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

November 19, 2018

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 05000361/2018-003 AND 05000362/2018-003

Dear Mr. Bauder:

This letter refers to the U.S. Nuclear Regulatory Commission's (NRC's) inspection conducted on October 22-25, 2018, at the San Onofre Nuclear Generating Station (SONGS), Units 2 and 3. The NRC inspectors discussed the results of this inspection with Mr. T. Palmisano, and then with other members of your staff during a final onsite exit meeting conducted on October 25, 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 planning activities for SONGS, Units 2 and 3, controls for spent fuel safety, corrective action program, emergency preparedness program, and implementation of the solid radioactive waste management and transportation of radioactive materials 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 Stephanie Anderson at 817-200-1213, or the undersigned at 817-200-1151.

Sincerely,

/RA/

Janine F. Katanic, PhD, CHP, Chief
Fuel Cycle and Decommissioning Branch
Division of Nuclear Materials Safety

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

Enclosure:
Inspection Report 05000361/2018-003;
05000362/2018-003
w/Attachment: Supplemental Information

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket Numbers:	05000361; 05000362
License Numbers:	NPF-10; NPF-15
Report Numbers:	05000361/2018-003; 05000362/2018-003
Licensee:	Southern California Edison Company
Facility:	San Onofre Nuclear Generating Station, Units 2 and 3
Location:	5000 South Pacific Coast Highway, San Clemente, California
Inspection Dates:	October 22-25, 2018
Inspectors:	Stephanie G. Anderson, Health Physicist Fuel Cycle and Decommissioning Branch Division of Nuclear Materials Safety Rachel S. Browder, CHP, Senior Health Physicist Fuel Cycle and Decommissioning Branch Division of Nuclear Materials Safety Marlayna G. Vaaler, Project Manager Reactor Decommissioning Branch Office of Nuclear Materials Safety and Safeguards
Approved By:	Janine F. Katanic, PhD, CHP, Chief Fuel Cycle and Decommissioning Branch Division of Nuclear Materials Safety

Enclosure

EXECUTIVE SUMMARY

San Onofre Nuclear Generating Station, Units 2 and 3
NRC Inspection Report 05000361/2018-003; 05000362/2018-003

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 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 was implementing the decommissioning preparations and modifications as specified in the Post-Shutdown Decommissioning Activities Report. The plans developed reflected NRC guidance and satisfactorily met the regulatory requirements for decommissioning. (Section 1.2)

Spent Fuel Pool Safety at Permanently Shutdown Reactors

The San Onofre Nuclear Generating Station 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)

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

The licensee had established audit, review, and oversight programs to ensure that activities were being conducted in accordance with the applicable regulatory requirements, license conditions, and Decommissioning Quality Assurance Program procedures. The licensee and SONGS Decommissioning Solutions had identified decommissioning related activities issues at the appropriate thresholds and entered them into their respective corrective action programs systems. Issues were screened and prioritized commensurate with its safety significance. The licensee and SONGS Decommissioning Solutions evaluations determined the significance of issues and included appropriate remedial corrective actions. (Section 3.2)

Solid Radioactive Waste Management and Transportation of Radioactive Materials

The inspectors concluded that the licensee was knowledgeable of the transportation requirements and adequately trained to implement the program. The licensee maintained a solid radioactive waste management and transportation program that met regulatory requirements. (Section 4.2)

Decommissioning Emergency Preparedness Program Evaluation

The licensee maintained its emergency preparedness program in a state of operational readiness. The changes made to the program continued to meet commitments and NRC requirements, and as a result, does not negatively affect the licensee's overall state of emergency preparedness. (Section 5.2)

Report Details

Summary of Plant Status

On June 12, 2013, the Southern California Edison Company (SCE), the licensee, formally notified the NRC by letter that it had permanently ceased power operations at the San Onofre Nuclear Generating Station (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 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 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 Title 10 of the *Code of Federal Regulations* (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 (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, (ML14269A033), which is required to be submitted within 2 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 inspectors in a letter dated August 20, 2015 (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, (ML16055A522), in response to the licensee's amendment request dated August 20, 2015 (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 (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 (ML15082A204). The changes were reviewed, and appropriate conforming changes were properly addressed in the applicable revision and sections of the SONGS UFSAR.

The licensee submitted a license amendment request dated December 15, 2016, (ML16355A015) to revise the Permanently Defueled Emergency Plan (PDEP) into an Independent Spent Fuel Storage Installation (ISFSI)-Only Emergency Plan (IOEP), and to revise

the 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. This activity is currently scheduled for completion during 2019.

