



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

December 13, 2024

Frederic Bailly, 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 050-00206/2024-006; 050-00361/2024-006; 050-00362/2024-006;
AND 072-00041/2024-001**

Dear Frederic Bailly:

This letter refers to the U.S. Nuclear Regulatory Commission (NRC) inspection conducted onsite from November 4-7, 2024, with continuing in-office review until November 21, 2024, for the San Onofre Nuclear Generating Station. The inspectors discussed the results of the inspection with you and members of your staff at the conclusion of the onsite inspection and during the final exit meeting on November 21, 2024. 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, observation of activities, independent measurement of radiation levels, and interviews with personnel. Specifically, the inspectors reviewed your implementation of decommissioning performance, remedial and final surveys, solid radioactive waste management and transportation of radioactive materials, and selected issues involving the onsite Independent Spent Fuel Storage Installation. 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, 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 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 Josey, Jeffrey
on 12/13/24

Jeffery E. Josey, Chief
Decommissioning, ISFSI, Operating Reactor Branch
Division of Radiological Safety and Security

Docket Nos. 50-206; 50-361; 50-362; 72-041
License Nos. DPR-13; NPF-10; NPF-15

Enclosure:

Inspection Report 050-00206/2024-006; 050-00361/2024-006; 050-00362/2024-006; and 072-00041/2024-001
w/Attachment: Supplemental Inspection Information

Distribution via ListServ

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DATED DECEMBER 13, 2024

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ADAMS ACCESSION NUMBER: **ML24346A081**

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

Docket Nos. 050-00206; 050-00361; 050-00362; 072-00041

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

Report Nos. 050-00206/2024-006; 050-00361/2024-006; 050-00362/2024-006;
and 072-00041/2024-001

Enterprise Identifier: I-2024-006-0051 and I-2024-001-0147

Licensee: Southern California Edison Company

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

Location: 5000 South Pacific Coast Highway
San Clemente, California

Inspection Dates: Onsite November 4-7, 2024
In-office review until November 21, 2024

Exit Date: November 21, 2024

Inspectors: Eric S. McManus, Health Physicist
Decommissioning, ISFSI, and Operating Reactor Branch
Division of Radiological Safety and Security

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

Approved By: Jeffery E. Josey, 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
NRC Inspection Report 050-00206/2024-006; 050-00361/2024-006;
050-00362/2024-006; and 072-00041/2024-001

This U.S. Nuclear Regulatory Commission (NRC) inspection was a routine, announced inspection of decommissioning and Independent Spent Fuel Storage Installation (ISFSI) activities being conducted at the San Onofre Nuclear Generating Station. In summary, the licensee and its decommissioning general contractor were found to be conducting activities in accordance with site procedures, license requirements, and applicable NRC regulations.

Decommissioning Performance and Status Reviews at Permanently Shutdown Reactors

- The licensee was effectively implementing decommissioning activities at Units 2 and 3 in accordance with approved procedures and commitments provided in the Post-Shutdown Decommissioning Activities Report. The licensee maintained good radiological control over these work activities. The licensee continued to use the Unit 1 footprint for storage of spent fuel and other support systems. The licensee continued to monitor for contamination in and around the Unit 1 footprint to ensure that Units 2 and 3 decommissioning was not negatively impacting the Unit 1 footprint. No major changes in the schedule were identified that had an impact on the decommissioning trust fund. The licensee continued to implement a corrective action program to identify and resolve problems. (Section 1.2)

Inspection of Remedial and Final Surveys at Permanently Shutdown Reactors

- The licensee conducted final status and radiological assessment surveys in accordance with approved procedures. These procedures were consistent with NRC guidance documents. The licensee's final status survey personnel were trained in accordance with licensee procedures and American National Standards Institute standards. The licensee continued to identify, document, and resolve problems in this program area. (Section 2.2)

Solid Radioactive Waste Management and Transportation of Radioactive Materials

- The licensee and its decommissioning contractor conducted waste management and transportation activities in accordance with procedural instructions, Post-Shutdown Decommissioning Activities Report commitments, and regulatory requirements. No findings of significance were identified. (Section 3.2)

Operation of an Independent Spent Fuel Storage Installation

- The inspectors reviewed a design change and tsunami calculations that had been presented by the licensee to the California Coastal Commission. The NRC determined that the design change was adequately performed using the 10 CFR 72.48 process, and the tsunami calculations were bounded by the site's design basis calculations. No findings of significance were identified. (Section 4.2)

