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

March 8, 2018

Mr. Thomas J. Palmisano
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 05000361/2018-001 AND 05000362/2018-001

Dear Mr. Palmisano:

This letter refers to the U.S. Nuclear Regulatory Commission (NRC) inspection conducted on February 5-8, 2018, at the San Onofre Nuclear Generating Station (SONGS), Units 2 and 3. The NRC inspectors discussed the results of this inspection with you, and then with other members of your staff during an onsite final exit meeting conducted on February 8, 2018. 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 license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel. Specifically, the inspectors reviewed the decommissioning activities of SONGS Units 2 and 3 involving the transition of programs to SONGS Decommissioning Solutions (SDS) as the decommissioning general contractor, controls for spent fuel safety, effectiveness of the corrective action program, implementation of your safety review and design change program, the implementation of the maintenance program under SDS, and the implementation of the certified fuel handler training program. 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 Rachel Browder at 817-200-1452, or the undersigned at 817-200-1191.

Sincerely,

/RA/

Ray L. Kellar, P.E., Chief
Fuel Cycle and Decommissioning Branch
Division of Nuclear Materials Safety

Docket: 50-361; 50-362
License: NPF-10; NPF-15

Enclosure:
Inspection Report 05000361/2018-001;
05000362/2018-001
w/Attachment: Supplemental Information

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket Nos.	05000361; 05000362
License Nos.	NPF-10; NPF-15
Report Nos.	05000361/2018-001; 05000362/2018-001
Licensee:	Southern California Edison Company
Facility:	San Onofre Nuclear Generating Station, Units 2 and 3
Location:	5000 South Pacific Coast Highway, San Clemente, California
Dates:	February 5-8, 2018
Inspectors:	Rachel S. Browder, CHP, Senior Health Physicist Fuel Cycle and Decommissioning Branch Division of Nuclear Materials Safety
	Stephanie G. Anderson, Health Physicist Fuel Cycle and Decommissioning Branch Division of Nuclear Materials Safety
	Chris D. Steely, Health Physicist Fuel Cycle and Decommissioning Branch Division of Nuclear Materials Safety
Accompanied By:	Scott A. Morris Deputy Regional Administrator Region IV
Approved By:	Ray L. Kellar, P.E., Chief Fuel Cycle and Decommissioning Branch Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

San Onofre Nuclear Generating Station, Units 2 and 3
NRC Inspection Report 05000361/2018-001; 05000362/2018-001

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 (SONGS) Units 2 and 3. In summary, the licensee was conducting these activities in accordance with site procedures, license requirements, and applicable NRC regulations.

Decommissioning Performance and Status Review at Permanently Shutdown Reactors

- The licensee had implemented the decommissioning transition and site modifications as specified in the Post-Shutdown Decommissioning Activities Report (PSDAR). In addition, the licensee was appropriately implementing the decommissioning preparations as provided in the PSDAR. (Section 1.2)

Spent Fuel Pool Safety at Permanently Shutdown Reactors

- The SONGS Units 2 and 3 spent fuel pools were being maintained in accordance with Technical Specifications and procedural requirements. The licensee was safely storing spent fuel in wet storage. (Section 2.2)

Organization, Management, and Cost Controls at Permanently Shutdown Reactors

- The licensee was adequately implementing its Certified Fuel Handler training program and the individuals performing those duties were qualified in accordance with license condition and regulatory requirements. (Section 3.2)

Maintenance and Surveillance at Permanently Shutdown Reactors

- The maintenance and surveillance programs had been successfully transitioned to SDS. The maintenance tasks were being transitioned into the SDS system at the time of the inspection. The program was being conducted in a manner that resulted in safe storage of spent fuel and proper operation of radiation monitoring and effluent control equipment at the facility. (Section 4.2)

Self-Assessment, Auditing, and Corrective Action at Permanently Shutdown Reactors

The licensee was implementing its corrective action program in accordance with the appropriate regulatory requirements as prescribed by the Decommissioning Quality Assurance Program (DQAP). The licensee and SDS review committees were being conducted in accordance with procedure requirements and the issues were screened and prioritized commensurate with the safety significance. The licensee's audit and assessment programs were being conducted in accordance with the appropriate regulatory requirements as prescribed by the DQAP. (Section 5.2)

Safety Reviews, Design Changes, and Modifications at Permanently Shutdown Reactors

