UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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June 22, 2000

Harold B. Ray, Executive Vice President
Southern California Edison Co.
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, California 92674-0128

SUBJECT: NRC INSPECTION REPORT 50-206/00-08

Dear Mr. Ray:

On May 26, 2000, the NRC completed an inspection at your San Onofre Nuclear Generating Station. The enclosed report presents the results of that inspection.

This inspection included a review of activities associated with Unit 1 and compliance with your post-shutdown decommissioning activities report and the permanently defueled technical specifications. This inspection reviewed self-assessments, audits, radiation protection activities, radioactive material transportation, spent fuel pool operations, planning, and decommissioning work activities. No violations were identified; therefore, no response to this letter is required.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be placed in the NRC Public Document Room.

Sincerely,

/RA/

Dwight D. Chamberlain, Director
Division of Nuclear Materials Safety

Docket No.: 50-206
License No.: DPR-13

Enclosure:
NRC Inspection Report
50-206/00-08

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket No:	50-206
License No:	DPR-13
Report No:	50-206/00-08
Licensee:	Southern California Edison Co. P.O. Box 128 San Clemente, California
Facility:	San Onofre Nuclear Generating Station, Unit 1
Location:	San Clemente, California
Dates:	May 22-26, 2000
Inspector:	Louis C. Carson II, Health Physicist
Approved:	D. Blair Spitzberg, Ph.D., Chief Fuel Cycle & Decommissioning Branch
Attachment:	Supplemental Information

EXECUTIVE SUMMARY

San Onofre Nuclear Generating Station (SONGS)
NRC Inspection Report 50-206/00-08

This routine, announced inspection of Unit 1 included review of the licensee's decommissioning status, management, organization, cost controls, spent fuel pool operations, self-assessments, audits, radioactive material transportation, radiation protection, radwaste treatment, surveillances, and maintenance programs.

Decommissioning Status, Performance, Management, Organization, and Cost Controls

- Since March 2000, the SONGS Unit 1 facility continued decommissioning and dismantlement as described in the licensee's post-shutdown decommissioning activities report (PSDAR) (Section 1).

- Decommissioning and dismantlement activities conducted since March 2000 included the diesel generator building demolition, Building A-99 release, containment ventilation fans and duct (A-3 and A-4) removal, cutting of the steam generator cold and hot leg piping, feedwater heater releases, main turbine decontamination and cut-ups, and radioactive waste shipments (Section 1).

- Planning continued for major Unit 1 decommissioning activities, including the diesel generator building foundation excavation, large component removal, reactor vessel shipment, and moving the Unit 1 spent fuel to dry cask storage (Section 1).

- The licensee's organization and lines of responsibility complied with the PSDAR and technical specifications. The organization and staffing were appropriate for the decommissioning and defueled status of Unit 1 (Section 1).

- Facility material condition, housekeeping and cleanliness were satisfactory for the state of the site (Section 1).

- A high quality decommissioning planning meeting was observed. It was noted to contribute to the safe and successful accomplishment of site decommissioning activities in accordance with the PSDAR (Section 1).

Radiation Protection

- The radiation protection program met requirements and was appropriate for decommissioning status of Unit 1 (Section 2).

- Radioactive materials, free release surveys, radiation work activities, and radiation areas were being controlled in accordance with the requirements of 10 CFR Part 20 and Technical Specification D6.11 (Section 2).

Spent Fuel Pool Operations Surveillance and Maintenance

- The licensee's surveillance and general maintenance programs for the Unit 1 spent fuel pool and radiation monitors were found to be adequate (Section 3).

- The Unit 1 spent fuel pool was being maintained in accordance with the applicable technical specifications (Section 3).

- Housekeeping and material condition were acceptable (Section 3).

Quality Assurance and Self-Assessment

- The licensee's quality assurance and self-assessment programs were effective in ensuring that activities important to safety and related to Unit 1 decommissioning were properly implemented and independently verified (Section 4).

Radwaste Treatment

- The licensee met regulatory requirements associated with the solid radioactive waste management program. Radioactive material was correctly stored and controlled. Radioactive waste was correctly classified and stabilized for burial (Section 5).

Transportation of Radioactive Material

- Waste manifests were prepared in accordance with regulatory requirements (Section 5).

- Packages were properly marked and labeled, and radioactive material transport vehicles were properly placarded. Shipping documentation and emergency response information and instructions were prepared in accordance with regulatory requirements (Section 5).

- There were no significant changes to the solid radwaste facilities, equipment, and the process control program (Section 5).

Report Details

1 Decommissioning Performance and Status Review at Permanently Shutdown Reactors (71801) and Organization, Management, and Cost Controls (36801)

1.1 Inspection Scope

This inspection was conducted to verify that SONGS Unit 1 programs for facility decommissioning and dismantlement activities were being adequately implemented. The inspector conducted plant tours and held discussions with licensee management regarding ongoing and future decommissioning. The licensee's organization was reviewed for management or staff changes since the last inspection. The inspector also reviewed the onsite organization to verify consistency with the technical specifications and the decommissioning safety analysis report (DSAR).

1.2 Observations and Findings

a. Summary of Plant History and Cost Controls

SONGS is a three unit site of which Unit 1 was permanently shutdown. Unit 1 began commercial operation on January 1, 1968, and was permanently shutdown on November 30, 1992. Since that date, the licensee had defueled the reactor and placed Unit 1 in SAFSTOR. The Unit 1 spent fuel was stored onsite in Units 1, 2, and 3 spent fuel pools and at an offsite facility in Morris, Illinois. The Unit 1 license was amended for possession-only status in March 1993. The licensee submitted a decommissioning plan to the NRC in November 1994. Under the provisions of decommissioning regulations issued in August 1998, the decommissioning plan became the post-shutdown decommissioning activity report (PSDAR). The licensee submitted an updated PSDAR to the NRC on December 15, 1998. On August 27, 1998, a DSAR was submitted to the NRC to meet the requirements of 10 CFR 50.71(e)(4).