Report Details

Summary of Plant Status

Southern California Edison Company (SCE), the licensee, formally notified the NRC in June 2013 that it had permanently ceased power operations at San Onofre Nuclear Generating Station (SONGS), Units 2 and 3 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML131640201). The NRC subsequently issued the permanently defueled technical specifications in July 2015 (ML15139A390), along with revised facility operating licenses to reflect the permanent cessation of operations at 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 outlined the licensee's planned decommissioning activities. The current version of the PSDAR is dated May 7, 2020 (ML20136A339). As discussed in the revised PSDAR, the licensee chose the decommissioning alternative 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 named SONGS Decommissioning Solutions (SDS). The SDS organization manages most of the decommissioning activities as described in the PSDAR.

During the inspection, the licensee was making its final cuts on the Unit 3 reactor vessel flanges to prepare the reactor vessel for future lifting and segmentation of the vessel shell. In Unit 2, the licensee continued with final cleanup of the lower reactor cavity region, to support the future drain down of the cavity. The steam generators in both units were being cut into segments for offsite disposal. The material handling facility was operational for support of open air demolition of the radioactive site structures.

1 Decommissioning Performance and Status Review at Permanently Shutdown Reactors (Inspection Procedure [IP] 71801)

1.1 Inspection Scope

The inspectors observed site activities, reviewed documents, and interviewed site personnel in order to: (1) evaluate the status of decommissioning and verify whether the licensee was conducting decommissioning and maintenance activities in accordance with regulatory and license requirements; (2) evaluate the licensee awareness of work activities to assess their control and conduct of decommissioning; and (3) evaluate the licensee's decommissioning staffing, personnel qualifications, and training requirements, including that of the contracted workforce, to ensure that license requirements were met, as applicable to the current decommissioning status.

1.2 Observations and Findings

a. Status of Decommissioning

At the time of the onsite inspection, the licensee and its decommissioning general contractor SDS were conducting major decommissioning activities in accordance with the commitments provided in Section II.B.1 of the PSDAR. The inspectors discussed the current decommissioning schedule with management staff, observed daily planning meetings, and observed open air demolition work in progress.

The inspectors reviewed the current decommissioning schedule with contractor management. The status of decommissioning was noted to be commensurate with the challenges encountered. Prior to the onsite inspection, the licensee completed the demolition of the auxiliary control building. During the onsite inspection, the Units 2 and 3 radwaste buildings were being demolished. The radwaste building demolition work was approximately one-third complete.

The inspectors attended three daily planning meetings. The topics included an As Low As Is Reasonably Achievable (ALARA) briefing, safety briefing, current work projects, and near-term work projects. The meeting provided participants with current information of the work in progress including radiological and industrial safety updates as needed.

The inspectors conducted site tours, in part, to observe open air demolition activities. The work was being conducted in accordance with the instructions provided in SDS-RP1-TSD-24-01, revision 1, Open-Air Demolition Plan for San Onofre, and SDS-0-C-AR-1015, revision 0, Auxiliary Radwaste Building Demolition. The licensee was demolishing the radwaste building, sorting the debris, transferring the debris to the adjacent material handling facility, and loading the debris into railcars for offsite disposal.

As specified in the open-air demolition plan, the licensee developed an ALARA work plan (No. 24-0-777) and radiation work permit to support the demolition work. These two documents provided the radiological controls including personnel protection from radioactive materials and environmental monitoring of the perimeter of the work area. The inspectors reviewed the accumulated radiological doses to workers and noted that the collective doses were consistent with the ALARA work plan estimates. At the time of the inspection, the collective doses totaled 71 millirem with a budgeted dose of 232 millirem.

The inspectors observed that industrial safety controls were in place including use of water cannons and hoses to suppress the dust created by demolition activities. The inspectors noted that additional radiation protection and environmental air samplers had been installed around the footprint where open-air demolition activities were being conducted, to monitor for potential airborne contamination that may migrate from the work area. The inspectors reviewed recent data collected from samplers inside and outside of the work area, and the data suggested that radioactive material was not migrating from the work area.