- The licensee was implementing the safety reviews for the 10 CFR Part 50 process in accordance with the applicable regulatory and license requirements. (Section 6.2)

Report Details

Summary of Plant Status

On June 12, 2013, Southern California Edison (SCE), the licensee, formally notified the NRC by letter that it had permanently ceased power operations at SONGS Units 2 and 3, effective June 7, 2013. The document is available in the Agencywide Documents Access and Management System (ADAMS) under (ADAMS Accession No. ML131640201). By letters dated June 28, 2013, (ADAMS Accession No. ML13183A391) and July 22, 2013, (ADAMS Accession No. ML13204A304) the licensee informed the NRC that the reactor fuel had been permanently removed from SONGS Units 3 and 2 reactor vessels as of October 5, 2012, and July 18, 2013, respectively. Upon docketing of these certifications, and pursuant to 10 CFR 50.82(a)(2), the SONGS, Units 2 and 3, facility operating licenses no longer authorized operation of the reactors or emplacement or retention of fuel into the reactor vessels. In response to the licensee's amendment request, the NRC issued the Permanently Defueled Technical Specifications on July 17, 2015, (ADAMS Accession No. ML15139A390) along with revised facility operating licenses to reflect the permanent cessation of operations at SONGS Units 2 and 3.

The licensee submitted its Post-Shutdown Decommissioning Activities Report (PSDAR) on September 23, 2014, (ADAMS Accession No. ML14269A033), which is required to be submitted within two-years following permanent cessation of operations under 10 CFR 50.82(a)(4). The PSDAR outlines the decommissioning activities for SONGS, Units 2 and 3; the PSDAR was reviewed by the NRC staff in a letter dated August 20, 2015 (ADAMS Accession No. ML15204A383). In the current plant configuration, the number of operable systems and credible accidents/transients is significantly less than for a plant authorized to operate the reactor or emplace or retain fuel in the reactor vessel.

On March 11, 2016 the NRC issued two revised facility operating licenses for SONGS Units 2 and 3 (ADAMS Accession No. ML16055A522), in response to the licensee's amendment request dated August 20, 2015, (ADAMS Accession No. ML15236A018). The license amendment allowed for the licensee to revise its Updated Final Safety Analysis Report (UFSAR) to reflect the significant reduction of decay heat loads in the SONGS Units 2 and 3 spent fuel pool (SFP) resulting from the elapsed time since the permanent shutdown of the units in 2012. The revisions support design basis changes made by the licensee associated with the implementation of "cold and dark" plant status as described in the PSDAR.

The NRC approved exemptions from certain emergency planning requirements in 10 CFR 50.47(b), 10 CFR 50.47(c)(2) and 10 CFR Part 50, Appendix E, Section IV, which became effective on June 5, 2015 (ADAMS Accession No. ML15105A349 and ML15126A461). These license amendments revised the SONGS emergency action level EAL scheme and emergency plan, respectively, to reflect the low likelihood of any credible accident at the plant in its permanently shut down and defueled condition that could result in radiological releases requiring offsite protective measures. The changes to the license were to provide conformance with the related exemptions granted to the licensee by NRC letter dated June 4, 2015 (ADAMS Accession No. ML15082A204). The changes were reviewed, and appropriate conforming changes were properly addressed in the applicable revision and section(s) of the SONGS UFSAR.

The licensee submitted a license amendment request dated December 15, 2016, (ADAMS Accession No. ML16355A015) to revise the Permanently Defueled Emergency Plan into an

Independent Spent Fuel Storage Installation (ISFSI)-Only Emergency Plan (IOEP), and to revise the Emergency Action Level (EAL) scheme into an ISFSI-only EALs for SONGS Units 1, 2, and 3 ISFSI. The proposed changes would reflect the new status of the facility, as well as the reduced scope of potential radiological accidents, once all spent fuel has been moved to dry cask storage within the onsite ISFSI, an activity which is currently scheduled for completion in 2019. The NRC issued amendments to the SONGS Operating Licenses to allow transition to an ISFSI-IOEP and EAL scheme on November 30, 2017 (ADAMS Accession No. ML17310B482). The NRC staff determined that the SONGS IOEP and associated EAL changes would provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the SONGS facility. The changes were reviewed, and appropriate conforming changes were properly addressed in the applicable revision and section(s) of the SONGS UFSAR.