The NRC issued amendments to the SONGS operating licenses to allow transition to an IOEP and EAL scheme on November 30, 2017 (ML17310B482). The NRC inspectors 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 sections of the SONGS UFSAR.

License Amendment 169 (Unit 1), 237 (Unit 2), and 230 (Unit 3) were submitted on December 15, 2016 (ML16355A014), and approved by the NRC in a letter dated January 9, 2018 (ML17345A657). These license amendments changed the operating licenses and technical specifications to reflect the removal of all spent nuclear fuel from the SONGS, Units 2 and 3, SFPs and its transfer to dry cask storage within an onsite ISFSI. These changes will more fully reflect the permanently shutdown status of the decommissioning facility, as well as the reduced scope of structures, systems, and components necessary to ensure plant safety once all spent fuel has been permanently moved to the SONGS ISFSI, which is currently scheduled for completion in 2019.

The changes also made conforming revisions to the SONGS, Unit 1, technical specifications and combined them with the SONGS, Units 2 and 3, technical specifications. This license amendment will become effective as of the date the licensee submits a written notification to the NRC that all spent nuclear fuel assemblies have been transferred out of the SONGS SFPs and placed in storage within the onsite ISFSI. In addition, 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 EnergySolutions 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. The Draft Environmental Impact Report was published for public comment in June 2018, and the public review period closed for comments on August 30, 2018.

After the August 3, 2018, canister misalignment incident at SONGS ISFSI, the licensee committed on August 7, 2018, to a NRC review before prior to resuming operations of the spent fuel loading operations at SONGS. At the time of this inspection, there were no loading operations in effect. The SDS organization had initiated planning for the site's decommissioning activities, which are scheduled 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 reviewed documents and interviewed plant personnel to assess the licensee's performance in the following areas:

- Status of ongoing decommissioning activities and planning for future activities;
- Operability and functionality of systems necessary for safe decommissioning were assessed through plant walkdowns, such as: radioactive effluent monitoring, SFP level and temperature control, and radiation protection monitors and alarms;
- Performed plant tours to assess field conditions and decommissioning activities; and
- Observed and assessed the status of facility housekeeping.

1.2 Observations and Findings

The licensee submitted its 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. The licensee, under its decommissioning general contractor, SDS, was planning and scheduling hazard mitigation activities in preparation for decommissioning, as described under Period 3, "Decommissioning Preparations and Reactor Internal Segmentation."

SDS was continuing to work on the Authorized Limited SAFSTOR Hazard Mitigating Activities related activities. The inspectors interviewed SDS responsible personnel regarding the progress of the hazard mitigation activities, and determined that the planned activities were develop in accordance with procedures and regulatory requirements. In addition, the planned activities did not constitute activities approved outside of the PSDAR.

As part of the planning and characterization activities at the facility, SDS was performing evaluations for asbestos containing materials, in addition to the radiological characterization. Friable asbestos had been identified in certain areas of the plant and SCE was currently working on the remediation operations at the time of the inspection. SCE clearly stipulated that no airborne fiber concentration were measured. The NRC inspectors interviewed SDS and SCE personnel about the plans to remediate the friable asbestos. SCE was actively working to remediate the friable asbestos in the areas where SDS was working on Authorized Limited SAFSTOR Hazard Mitigating Activities related activities. In the meantime, in the aspect of worker safety as a precaution, the licensee was requiring everyone to wear a respirator if they entered the areas where friable asbestos had been identified.

The licensee was continuing to store liquids in tanks at the site as specified in the UFSAR, until SDS processes the water in accordance with regulatory requirements. The SCE Operations tracked the amount of liquids being held in the tanks and could move water to different storage tanks as needed. The inspectors performed tours of the facilities, including the Unit 2 spent fuel handling building, command center, south yard, ISFSI pad, and general areas along the west and east roads. Based on observations, the inspectors determined that the licensee was adequately maintaining the material condition of the facilities, as well as the 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 was implementing the decommissioning preparations and modifications as specified in the PSDAR. The plans developed reflected NRC guidance and satisfactorily met the regulatory requirements for decommissioning.