The inspectors also observe the licensee's use of radiation detectors installed on a tractor that traversed the areas around the site. This monitoring activity was considered a good practice and proactive to help ensure that demolition-related contamination was not present outside of the work area boundary.

b. Observation of Decommissioning Work Activities in Units 2 and 3 Containments

The inspectors toured the Units 2 and 3 containments to observe work in progress and to independently assess radiological conditions.

In Unit 2, the licensee continued with final cleanup of the lower reactor cavity region. The work included debris retrieval and flushing/hydrolasing activities. The debris was placed into liners for eventual removal from the reactor cavity. The licensee was almost finished with the cutting and removal of the two steam generators. The four reactor coolant pumps were still onsite, awaiting removal for offsite shipment and disposal.

In Unit 3, the major work activity was the cutting of the six reactor vessel flanges. The flanges must be cut to allow for future lifting and cutting of the reactor vessel shell. This work was being conducted in accordance with decommissioning work packages SDS-3-M-CO-2207 for the reactor vessel initial equipment preparation and installation, and SDS-3-M-CO-2211 for the diamond wire reactor vessel segmentation cuts. The licensee continued to cut and remove the segmented pieces of the two steam generators. The four reactor coolant pumps have been removed from the Unit 3 containment and shipped offsite for disposal.

The inspectors observed strong radiation protect support in both containments. Housekeeping was adequate based on the work in progress. Several minor radioactive labeling issues were identified and reported to the radiation protection staff for resolution. The inspectors conducted independent radiological surveys during site tours using a Thermo Scientific Radeye G survey meter (serial number 30901, calibration due date of 1/19/25, calibrated to cesium-137). Overall, the measured exposure rates were consistent with existing signs and postings.

c. Tour of Unit 1 Footprint

Unit 1 operated from 1968 to 1992. In 1999, the licensee commenced with decommissioning of the unit in accordance with the commitments provided in the PSDAR dated December 15, 1998 (ML13319B111 and ML13319B114). All above-ground structures were demolished and removed by 2008. The Unit 1 reactor pressure vessel was shipped offsite for disposal in 2020. The inspectors conducted a walkdown of the Unit 1 footprint to ensure that the current status of the site is consistent with the statements provided in the Defueled Safety Analysis Report (DSAR) dated June 10, 2024 (ML24166A276).

At the time of the inspection, the Unit 1 footprint was referred to as the north industrial area. The Independent Spent Fuel Storage Installation (ISFSI) was located within this area. In addition, the Unit 1 footprint was used for storage and laydown of equipment.

Existing Unit 1 structures, located below grade, included the concrete cradle foundation of the former sphere enclosure building and the turbine pedestal. The western seawall remains in place as a security barrier. The offshore intake structure and tunnels were abandoned in place. The existing equipment and systems in the north industrial area included the yard sump and associate pumps, piping and instrumentation, fire protection systems, electrical systems, and a water storage tank.

At the time of the inspection, the as-found fire protection system was not as described in the DSAR. The licensee issued an action request (1124-82222) to ensure that the DSAR was updated to reflect the status of the fire protection system in the north industrial area.

The inspectors reviewed the licensee's programs for ensuring that contamination from Units 2 and 3 decommissioning was not migrating into the north industrial area. The licensee's representatives explained that control was managed two ways, by routine radiological surveys of the ISFSI area and by radiologically monitoring the perimeter of the open-air demolition project. The combination of the two programs helps ensure that the former Unit 1 footprint does not become contaminated due to onsite demolition work. The inspectors reviewed recent survey results for the ISFSI and perimeter survey and monitoring systems, and the data indicates that no airborne contamination problems existed at the time of the inspection.

d. Decommissioning Staffing and Training

As described in Section 2.2 below, the inspectors conducted a detailed review of the training program for individuals who conducted unconditional release and final status surveys.

e. Decommissioning Planning, Scheduling, and Cost Assessment

The inspectors reviewed the licensee's decommissioning strategy and schedule, in part, to ensure there were no major changes that would impact the decommissioning trust fund. No major changes were identified during the inspection that had a significant impact on the trust fund.

f. Problem Identification and Resolution

The inspectors reviewed recently issued corrective action reports. There were no significant corrective action reports that had been issued since the last inspection.