License Amendment No. 169 (Unit 1), No. 237 (Unit 2), and No. 230 (Unit 3) were submitted on December 15, 2016 (ADAMS Accession No. ML16355A014), and approved by the NRC in a letter dated January 9, 2018 (ADAMS Accession No. ML17345A657). These license amendments changed the operating licenses and Technical Specifications (TS) to reflect the removal of all spent nuclear fuel from the SONGS, Units 2 and 3, spent fuel pools and its transfer to dry cask storage within an onsite ISFSI. The changes also made conforming revisions to the SONGS, Unit 1, TS and combined them with the SONGS, Units 2 and 3, TS. The changes were reviewed, and appropriate conforming changes were properly addressed in the applicable revision and section(s) of the SONGS UFSAR.

On December 20, 2016, the licensee announced the selection of AECOM and Energy*Solutions* as the decommissioning general contractor for SONGS. The joint venture between the two companies will be known as SONGS Decommissioning Solutions (SDS). The SDS organization will manage the decommissioning activities as the decommissioning general contractor, which is described in the licensee's PSDAR.

The California Environmental Quality Act is the state equivalent of the federal National Environmental Policy Act. For SONGS, the California State Lands Commission (CSLC) will perform the California Environmental Quality Act review, which is triggered by the need to establish the final disposition for the offshore conduits that are under a CSLC lease. Based on the Commission's website, it anticipates releasing the Draft Environmental Impact Report in the first or second quarter of 2018.

Loading operations of the spent fuel into dry cask storage in the (ISFSI) was ongoing. The initial canister containing spent fuel was placed into the Holtec HI-STORM UMAX storage system on January 31, 2018. The second multi-purpose canister, which was designed to hold 37 spent fuel assemblies was being loaded during the inspection. The SDS organization had initiated planning for the site's decommissioning activities, which are planned to commence once the spent fuel has been moved to the new ISFSI expansion and the licensee has received the required permit from the CSLC.

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

1.1 Inspection Scope

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

1.2 Observations and Findings

The licensee submitted its Post-Shutdown Decommissioning Activities Report (PSDAR) on September 23, 2014, as required under 10 CFR 50.82(a)(4). The PSDAR provides the general dates for each decommissioning phase implementation period and associated activities for that period. The licensee stated that the implementation of the activities described under each Period may overlap and not necessarily be implemented consecutively. The majority of activities described under Period 1, “Transition to Decommissioning” and Period 2, “Decommissioning Planning and Site Modifications” have been implemented, as described in previous inspection reports. These include, but not limited to a number of licensing submittals, implementation of “cold and dark” electrical transition, and the design and installation of Units 2 and 3 independent spent fuel pool cooling and make-up systems.

The licensee had selected its decommissioning general contractor, Songs Decommissioning Solutions (SDS), who has started mobilizing and planning the decommissioning activities as described under Period 3, “Decommissioning Preparations and Reactor Internal Segmentation.” The licensee completed the transition of 21 programs to the SDS, which necessitated substantial collaboration between the licensee and SDS. The inspectors determined the licensee and SDS implemented a smooth transition without any delays in the routine, maintenance schedules.

At the time of the inspection, the SDS was planning and scheduling limited activities, until such time as the licensee receives approval for decommissioning and dismantlement from the California State Coastal Commission. Some of the limited activities the licensee may perform under SAFSTOR includes hazard mitigation activities, such as containment habitability. Specifically, the hazard mitigation activities include completing the installation and repowering of the “cold and dark” electrical transition inside Unit 2 and Unit 3 containments; repowering, maintenance and testing of the ventilation systems and radiation monitoring capabilities inside both containments; and ensuring that both polar cranes are operable and functioning. The inspectors will observe the implementation and performance of these activities during future inspections.

The SDS was placing two radwaste secondary tanks (T-057 and T-058) into service to serve as holding tanks for liquids that have collected onsite primarily from condensation and rainfall. The licensee was storing liquids in tanks at the site as specified in the UFSAR, until the SDS processed the water in accordance with regulatory requirements. The maximum capacity the licensee maintained in any of the tanks was 87 percent. SCE Operations tracked the amount of liquids being held in the tanks and could move water to different storage tanks as needed. The licensee provided the following capacity of the tanks.