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

2.1 Inspection Scope

The inspectors reviewed documents and interviewed plant personnel to assess the licensee's performance in the following areas:

- Design, operational, and administrative measures are in place to prevent a substantial reduction in SFP coolant inventory under normal and accident conditions;
- SFP instrumentation, alarms, and leakage detection systems are adequate to assure safe wet storage of spent fuel;
- SFP water chemistry and cleanliness control programs maintain water purity standards, limits on radionuclide concentration, and minimum boron concentration in accordance with the technical specification requirements;
- Criticality controls are consistent with the applicable nuclear criticality safety analyses;
- Procedures, drawings, and PSDAR descriptions and operations regarding the SFP operation and power supplies are adequate; and
- Problem identification issues related to SFP activities are entered into the corrective action program at an appropriate threshold.

2.2 Observations and Findings

The technical specifications specify the limiting conditions of operation (LCO) in the fuel storage pool in order to maintain the fuel in a subcritical condition. The LCOs include

Technical Specifications 3.1.1 for the minimum level of 23 feet of water between the top of the fuel bundle and fuel pool surface, and Technical Specifications 3.1.2 for the boron concentration to be maintained greater than or equal to 2,000 parts per million (ppm) in order to preserve the assumptions of the fuel handling accident analysis. The inspectors observed the SFP water level was being maintained between 27.4 feet and 28 feet above the top of the fuel bundle, since the last inspection; and the boron concentration was maintained at approximately 2,650 ppm for both units.

The licensee last added makeup water to each SFP during July 2018, to maintain the desired water level in the SFP. The inspectors reviewed the surveillance history since the last inspection and the surveillances were completed as required and no results were below the technical specifications identified above. In addition, SONGS UFSAR, Section 9.1.2.3, Safety Evaluation required the SFP coolant temperature be maintained between 50 degrees°Fahrenheit (°F) and 160°F. The inspectors observed the spent fuel temperature ranged between 71°F and 73°F for each SFP since the last inspection, and was therefore satisfactory.

The inspectors observed the SFP island equipment in Unit 2, reviewed the corrective actions generated for the SFP systems, reviewed surveillances, and held discussions with the shift manager regarding licensee's observations of the equipment, and determined that the SFP island cooling and makeup systems were functioning adequately. The inspectors concluded the systems were being properly maintained. At the time of the inspection, there was no evidence of liner leakage in either the Unit 2 or 3 SFPs.

The inspectors observed the radiation monitoring system in the Unit 2 SFP handling building, in addition to the display and alarm capability in the Command Center using the command center data acquisition system. The licensee had appropriate compensatory measures and procedures in place for responding to an event involving spent fuel safety. The licensee has approximately 150 hours to respond to a loss of cooling event. There are multiple trains and capacity for cooling and makeup to the SFP to ensure safety of the spent fuel.

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

3.1 Inspection Scope

The inspectors reviewed documents and interviewed plant personnel to assess the licensee's performance in the following areas:

- Administrative procedures prescribed actions for the identification, evaluation, and resolution of problems;

- Procedures prescribed thresholds for the performance of self-assessments, audits, and surveillances;

- Management reviewed self-assessments, audits, and corrective actions to remain knowledgeable of plant performance;

- Issues or problems were identified and corrected in accordance with the licensee's corrective action program (CAP);

- Quality assurance personnel audited changes in the status of decommissioning and licensee organization; and

- Management observed maintenance and surveillance activities, operations evolutions, and training.

3.2 Observations and Findings

The overall organizational structure at SONGS is described in the UFSAR, as well as in Appendix A of the Decommissioning Quality Assurance Program (DQAP), Revision 4. The inspectors verified that the licensee maintained an overall organizational structure that reflected the decommissioning organization described in these licensing documents. The inspectors also reviewed the organizational structure of SDS to ensure that contractor personnel were sufficient to fulfill the roles and responsibilities laid out for licensee and SDS staff as part of the overall SONGS decommissioning project. In addition, SCE and SDS continued to manage and implement several oversight and review committees that established and maintained effective oversight of decommissioning activities conducted by both SCE and SDS personnel.

The licensee's CAP was proceduralized in Procedure SO123-XV-50, "Corrective Action Program," Revision 42, which establishes provisions that ensured the action requests produced as a result of the program provided: (1) adequate documentation and description of significant conditions adverse to quality; (2) an appropriate analysis of the cause of these conditions and the corrective actions taken to prevent recurrence; (3) direction for review and approval by the responsible authority; (4) a description of the current status of the corrective actions; and (5) the follow-up actions taken to verify timely and effective implementation of the corrective actions.