1.3 Conclusions

The licensee was effectively implementing decommissioning activities at Units 2 and 3 in accordance with approved procedures and commitments provided in the PSDAR. The licensee maintained good radiological control over these work activities. The licensee continued to use the Unit 1 footprint for storage of spent fuel and other support systems. The licensee continued to monitor for contamination in and around the Unit 1 footprint to ensure that Units 2 and 3 decommissioning was not negatively impacting the Unit 1 footprint. No major changes in the schedule were identified that had an impact on the decommissioning trust fund. The licensee continued to implement a corrective action program to identify and resolve problems.

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

2.1 Inspection Scope

The inspectors observed site activities, reviewed documents, and interviewed site personnel to verify that permanently shut down power reactor sites have been

decontaminated to acceptable residual radioactivity levels and to verify that the licensee's procedures, radiological measurements, decommissioning surveys, and documentation of decommissioning surveys were implemented in accordance with NRC guidance.

2.2 Observations and Findings

a. Remediation Activities and Final Status Surveys

Section II of the PSDAR states that appropriate radiological and environmental programs will be maintained throughout the decommissioning process to ensure radiological safety of the workforce and the public, and environmental compliance is maintained. The inspectors reviewed selected areas of the licensee's final status survey and radiological assessment programs to ensure the onsite surveys were being conducted in accordance with procedural requirements.

The inspectors observed final status surveys in progress in the Unit 2 tendon gallery and reviewed the associated sampling plans. The tendon gallery surveys included concrete surface scans and core sampling. The area was a Class 1 area based on the guidance provided in NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)," revision 1. In accordance with MARSSIM, Class 1 areas require scans of 100-percent of the surface areas. The surface scans were being conducted using an in-situ object counting system (ISOCs). Concrete surface core samples were collected and shipped offsite for analysis. The radionuclides of concern included carbon-14, cobalt-60, and cesium-137. The inspectors observed surveys in progress and confirmed that the licensee was conducting the surveys in accordance with approved sampling plans. In addition, the inspectors noted that the sampling plans were developed using the guidance provided in MARSSIM and other NRC documents.

The inspectors reviewed two radiological assessment surveys of the former multi-purpose handling facility. The area was designated as a Class 1 area with two survey units. The first survey unit included the remnant concrete basement structure, while the second survey unit included the soil within the footprint of the former structure. The structure survey included core samples, surface scans, fixed-point measurements, and swipe samples of the concrete. For the soil areas, the survey included surface scans and soil sampling. The inspectors noted that the survey packages were found to be comprehensive and were consistent with the guidance provided in MARSSIM.

At the time of the inspection, the unconditional release and final status surveys of the Unit 3 safety equipment building and utility electrical tunnels were suspended due to high radiological background readings.

b. Verification and Confirmatory Surveys

The inspectors did not conduct independent confirmatory or verification surveys during this inspection.

c. Problem Identification and Resolution

The inspectors reviewed recent corrective action program entries involving final status surveys. The licensee was effectively writing condition reports to address problems as

they were identified. Since the previous inspection, the most significant problem identified was a broken chain of custody for samples submitted to an offsite laboratory. For all condition reports, the licensee developed and implemented corrective actions to prevent reoccurrence of the identified problems.

d. Training Program Review

The inspectors conducted a detailed review of the license termination/final status survey training and qualification program. The licensee training program is in accordance with site procedure, SDS-LT1-PCD-1014, "License Termination/Final Status Survey Personnel Training and Qualification Program," revision 7. The inspectors reviewed the training qualifications for the personnel identified as the LT/FSS Manager, LT/FSS Supervisor, and the LT/FSS Personnel (Technicians). All personnel were trained and qualified in regard to education requirements, American National Standards Institute (ANSI) N18.1-1971, and site-specific training requirements. The inspectors reviewed several completed survey packages, and they were all performed and signed by qualified individuals.

2.3 Conclusions

The licensee conducted final status and radiological assessment surveys in accordance with approved procedures. These procedures were consistent with NRC guidance documents. The licensee's final status survey personnel were trained in accordance with licensee procedures and ANSI standards. The licensee continued to identify, document, and resolve problems in this program area.

3 Solid Radioactive Waste Management and Transportation of Radioactive Materials (IP 86750)

3.1 Inspection Scope

The inspectors observed site activities, reviewed documents, and interviewed site personnel to verify the effectiveness of the licensee's programs for processing, handling, storage, and transportation of radioactive materials.