Component	Identifier	Capacity	Percent Volume
Chemical Waste Tank	T-064	25,000	71
Radwaste Primary Tank	T-065	60,000	87
Radwaste Primary Tank	T-066	60,000	82
Radwaste Primary Tank	T-067	60,000	87
Radwaste Primary Tank	T-068	60,000	87
Miscellaneous Wastes Evaporator Monitor Tank	T-075	25,000	8
Miscellaneous Wastes Evaporator Monitor Tank	T-076	25,000	81
Radwaste Secondary Tank	T-057	120,000	n/a
Radwaste Secondary Tank	T-058	120,000	n/a

The inspectors performed tours of the facilities, including the spent fuel handling buildings, command center, and the general areas along the west and east roads. In addition, the inspectors observed that activities in the southern portion of the switchyard were continuing with the construction of the building that will house the San Diego Gas and Electric synchronous condenser. Based on observations, the inspectors determined that the licensee was adequately maintaining the material condition of the facilities, as well as the condition of systems, structures, and components that supported spent fuel safety. The inspectors assessed area radiological conditions and the associated posting and labeling, and determined that the licensee was appropriately implementing the regulatory requirements under 10 CFR Part 20.

1.3 Conclusion

The licensee had implemented the decommissioning transition and site modifications as specified in the PSDAR. In addition, the licensee was appropriately implementing the decommissioning preparations as provided in the PSDAR.

2 Spent Fuel Pool Safety at Permanently Shutdown Reactors (60801)

2.1 Inspection Scope

The inspectors conducted a review of the SONGS Units 2 and 3 spent fuel pool (SFP) operations to ensure that the licensee was maintaining the pools in accordance with technical specifications and procedural requirements.

2.2 Observations and Findings

Technical Specifications 3.1.1 and 3.1.2 requires the SFP water level be maintained greater than or equal to 23 feet over the top of the irradiated fuel assemblies seated in storage racks, and the SFP boron concentration be maintained greater than or equal to 2,000 parts per million (ppm), respectively. In addition, SONGS UFSAR, Section 9.1.2.3, Safety Evaluation requires the SFP coolant temperature be maintained between 50°Fahrenheit (°F) and 160°F.

The SONGS Units 2 and 3 SFPs were being maintained at approximately 27 feet, 5 inches, above the top of the irradiated fuel assemblies. The SFP cooling systems

were holding temperatures steady at approximately 68°F - 71°F in each unit, which was within the (50°F – 160°F) range specified in the UFSAR. The licensee was moving fuel in Unit 2 and the temperature was 70.8°F at the time of the inspection.

The boron parameter was required to be analyzed weekly to verify the boron concentration in each SFP. The inspectors reviewed the data from each pool for the period of November 15, 2017 through January 24, 2018, and determined that the boron concentrations were being analyzed as required and maintained at approximately 2,700 ppm. The inspectors determined that the licensee was adequately meeting the Technical Specification requirements for the Units 2 and 3 SFPs.

The inspectors reviewed the gamma activity analysis results for Units 2 and 3 SFPs. The licensee's data indicated that the total gamma activity in Unit 2 SFP had been reduced from 2.83E-03 micro-Curies per milliliter (µCi/ml) in November 2017 to 9.67E-05 µCi/ml in January 2018, as a result of the filtration system being used to support the spent fuel loading campaign. The total gamma activity in Unit 3 spent fuel pool was slowly increasing from 4.24E-05 µCi/ml in November 2017 to 1.32E-04 µCi/ml in January 2018, since the licensee was not currently operating the filtration system in the Unit 3 spent fuel pool. The NRC inspectors performed a walk-down of the Unit 3 independent SFP system and the associated piping, pumps, and heat exchangers. The inspectors also observed the status of Units 2 and 3 SFP radiation and foreign material exclusion boundaries, postings, and labeling to ensure compliance with regulatory and procedural requirements. The NRC inspectors conducted independent gamma radiation measurements using a Ludlum Model 2401-S survey meter (NRC No. 079971, calibration due date of March 13, 2018). The results were consistent with the licensee's survey data for the Units 2 and 3 spent fuel handling building.

2.3 Conclusion

The SONGS Units 2 and 3 SFPs were being maintained in accordance with Technical Specifications and procedural requirements. The licensee was safely storing spent fuel in wet storage.