In addition, the procedure identified that the timeliness of corrective actions should be commensurate with the safety significance of the item, and that the extent of corrective actions should be determined as appropriate for the circumstances. SDS CAP was proceduralized in SDS Procedure SDS-RA1-PGM-0005, "SDS Corrective Action Program," Revision 2, and provided for the prompt identification, evaluation, disposition, and reporting of adverse conditions that required corrective actions. The procedure applied to discrepancies identified by SDS determined to be significant adverse conditions, adverse conditions, and potential weaknesses which, if left unresolved, could develop into conditions adverse to quality or for areas of improvement that were not necessarily deviations.

The inspectors attended a management review committee meeting, three plant screening committee (PSC), and a project screening committee meeting to verify implementation of the SCE and SDS corrective action programs. It was noted that SDS representatives readily participated in the oversight meetings, and SCE personnel were present at all SDS oversight meetings. In addition, the SCE and SDS attendees were prepared and knowledgeable of the corrective actions being reviewed. The inspectors observed that the licensee's oversight of SDS's CAP involved close monitoring, review, and evaluation of the SDS program using a combination of individual communications, use of the applicable oversight committees, as well as by the ongoing involvement of the corrective action program manager.

The inspectors reviewed a sample of internal assessments and quality assurance surveillance reports to evaluate the implementation of the SONGS audit program and verified that the licensee had prepared and approved plans that identified the audit scope, focus, and applicable criteria before the initiation of the audit activity. The inspectors confirmed that the audit reports contained a review of the relevant decommissioning activities and associated documentation. For audits that resulted in findings, the inspectors verified that the licensee had established a plan for corrective action, that the management review committee had reviewed and approved the corrective action, and then verified its satisfactory completion and proper documentation.

3.3 Conclusions

The licensee had established audit, review, and oversight programs to ensure that activities were being conducted in accordance with the applicable regulatory requirements, license conditions, and DQAP procedures. The licensee and SDS had identified decommissioning related activities issues at the appropriate thresholds and entered them into their respective CAP systems. Issues were screened and prioritized commensurate with its safety significance. The licensee and SDS evaluations determined the significance of issues and included appropriate remedial corrective actions.

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

4.1 Inspection Scope

The inspectors reviewed documents and interviewed plant personnel to assess the licensee's performance in the following areas:

- Whether the licensee provided detailed instructions and operating procedures for transfer, packaging, and transport of low-level radioactive waste;

- Whether the material was properly classified, described, packaged, marked, and labeled, and in the proper condition for transportation;

- Whether the licensee had established, implemented, and maintained an adequate quality assurance program to ensure audits were conducted in accordance with 10 CFR Part 20, Appendix G, III.A.3, and the results were evaluated by management;

- Whether the licensee's radiochemical sample analysis results were sufficient to support radioactive waste characterization and that the scaling factors and calculations to account for hard-to-detect radionuclides was technically sound and based on current 10 CFR Part 61 analysis; and

- Whether shipments made by the licensee were in compliance with NRC and U.S. Department of Transportation regulations.

4.2 Observations and Findings

The inspectors toured the south yard facility and determined that the area was controlled, posted, and secured against unauthorized removal of radioactive materials in accordance with 10 CFR 20.1801 and 10 CFR 20.2802, under the procedure requirements of SDS. The SDS contractor had established a radiation control point for entering the radiologically controlled area under a radiation work permit and utilized contamination monitors for personnel to exit the radiologically controlled area. The SDS had inventoried and packaged legacy waste from the facility.

The licensee generated 10 CFR Part 61 waste streams for the legacy waste, which included dry active waste (for two time periods dated 2013-2015 and 2016-2018). The waste streams had been decayed to the present time period for shipment. In addition, the licensee generated two separate waste streams for the TriNuke filters used in the Units 2 and 3 fuel handling building. The inspectors reviewed the waste streams generated and the methodology used for the generation of scaling factors to account for difficult-to-measure radionuclides. Based on the review and discussions with the SDS Broker II, the inspectors concluded that the methodology was technically sound and provided reasonable assurance that the radionuclide concentrations identified represented the facility's specific data.

The inspectors reviewed several shipping packages, training records, and verified the 24-hour emergency telephone number indicated on the shipping papers. The inspectors observed the shipper's performance during receipt and packaging activities that were in progress during the inspection. The inspector's observations included the SDS performance of surveys, package marking and labeling, vehicle placarding, and driver's instructions. The inspectors reviewed adequate blocking and bracing based on pictorial evidence.