3.2 Observations and Findings

a. Radioactive Material Storage and Control

The inspectors conducted walkdowns of radioactive waste storage areas located within and externally adjacent to both containment buildings. Storage of radioactive material is controlled by SDS procedure SDS-RP1-PGM-3000, "Control of Radioactive Material," revision 5. Radioactive material was controlled, labelled, posted, and secured against unauthorized removal in accordance with the SDS procedure and 10 CFR Part 20 regulations. A sampling of accessible radioactive material containers was inspected and verified to be adequately labeled, marked, and free of physical damage or leaks.

The inspectors reviewed records associated with sealed sources and toured an area where Category 2 sealed sources were stored. These sources were used to perform operational checks for radiation protection instruments. In accordance with procedure SDS procedure SDS-RP4-PCD-2001, "Sealed Radioactive Sources," revision 7, and

10 CFR Part 37 regulations, the sealed sources were locked within a secure storage container, and the container had adequate access controls in place. Access logs were maintained by security personnel for each individual entry into the source storage container. A calibration device containing a sealed source was clearly marked with the isotope and activity. Inventories and leak tests were performed, and records of these checks were available for review by inspectors. The sealed source locations and activities were aligned with licensee inventory records. The storage container was posted as required and the measured exposure rates outside the container were consistent with existing signs and postings.

b. Radioactive Waste Processing

Radioactive waste processing was not reviewed during this inspection as the radioactive waste processing procedures and equipment remained unchanged since the inspectors' review during previous inspections.

c. Transportation of Radioactive Materials

The inspectors reviewed the completed shipment records for three recent shipments; one Type B category 2 waste shipment and the re-shipment of Units 2 and 3 pressurizers. The records validated that the shipments were made in accordance with licensee procedures and U.S. Department of Transportation regulations. The records indicated that the required surveys were performed, the correct documentation was presented to the transporter, and all required pre- and post-notifications were made.

The inspectors also observed the preparation of one reactor coolant pump motor for transport. During the inspection, the motor had been loaded onto a shipping trailer, and the motor was being prepared for offsite shipment.

The inspectors reviewed training and qualifications for the licensee's shippers. Both licensee-required training and training required by 49 CFR Part 172, subpart H were completed and up to date for all qualified shippers who signed the shipping records reviewed by inspectors.

d. Problem Identification and Resolution

The inspectors reviewed the status of the licensee's and contractor's corrective action programs for entries involving waste management and transportation activities. The licensee effectively identified, documented, and corrected deficiencies in the areas of radioactive material storage, processing, and transportation. No significant problems were identified by the inspectors since the end of the last inspection of this program and the beginning of this inspection.

3.3 Conclusions

The licensee and its decommissioning contractor conducted waste management and shipping activities in accordance with procedural instructions, PSDAR commitments, and regulatory requirements. No findings of significance were identified.

4 Operation of an Independent Spent Fuel Storage Installation (IP 60855)

4.1 Inspection Scope

The inspectors utilized the periodic in-office follow-up allowance provided in IP 60855, Section 04.03 to assess two ISFSI activities that were publicly communicated between SCE and the California Coastal Commission (CCC). The inspectors reviewed selected procedures, calculations, and records to verify these activities were compliant with the 10 CFR Part 72 Certificates of Compliance technical specifications, requirements in the FSARs, and NRC regulations for the ISFSI systems at SONGS.

4.2 Observations and Findings

a. HI-STORM UMAX, Ver. B Outlet Air Vent Cover Design Change

On July 26, 2024, SCE began installing outlet vent covers on its HI-STORM UMAX storage system. The purpose of this design change was to prevent entrance of rainwater through the HI-STORM UMAX outlet vents. Even though rainwater had not been observed inside any of the UMAX vaults, the licensee initiated the design change to install the outlet air vent cover on top of the HI-STORM UMAX vertical ventilated module version B lid to prevent wind driven rain from entering the cavity enclosure and creating possible long term corrosion effects. SCE had previously received a permit amendment from the CCC (Immaterial Permit Amendment 9-15-0228-A1), to install the outlet covers.