3 Organization, Management, and Cost Controls at Permanently Shutdown Reactors (36801)

3.1 Inspection Scope

The inspectors reviewed the certified fuel handling program to verify the program was being implemented as required by license condition and regulatory requirements.

3.2 Observations and Findings

The inspectors reviewed the following elements of the certified fuel handling program against licensee procedure SO23-XXI-TPD-SMCFH, "Shift Manager/Certified Fuel

Handler Training Program Description (TPD)" and the NRC approval of this program dated August 1, 2014:

- CFH (Certified Fuel Handler) retraining exam materials
- CFH training program course descriptions
- Medical exams for three CFH operators to ensure biennial requirement met
- CFH organizational structure
- Exam security requirements

At the time of the inspection, the licensee had 20 Certified Fuel Handlers who were previously licensed operators. There was no current class in progress although the licensee was prepared to implement a class should one become necessary due to personnel reductions as part of the decommissioning process. The inspectors determined through personnel interviews and program material review that the licensee was correctly implementing the CFH program in a systematic approach to training (SAT) manner as defined under 10 CFR 55.4.

The licensee's procedure SO23-XXI-TPD-SMCFH, was applicable only to SCE Operations personnel who attain the qualification identified as Shift Manager Certified Fuel Handler or as a Certified Fuel Handler, which is under SCE Training Code (2JQCFH). The Shift Manager/Certified Fuel Handler authorized the fuel movement activities in Unit 2, providing the oversight required by Technical Specifications 5.2.2.d.

In order to move fuel at SONGS, there are 3 positions required for fuel movement: 1) fuel handling supervisor (training code: RFRSMO), 2) fuel handling machine operator (training code: N40210), and 3) peer-checker (no qualification); and three positions required for moving control element assemblies: 1) fuel handling supervisor (RFRSMO), 2) fuel handling machine operator (N40210) and lightweight CEA handling tool (N80610), and 3) peer-checker (no qualification). The Nuclear Oversight Division challenged the qualifications of Holtec personnel identified on an organization chart as part of a challenge meeting conducted on October 31, 2017, in preparation for fuel movement. Two Action Requests were generated (AR 1117-62005) to address the qualifications and (AR 1117-37685) to revise references in four SONGS fuel procedures. Holtec ensured that its staff completed the required training for the respective positions and the SONGS procedures were revised to add references to use approved vendor procedures. The licensee completed a thorough assessment report that verified and documented the closure of the two action requests, as described above.

3.3 Conclusions

The licensee was adequately implementing its Certified Fuel Handler training program and the individuals performing those duties were qualified in accordance with license condition and regulatory requirements.

4 Maintenance and Surveillance at Permanently Shutdown Reactors (62801)

4.1 Inspection Scope

The inspectors reviewed the transition of the maintenance and surveillance program to the decommissioning general contractor. In addition, the inspectors verified that the program was being conducted in a manner that resulted in safe storage of spent fuel and proper operation of radiation monitoring and effluent control equipment at the facility.

4.2 Observations and Findings

The licensee and its decommissioning general contractor, SDS, had developed a systematic transition of 21 programs to the SDS organization starting in July 27, 2017 and concluding on November 30, 2017, with the maintenance program. The inspectors reviewed the transition of the maintenance program to SDS. The SDS maintenance program generated approximately 60 maintenance procedures for routine maintenance activities required by the Technical Specifications and other licensing documents. The maintenance procedures supported equipment such as the diesel fire pumps and other mitigating strategy support systems, meteorological tower instrumentation, security support systems, radiation monitoring and effluent control equipment. Work control was transitioning maintenance activities into the SDS system. At the time of the inspection the licensee had 2 action requests in its maintenance backlog.

The SDS maintenance program consisted of a manager, supervisor, and nine repairman with experience that comprised the necessary disciplines, such as electrical, mechanical, instrumentation and control, and heating, ventilation and air conditioning. The inspectors reviewed the training program detailed in SDS Procedure SDS-MA1-PGM-0002, “SDS Maintenance Training Program Description,” Revision 3. The procedure required ANSI N18.1-1971 training requirements for the maintenance department positions, as specified in Technical Specifications 5.3.1 for facility staff. In addition, the procedure SDS Procedure SDS-MA1-PGM-0002 specified a specific multi-discipline maintenance supervisor qualification record, even though the qualifications for multi-discipline supervisors was removed from the licensee’s Units 2 and 3 Technical Specifications on July 17, 2015. The inspectors reviewed the training records of four maintenance repairmen and the maintenance supervisor against the requirements of SDS Procedure SDS-MA1-PGM-0002. The documentation adequately demonstrated that the individuals were qualified as required by ANSI N18.1-1971 and the maintenance procedure requirements.