Based on observations, discussions with responsible staff, review of representative records, the inspectors concluded that the shippers were knowledgeable of the regulations and demonstrated adequate skills to accomplish the package preparation requirements for public transport. In addition, the inspectors noted that the decommissioning agent observed the shipment. Based on discussions with the decommissioning agent, it was determined that they were present and observed the SDS performance of all transportation shipments.

The SDS performed a self-assessment dated February 24, 2018, entitled "SDS Waste Management Review Transportation of Radioactive Materials." The assessment performed a cross-walk of the SDS programmatic and procedure compliance with American Nuclear Insurers (ANI) Technical Guidance 15-02, "Transportation of

Radioactive Material" document. The SDS self-assessment concluded that the criteria in ANI 15-02 was adequately met and no recommendations were made. Based on discussions with SDS, the inspectors concluded that the staff was knowledgeable of the waste and transportation requirements. In particular, the SDS contractor had conservatively implemented the waste management and transportation programs.

4.3 Conclusions

The inspectors concluded that the licensee was knowledgeable of the transportation requirements and adequately trained to implement the program. The licensee maintained a solid radioactive waste management and transportation program that met regulatory requirements.

5 Decommissioning Emergency Preparedness Program Evaluation (82501)

5.1 Inspection Scope

The inspectors reviewed documents and interviewed plant personnel to assess the licensee's performance in the following areas:

- Evaluating the licensee's ability to maintain its Emergency Preparedness (EP) programs by verifying accurate and appropriate identification of EP weaknesses and effective corrective actions were implemented;

- Adequacy of the emergency response organization (ERO) on-shift and augmentation staffing levels;

- Monitoring of the effectiveness of the licensee's program for implementing changes to the emergency action levels (EAL) and emergency plan to ensure the changes meet the requirements of 10 CFR 50.54(q); and

- Implementation and maintenance of the EP program through audits performed in accordance with 10 CFR 50.54(t) and the effectiveness of licensee's corrective actions resulting from the audit.

5.2 Observations and Findings

The EP program continued to reside under the authority and direction of SCE and had not been transferred to SDS; although certain ERO positions were filled by SDS personnel. The licensee was no longer required to maintain an On-Shift Staffing Analysis Report. The required staffing is specified in the Permanently Defueled Emergency Plan (PDEP). The inspectors reviewed the licensee's ERO on-shift staffing and augmentation identified in the PDEP, Revision 3, which had not been revised since the last NRC inspection. The licensee maintained a five team rotation with alternates for certain positions. The on-shift staffing roster was managed electronically with hardcopy backup, in the Command Center for the ERO positions. The inspectors reviewed the rosters for day-shift and night-shift for October 18, 19, and 22, 2018, and determined that the different positions were filled by ERO qualified personnel.

The PDEP required response time for augmenting the ERO positions was 2 hours. Based on interviews and postulated scenarios presented by the inspectors, it was determined that ERO personnel were familiar with their responsibilities, the implementing procedures, and response time requirements. The inspectors determined that the processes in place for maintaining required on-shift and augmentation staffing levels met the PDEP commitments.

The inspectors reviewed the licensee's Biennial Exercise Critique Report for the exercise conducted on August 29, 2017, which the inspectors had observed at that time, as documented in NRC inspection report number 2017-004 (ML17268A393). The inspectors determined that the licensee thoroughly critiqued the exercise, in which the objectives were satisfactorily met. There were no performance deficiencies identified by the licensee and one weakness was documented in the report, that was initially associated with 10 CFR 50.47(b)(10), risk significant planning standard (RSPS). It was determined that the issue was not a weakness associated with the RSPS because it was not a protective action for onsite personnel but an action to mitigate or prevent sabotage within the vital areas, and the NRC concurred with the licensee's assessment.

The licensee entered the issue into its corrective action program and implemented the corrective actions in a timely manner through procedure revisions and training. The inspectors concluded that the licensee successfully implemented the corrective actions based on interviews with personnel and review of procedures.

The inspectors confirmed that the required emergency drills were conducted at the frequency prescribed by the PDEP. The inspectors concluded that the drills demonstrated measurable criteria and were satisfactorily implemented. The licensee documented thorough critiques with detailed information. The issues identified were captured in the corrective action program and improvements were made in the program as necessary.

The licensee observed improvements in several areas including dose assessment, radiological field monitoring, habitability surveys, and contamination control during subsequent drills as a result of focused training provided by a contractor during 2018. The inspectors discussed the focused training activities performed during the year with the licensee and was also informed of an open task to review the effectiveness of the ERO staff's "drillsmanship." Based on interviews with SDS radiation protection personnel, the inspectors concluded that the radiation protection staff were knowledgeable of their responsibilities in responding to an emergency and demonstrated the use of radiological equipment and emergency response kits.