The placement of the outlet vent cover was in the path of the heat removal system outlet vents. In accordance with 10 CFR 72.48 change requirements, SCE evaluated the impact of the outlet vent cover on the thermal performance and structural integrity of the HI-STORM UMAX storage system. The thermal performance analysis was performed by the vendor Holtec using a computational fluid dynamics heat transfer model to calculate temperature and pressure of all safety related components of the canister. This was done for the design basis heat load listed in the FSAR with the highest total heat load configuration. The results of the thermal model showed less than 1% total change on safety related components. NRC inspectors reviewed various documents associated with the design change including multiple thermal and structural analyses. The NRC determined that the design change was adequately performed using the 10 CFR 72.48 process. No findings were identified.

b. Tsunami Calculations

The inspectors reviewed two tsunami calculations that were performed by SCE for the CCC. One calculation was presented to the CCC for the permitting application to the State of California associated with the licensee's HI-STORM UMAX system in 2015 timeframe. The second calculation was presented to the CCC for the permit extension application to the state of California associated with the licensee's Transnuclear Advanced Horizontal Storage Module system in the 2022 timeframe. For the maximum tsunami wave, each calculation was based on the maximum tsunami occurring at maximum high tide, with storm surge, sea level anomaly, sea level rise, and wind driven waves from hypothesized storms all occurring in unison.

The inspectors determined that the original design basis calculation from 1973 remained

conservative with a total wave level height of 26.9 ft mean lower low level (MLLW). This calculation assumed the tsunami would improbably occur at the same time as the worst case postulated “smart” Pacific tropical cyclone that would circumnavigate both the Catalina and San Clemente islands. The 2015 wave calculation used better tsunami modeling and top 10% of actual storm data that had occurred and totaled 21.85 ft high MLLW. The 2022 calculation used different tsunami modeling data, the top 1% of storm data that had occurred, and predictive modeling for extreme sea water rise due to climate change and totaled 25.75 ft MLLW. The 2022 calculation also contained additional conservative assumptions that would not be required by NRC regulations such as additional runup and maximized inundation by removing the sea wall and predictive software to prorate sea level rise out to 2050. Even with the predictive sea level rise included for year 2050, the wave height never exceeded the top of the UMAX ISFSI pad which is at approximately 30 ft MMLW. The inspectors identified no findings associated with the review the tsunami calculations.

4.3 Conclusions

The inspectors reviewed a design change and tsunami calculations that had been presented by the licensee to the CCC. The NRC determined that the design change was adequately performed using the 10 CFR 72.48 process, and the tsunami calculations were bounded by the site’s design basis calculations. No findings of significance were identified.

5 Exit Meeting Summary

The inspectors presented the preliminary inspection results to Frederic Bailly, Vice President and Chief Nuclear Officer, and other members of the licensee’s staff at the conclusion of the onsite inspection on November 7, 2024. A final exit meeting was presented to the licensee’s staff on November 21, 2024. The inspectors 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 and Contractor Personnel

F. Bailly, Vice President and Chief Nuclear Officer, SCE
G. Ferrigno, SDS, Radiation Protection Manager
R. Kalman, SDS, Executive Sponsor
D. Knudson, SDS, Programs Manager
J. Madigan, SCE, Nuclear Oversight and Safety Culture Manager
S. Mannon, SDS, Programs Project Director/Regulatory Manager
M. Morgan, SCE, Manager, Regulatory Affairs
L. Rafner, SCE, Regulatory Affairs
W. Richter, SDS, Fire Marshall
S. Sewell, SCE, Manager, Radiation Protection and Waste
B. Sholler, SDS, LT/FSS Project Manager
J. Stephenson, SCE, Manager, ISFSI Engineering

INSPECTION PROCEDURES USED

IP 71801	Decommissioning Performance and Status Reviews at Permanently Shutdown Reactors
IP 83801	Inspection of Remedial and Final Surveys at Permanently Shutdown Reactors
IP 86750	Solid Radioactive Waste Management and Transportation of Radioactive Materials
IP 60855	Operation of an Independent Spent Fuel Storage Installation

LIST OF 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 Is Reasonably Achievable
ANSI	American National Standards Institute
CFR	<i>Code of Federal Regulations</i>
DSAR	Defueled Safety Analysis Report
IP	Inspection Procedure
ISFSI	Independent Spent Fuel Storage Installation
ISOCS	in-situ object counting system
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MLLW	mean lower low level
NRC	Nuclear Regulatory Commission
PSDAR	Post-Shutdown Decommissioning Activities Report
SCE	Southern California Edison Company
SDS	SONGS Decommissioning Solutions
SONGS	San Onofre Nuclear Generating Station