The inspectors reviewed maintenance procedures for surveillances and calibrations required to support the radiation monitoring and effluent control equipment at the facility. The procedures required interface with the Command Center, notification to the Shift Manager and generation of a condition report if a surveillance failed, and referenced the control of measurement and test equipment as required. The inspectors reviewed a completed routine maintenance work order number SDS-0117-29563-1, “92-Day RMO Wide Range Gas Monitor” for Unit 2 RE7865. The maintenance repairman identified steps in the procedure that could not be accomplished, stopped the activity, notified the supervisor and revised the procedure appropriately in order to complete the surveillance. The necessary change did not constitute a failed surveillance, but allowed the craft to use other forms of air supplies in lieu of the specified “service air,” which is no longer available. The 92-day surveillance for 2RE7865 was completed satisfactorily on February 5, 2018.

The inspectors observed the maintenance repairman reviewing maintenance work orders, walking down the systems and having a questioning attitude prior to performing work activities. This is especially critical taking into consideration the decommissioning status of the facility and the cold and dark transition that was performed. The inspectors also verified that the maintenance procedures specified "live-dead-live" verification prior to applicable work activities. The "live-dead-live" verification is a method used to test the operation of the voltage test instrument by testing a similar "live" voltage to the equipment that is scheduled to be worked, then testing the circuit that's supposed to be de-energized or "dead" circuit, and then re-verifying the meter is still functioning properly by going to the same known voltage source and making another "live" measurement. This process ensures that the circuit is de-energized before workers perform activities on the circuit.

Finally, the inspectors reviewed the lock-out, tag-out program, which was implemented under SDS engineering. The inspectors reviewed SDS procedure SDS-OP1-PCD-0001, "Lockout/Tagout," Revision 1 for retired plant equipment and non-plant equipment, and the licensee's procedure SO123-XX-5, "Work Authorization and Tagging," Revision 60 for in-service equipment. The SDS maintenance repairman had been trained on the procedures and the inspectors reviewed the learning objectives provided as part of the training for SDS procedure SDS-OP1-PCD-0001. The inspectors reviewed work package SDS-3-E-TB-003 for restoring power to the Units 2 and 3 Turbine Gantry Crane that implemented the lockout/tagout procedure. The inspectors observed that the Group Lockout Box, locks, signatures, and lockout/tagout device placed on the component in the field, had been implemented in accordance with the SDS procedure.

4.3 Conclusions

The maintenance and surveillance programs had been successfully transitioned to SDS. The maintenance tasks were being transitioned into the SDS system at the time of the inspection. The program was being conducted in a manner that resulted in safe storage of spent fuel and proper operation of radiation monitoring and effluent control equipment at the facility.

5 Self-Assessment, Auditing, and Corrective Action at Permanently Shutdown Reactors (40801)

5.1 Inspection Scope

The inspectors reviewed the licensee's and the SDS decommissioning contractor's policies and implementing procedures that govern the corrective action program to verify compliance with the applicable regulatory requirements and decommissioning documents.

5.2 Observations and Findings

The licensee had transitioned 21 programs to SDS, between July 27 and November 30, 2017. The implementation of the SDS corrective action program was part of the initial program transition to SDS on July 27, 2017, and was dually implemented alongside SCE's existing program. The inspectors reviewed SCE's 3rd quarter corrective action trend report

for the period July 1, 2017 through September 30, 2017. The report was thorough and documented seven cognitive trends that involved either equipment or the area of human performance. Some of the trends were identified prior to the 3rd quarter and were either being tracked or were closed during the 3rd quarter. The inspectors concluded that the actions taken by the licensee appeared to thoroughly address the issues identified. The licensee evaluated the results for effectiveness and concluded there was a significant decrease in human performance/procedure incidents prior to the MRC closing the respective actions. The SDS initial quarterly evaluation of corrective actions covered the 4th quarter 2017, which was after the majority of programs had transitioned to SDS. The final SDS report for the 4th quarter 2017 was in concurrence at the time of the inspection.

