated May 7, 2020 (ML20136A339). The chosen decommissioning alternative was DECON. DECON is the removal or decontamination of equipment, structures, or portions of the facility and site that contain radioactive contaminants to levels that permit termination of the license.

On December 20, 2016, the licensee announced the selection of AECOM and Energy Solutions as the decommissioning general contractor. The joint venture between the two companies was called SONGS Decommissioning Solutions (SDS). The SDS organization manages most decommissioning activities as described in the PSDAR.

By letter dated August 7, 2020 (ML20227A044), the licensee certified that all spent fuel was removed from both Units 2 and 3. Accordingly, SONGS entered their Independent Spent Fuel Storage Installation (ISFSI) Only Technical Specifications, Emergency Plan, and Security Plan on August 10, 2020. After removal of all spent fuel from the two units, SDS started conducting additional decommissioning work within the two containment buildings and spent fuel pool rooms.

During the inspection week, the ongoing activities included segmentation of the reactor vessel internals inside the two containments. The contractor was also preparing the containments for future large component removals. In addition, the contractor was conducting hot spot removal and remediation of the radwaste building, preparing for removal of the spent fuel pool fuel racks, and actively demolishing the Unit 2 turbine building. Finally, the contractor was preparing the Units 2 and 3 intake structures for future release and backfilling.

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

1.1 Inspection Scope

The objectives of this portion of the inspection effort were to evaluate the status of decommissioning and to verify whether the licensee was conducting decommissioning and maintenance activities in accordance with regulatory and license requirements.

1.2 Observations and Findings

Section II.A of the PSDAR provides a description of the decommissioning periods. The site is currently in Period 4. Period 4 begins with the completion of fuel transfer operations and extends through the end of the decommissioning and decontamination work. At the time of the inspection, the licensee and its decommissioning general contractor SDS were conducting decommissioning activities in accordance with the PSDAR. Critical path activities included implementation of the reactor vessel internals segmentation.

The inspector toured the Unit 2 and Unit 3 containments and observed the work in progress and work recently completed. The contractor was actively performing segmentation of the reactor vessel internals in both units. Also, preparations on the large components to be removed include the reactor coolant pump motors, reactor coolant pumps, and steam generators, were in progress. Housekeeping was found to be adequate in both containments, and the radiological controls were consistent with regulatory requirements in the two restricted areas.

The inspector reviewed the status of the two spent fuel pools. The Unit 2 pool had been drained to just above the top of the spent fuel racks. The decommissioning contractor, SDS, was in the process of pulling the first of eight racks from the Unit 2 pool. The Unit 3 pool level had not been drained. The contractor plans to start removing the eight racks from the Unit 3 pool after the racks are removed from the Unit 2 pool. Following removal of all 16 racks, the remainder of the pool water from the two pools will be drained, processed, and released.

Outside of containment, the work in progress included continued demolition of the two turbine buildings. The contractor was separating the metal from the concrete debris for recycling. The concrete was being disposed as very low-level radioactive wastes. The work was being conducted with an emphasis on safety. At the time of the inspection, the contractor just finished installing the scale for weighing of rail cars prior to transportation.

The inspector reviewed SONGS Unit 1 license and technical specifications requirements, which has been combined with Unit 2 and Unit 3. The inspector verified the annual radioactive effluent release report, and the annual radiological environmental operating report were submitted as required by the Unit 1 license.

The inspector conducted independent radiological surveys during plant tours using a Thermo Radeye G survey meter (serial number 378 with a calibration due date of December 15, 2022). The inspector confirmed that the licensee had properly posted the areas that were toured. No high radiation area was identified that was not already posted and controlled. No radiation areas were identified outside of the radiologically restricted and posted areas.

1.3 Conclusion

The licensee and its decommissioning contractor were implementing decommissioning activities in accordance with the instructions provided in the PSDAR. The inspector also determined that the licensee was adequately controlling decommissioning activities and radiological work areas at the facility.

2 Solid Radioactive Waste Management and Transportation of Radioactive Materials (86750)

2.1 Inspection Scope

The purposes of this portion of the inspection were to verify the effectiveness of the licensee's programs for processing, handling, storage, and transportation of radioactive material.

2.2 Observations and Findings

The inspector interviewed site staff and observed select activities in progress to determine if the contractor was effectively managing waste management and transportation programs.

The inspector walked three radioactive material storage locations at the "south yard" and verified radioactive materials were appropriately controlled, labelled, and posted. This included evaluation of the material condition of the containers such as evidence of swelling, leakage, or deformation. Dewatering of containers containing resin from one of the turbine buildings was in progress and this operation was observed by the inspector which was being performed in accordance with procedure at the time of the observation.

Access to the south yard is secured against unauthorized entry by a chain link fence with periodically posted warning placards and entry to the area is controlled by a gate that is staffed by security personnel using appropriate controls to restrict access in accordance with local procedures.

The inspector reviewed two radioactive waste shipping packages, one Class B shipment and one Class A shipment. The inspector verified each shipment was appropriately characterized, classified, and prepared. Additionally, the inspector observed the Class A shipment take place and independently verified radiation surveys, shipment marking, labeling, and placarding to ensure it was consistent with the information in the shipping documentation.

The inspector reviewed the contractor's training program for selected staff supporting the radwaste management and transportation programs. The inspector noted that training was adequate, up to date, and implemented in accordance with site procedures

Finally, the inspector reviewed condition reports and the licensee appears to be effectively writing condition reports to address problems as they occur with corresponding corrective actions developed and implemented with a focus on preventing reoccurrence.

2.3 Conclusion

The licensee's contractor conducted waste management and transportation activities in accordance with the waste management plan, and site procedures.

3 Exit Meeting Summary

On December 1, 2022, the inspector presented the final inspection results to Doug Bauder, Chief Nuclear Officer and Vice President Decommissioning, and other members of the licensee's staff. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified except for certain SDS procedures and documents which were marked as proprietary.

SUPPLEMENTAL INSPECTION INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

A. Bates, SCE, Nuclear Regulatory Affairs Manager
D. Bauder, SCE, Chief Nuclear Officer and Vice President Decommissioning
R. Corbett, SDS, Radiation Protection Manager
R. Kalman, SDS, Executive Sponsor
S. Mannon, SDS, Program and Regulatory Assurance Manager
M. Morgan, SCE, Nuclear Regulatory Affairs
L. Rafner, SCE, Regulatory Affairs
A. Jahr, SDS, Waste Manager
A. Ali, SDS, Radwaste Engineer
M. Cuarenta, SDS, Waste Compliance Manager

INSPECTION PROCEDURES USED

IP 71801	Decommissioning Performance and Status Review at Permanently Shutdown Reactors
IP 86750	Solid Radioactive Waste Management and Transportation of Radioactive Materials

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened/Closed

None

Discussed

None

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
CFR	<i>Code of Federal Regulations</i>
GTCC	greater-than-Class C
ISFSI	Independent Spent Fuel Storage Installation
NRC	Nuclear Regulatory Commission
PSDAR	Post-Shutdown Decommissioning Activities Report
SDS	SONGS Decommissioning Solutions
SCE	Southern California Edison Company
SONGS	San Onofre Nuclear Generating Station