There were no changes to the PDEP or the Permanently Defueled Emergency Action Levels since the last inspection in August 2017. The inspectors reviewed the 10 CFR 50.54(q) screenings performed for Emergency Plan Implementing Procedures (EPIPs) including the following:

- SO123-VIII-ERO-6, "Dose Assessment," Revision 2

- SO123-VIII-ADMIN-3, "Emergency Preparedness Program Drill Development and Evaluation," Revision 1

- SO123-VIII-ADMIN-2, "Emergency Preparedness Program Training," Revision 3

- SO123-VIII-ADMIN-2, “Emergency Preparedness Program Training,” Revision 2

- SO123-VIII-ADMIN-1, “Emergency Preparedness Program Maintenance,” Revision 6

The inspectors concluded that the revisions to the EPIPs did not reduce the effectiveness of the licensee’s Emergency Plan, and that the licensee continued to meet the requirement of 10 CFR 50.45(q)(2) to follow and maintain an emergency plan that met the requirements of 10 CFR Part 50, Appendix E, and the planning standards provided in 10 CFR 50.47(b).

The inspectors confirmed that the licensee performed the required surveillances of facilities, systems, and equipment at the frequency specified in licensee Procedure SO123-VIII-ADMIN-1 to support the PDEP. In particular, the inspectors verified the maintenance and inventory of the self-contained breathing apparatus, communication equipment, onsite sirens, and emergency kits, which were determined to be satisfactory.

In addition, the inspectors reviewed the work history of the meteorological tower. The licensee generated several action requests since the last inspection to address the meteorological tower. In particular, action request 0918-56917 stated that since August 25, 2018, the use of the meteorological tower to support dose assessment was non-functional and the licensee must use compensatory measures, which would be the use of stability class D value as part of the dose assessment calculation.

Based on interviews with ERO staff, the inspectors concluded that the licensee was aware that compensatory measures were necessary to perform dose assessment and adequately demonstrated the methodology that would be used in the event dose assessment was called upon during an emergency. The licensee was determining the actions necessary to address the conditions described in the action request, in which the two wind-speed channels exceeded the tolerance agreement the licensee had established for the two separate channels.

5.3 Conclusions

The licensee maintained its emergency preparedness program in a state of operational readiness. The changes made to the program continued to meet commitments and NRC requirements, and as a result, does not negatively affect SONGS overall state of emergency preparedness.

6 Exit Meeting Summary

On October 25, 2018, the NRC inspectors presented the final inspection results to Mr. T. Palmisano, Vice President of External Engagement 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 all SDS procedures and documents reviewed during the inspection, which were marked as proprietary.

SUPPLEMENTAL INSPECTION INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel
A.Bates, SCE, Regulatory Affairs and Oversight Manager
K.Gallion, SCE, Manager, EP Planning
J.Peattie, SCE, Manager, Maintenance, Work Control, & CAP
A.Wood, SDS, Waste Manager
S.Mannon, SDS, Regulatory Affairs
L.Villalobos, SDS, Broker II
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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 40801	Self-Assessment, Auditing, and Corrective Action at Permanently Shutdown Reactors
IP 86750	Solid Radioactive Waste Management and Transportation of Radioactive Materials
IP 82501	Decommissioning Emergency Preparedness Program Evaluation

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened/Closed

None

Discussed

None

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
ANI	American Nuclear Insurers
CAP	Corrective Action Program
CFR	*Code of Federal Regulations*
CSLC	California State Lands Commission
DQAP	Decommissioning Quality Assurance Program
EAL	Emergency Action Level
EP	Emergency Preparedness
EPIP	Emergency Plan Implementing Procedures
ERO	Emergency Response Organization
IOEP	ISFSI Only Emergency Plan
ISFSI	Independent Spent Fuel Storage Installation
LCO	Limiting Condition of Operation
NRC	Nuclear Regulatory Commission
PDEP	Permanently Defueled Emergency Plan
PSC	Plant Screening Committee

PSDAR	Post-Shutdown Decommissioning Activities Report
RSPS	Risk Significant Planning Standard
SDS	SONGS Decommissioning Solutions
SCE	Southern California Edison Company
SFP	Spent Fuel Pool
SONGS	San Onofre Nuclear Generating Station
UFSAR	Updated Final Safety Analysis Report

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