The inspectors discussed the SDS program implementation with the Decommissioning Agent (DA) Oversight organization. The inspectors observed that the SDS organization was working through new procedures and processes for the recently transitioned programs to support decommissioning of the facility, performing testing and validation of those procedures and processes, and making changes as necessary to implement the programs. The Holtec organization had been implementing its corrective action program longer than SDS because of its time onsite in preparation for moving fuel to the dry cask storage pad. The DA was responsible for performing oversight of both programs, SDS and Holtec. The DA Oversight representative explained that the organization had taken initiatives, including commencing bi-weekly meetings, to focus on bringing both projects together under one oversight group to ensure consistency in performance expectations and implementation of the oversight program.

The DA Oversight organization had identified several observations involving human performance and procedural adherence as the new SDS decommissioning programs were being stood up and initially implemented. The inspectors observed that the issues/events were placed into the corrective action program and actions taken by the SDS appeared to address the issues. The DA oversight explained that it was continuing to monitor for any adverse trends, which will also be reviewed during subsequent NRC inspections.

The inspectors observed a Management Review Committee (MRC) meeting conducted on February 8, 2018. The MRC was implemented in accordance with SCE Procedure SO123-XV-50, “Corrective Action Program,” Revision 40. The purpose of the MRC meeting was to review Action Requests entered into SCE’s corrective action program, as well as review cause evaluations and human performance events. The MRC reviewed one low-level event investigation during the meeting attended by the inspectors. The inspectors observed good discussion of issues and concluded that the MRC had assigned the appropriate significance levels to the respective Action Requests that were reviewed.

The inspectors also observed the SDS Project Screening Committee (PSC) on February 8, 2018, which was held to review recently generated Condition Reports under the SDS program. The PSC was held in accordance with the SDS Procedure SDS-RA1-PGM-0005, “SDS Corrective Action Program (CAP),” Revision 1. The PSC was comprised of members from operational and functional groups, including an SCE voting member for those condition reports that were potentially Conditions Adverse to Quality or Significant Conditions Adverse to Quality. The PSC reviewed the condition report statement(s) for clarity, assigned the type of evaluation required based on the assigned Significance Level,

and assigned a responsible manager for the condition resolution. The inspectors observed good discussion and determined that the PSC assigned appropriate Significance Levels to the condition reports reviewed.

The SCE Decommissioning Quality Assurance Program (DQAP) established measures for a system of planned and documented audits on a 24-month cycle to verify compliance with the decommissioning quality assurance program and 10 CFR Part 50, Appendix B. The inspectors reviewed the SCE Nuclear Oversight Department (NOD) audit schedule for 2017/2018 and determined that the audit frequency and assessment areas satisfactorily met the 24-month cycle verification requirement. The licensee explained that while SCE had delegated either sole or dual governance of many programs that fall under the QA Management system to SDS, the SCE NOD would continue to perform periodic assessments of the programs.

The inspectors reviewed SDS-QA1-PGM-0001, "Songs Decommissioning*Solutions* Quality Assurance Program (SDS QAP)," Revision 2 and concluded that it adequately reflected the SCE DQAP and established identical measures to implement the regulatory requirements.

The inspectors reviewed two assessment reports generated by the SCE Nuclear Oversight Division. These were Assessment Number 441, "Design and Configuration Control" and NODC AR 429, "SDS Corrective Action Program." Both SCE assessments concluded that the programs reviewed were being implemented satisfactory. The NRC inspectors determined that the assessments were thorough, there were sufficient elements of the program reviewed including supporting documentation to make a determination, and the assessment reports were documented sufficiently.

5.3 Conclusions

The licensee was implementing its corrective action program in accordance with the appropriate regulatory requirements as prescribed by the Decommissioning Quality Assurance Program (DQAP). The licensee and SDS review committees were being conducted in accordance with procedure requirements and the issues were screened and prioritized commensurate with the safety significance. The licensee's audit and assessment programs were being conducted in accordance with the appropriate regulatory requirements as prescribed by the DQAP.

6 Safety Reviews, Design Changes, and Modification at Permanently Shutdown Reactors (37801)

6.1 Inspection Scope

The inspectors reviewed the licensee's safety review processes, procedures, and training to verify that the safety review program was effective at contributing to the protection of public health and safety and the environment.

6.2 Observations and Findings

The inspectors reviewed the SDS procedure SDS-RA1-PGM-002, "10 CFR 50.59 and 72.48 Program," Revision 1. The Nuclear Regulatory Affairs & Environmental

Manager was responsible for the program and the Project Operations Review Committee was responsible for reviewing evaluations performed under the program. SCE SONGS and SDS used the guidance from NEI 96-07 and the Utility Services Alliance (USA) 10 CFR 50.59 Resource Manual and 10 CFR 72.48 Resource Manual to perform reviews for either the facility or dry cask storage related systems, structures, or components to determine whether any changes, tests, or experiments may be performed without obtaining prior NRC approval. The inspectors determined that the procedure provided adequate instructions to assure proper implementation, review, and approval of design changes.

The inspectors reviewed the training qualifications for two individuals authorized to perform 10 CFR 50.59 and §72.48 safety screens and one individual authorized to perform 10 CFR 50.59 evaluations. The training documents were in accordance with SDS procedure SDS-RA1-PGM-0002 and the individuals were appropriately qualified.

The inspectors reviewed three safety screenings performed in support of design change packages, where SDS personnel had determined that a 10 CFR 50.59 evaluation was not necessary. The following design change packages were reviewed:

- SDS-EN1-EDP-0004, Revision 0, “Reestablishment of Tanks T-057 and T-058 for Storage of Liquid Radwaste”
- SDS-EN1-EDP-0003, Revision 0, “Unit 2 and 3 Containment Ventilation”
- SDS-EN1-EDP-0006, Revision 1, “Refeed Disconnect Switch DSS3 for B-Buildings”

The inspectors concluded that the SDS reviewed the proposed activity under the 10 CFR 50.59 screening process in accordance with procedure and regulatory requirements and provided adequate explanation as to why an evaluation was not necessary. The 10 CFR 50.59 Reviewer documented the appropriate quality class and seismic category of the component or activity as documented in the Q-List. The references to the UFSAR and Technical Specifications were reviewed appropriately and the proposed changes to the UFSAR were captured in the respective design plan as applicable.

6.3 Conclusions

The licensee was implementing the safety reviews for the 10 CFR Part 50 process in accordance with the applicable regulatory and license requirements.

7 Exit Meeting Summary

On February 8, 2018, the NRC inspectors presented the final inspection results to Mr. T. Palmisano, Vice President and Chief Nuclear Officer, and other members of the licensee’s staff. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified with the exception of certain SDS procedures and documents, which were marked as proprietary.

SUPPLEMENTAL INSPECTION INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

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INSPECTION PROCEDURES USED

IP 71801	Decommissioning Performance and Status Review at Permanently Shutdown Reactors
IP 60801	Spent Fuel Pool Safety at Permanently Shutdown Reactors
IP 36801	Organization and Management at Permanently Shutdown Reactors
IP 62801	Maintenance and Surveillance at Permanently Shutdown Reactors
IP 40801	Self-Assessment, Auditing, and Corrective Action at Permanently Shutdown Reactors
IP 37801	Safety Reviews, Design Changes, and Modifications at Permanently Shutdown Reactors

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened/Closed

None

Discussed

None

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
CAP	Corrective Action Program
CFR	*Code of Federal Regulations*
CSLC	California State Lands Commission
DA	Decommissioning Agent
DQAP	Decommissioning Quality Assurance Plan
EAL	emergency action level
IOEP	ISFSI Only Emergency Plan

ISFSI	Independent Spent Fuel Storage Installation
MRC	Management Review Committee
NOD	Nuclear Oversight Department
NRC	Nuclear Regulatory Commission
PSC	Project Screening Committee
PSDAR	Post-Shutdown Decommissioning Activities Report
QAP	Quality Assurance Program
SAT	systematic approach to training
SDS	SONGS Decommissioning Solutions
SCE	Southern California Edison
SFP	Spent Fuel Pool
SONGS	San Onofre Nuclear Generating Station
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report

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■ SUNSI Review By: RSB	ADAMS: ■ Yes ☐ No	☐ Sensitive ■ Non-Sensitive	☐ Non-Publicly Available ■ Publicly Available	Keyword NRC-002

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