The licensee established a decommissioning project organization in 1999 to plan the SONGS Unit 1 decommissioning, radioactive waste storage, and dry fuel storage programs. The following are some of the licensee's decommissioning goals and milestones:

- The licensee received permission in July 1999 from the California Public Utilities Commission to use the Unit 1 estimated $543 million decommissioning fund.

- Decommissioning plans included the construction of an onsite independent spent fuel storage installation (ISFSI). Currently, 188 Unit 1 spent fuel assemblies are stored in Units 2 and 3 spent fuel pools. There is insufficient spent fuel storage capacity at SONGS to support Units 2 and 3 operations beyond the year 2004 if the Unit 1 spent fuel pool assemblies remain in the Units 2 and 3 spent fuel pools.

- Unit 1 decommissioning and dismantlement activities began in late October 1999.

- The first major decommissioning project started with the demolition of the diesel generator building the week of March 20, 2000.

- The reactor vessel dismantlement was scheduled to begin in August 2000 with burial to be completed by June 2002.

The "SONGS 1 Decommissioning Project Plan," which describes major organization interfaces, responsibilities, and policies was being updated to reflect scheduling and project changes. The inspector attended the licensee's weekly decommissioning planning and scheduling progress meeting. The planning meeting and project management were of high quality and contributed to an effective and safe decommissioning project.

b. Decommissioning Activities and Status

The inspector reviewed decommissioning activities that had been completed since the previous inspection in March 2000 and the activities that were in progress during the present inspection. The following were some of the systems, structures, and components that have been decommissioned since March 2000: the walls of the diesel generator building, low and high pressure turbine rotor; hose house 1; teleflex incore drives; Building A-99;control rod drive cooling fans; containment building cooling fan and ducts; motor operated valves and pumps from the residual heat removal and safety injection system; and reactor vessel components such as the reactor instrument loops, vessel head and the missile shield. The licensee had also cut the steam generator hot and cold leg piping.

Some of the dismantlement and decommissioning activities that were in progress during the inspection included feedwater heater releases, asbestos abatement, control rod drive mechanism removal, main turbine disassembly and rotor cut-up, control building characterization, railroad refurbishment, reactor cavity fill and equipment recovery, and circulating water pump removal. Additionally, the licensee's first major decommissioning project, the demolition of the diesel generator building, was nearly complete. All that remained from the diesel generator building demolition was the building foundation which the licensee was preparing to characterize before proceeding with further decommissioning. Other near-term decommissioning projects that were in progress or had been completed since the previous inspection in March 2000 included the following: cold & dark electrical modifications, a new hot tool room was constructed in the fuel handling building, and relocation of the Unit 1 radiological control point.

c. Organization and Staffing

Technical Specification D6.2 establishes the lines of authority and responsibilities for the licensee's organization. Additionally, Technical Specification Table D6.2-1, "Minimum Shift Crew Composition," listed the minimum required shift composition. The inspector noted the number of onsite crew members on duty and observed the conduct of

operations. The actual number of personnel on duty during the inspection met or exceeded the minimum total established in the technical specifications.

The licensee had established an organization that had defined responsibilities that were consistent with the PSDAR and the technical specifications. Since the last inspection there were no changes to the organization structure that impacted the Unit 1 decommissioning project functions. However, there were two noteworthy organization and staff realignments. The licensee decided that most health physics technicians supporting Unit 1 decommissioning will be contract personnel. Additionally, the SONGS Nuclear Oversight Division and Nuclear Regulatory Affair Division (NORAD) was combined as one division.

d. Site Safety and Facility Tour

The inspector toured the Unit 1 restricted and radiological controlled areas including the containment building, auxiliary building, turbine building, fuel handling building, control room, and areas involved in active decommissioning. Tools and waste containers were found to be appropriately stored. Floors and work areas were free of excessive dirt or waste. Excessive corrosion was not observed on active systems. Facility support systems such as fire protection and saltwater cooling were in good material condition and free of trash that could potentially inhibit operations.

The inspector observed radiological and occupational safety during the tour. Safety personnel were observed and found to be present at most of the decommissioning activities. In particular, the inspector observed licensee and contract safety engineers during turbine deck crane operations involving hoisting feedwater heaters. In addition to the turbine deck crane horn that signaled crane movement, the licensee assigned personnel to move workers away from the crane's path when the crane was moving. The inspector noted that safety personnel at Unit 1 were strictly enforcing use of safety hats and glasses during Unit 1 decommissioning activities. During a site tour, the inspector observed a group of workers accessing a manhole that was not properly posted with a "Confined Space Entry" sign. A licensee safety engineer stopped the job until the proper safety sign was posted. Discussions with the licensee, contract workers, and safety staff at Unit 1 revealed that occupational safety coverage during decommissioning has been a high priority. The workers encountered during the inspector's tours did not express any complaints about occupational safety issues. The inspector reviewed the licensee's "Hotline" program for anonymous internal complaints and safety concerns. There was only one occupational safety complaint filed. It involved the turbine deck crane operational safety. The inspector found that the licensee was properly handling this matter. Facility housekeeping, material conditions, and occupational safety at Unit 1 were being satisfactory maintained.

1.3 Conclusions

The licensee's organization and lines of responsibility complied with technical specifications and the PSDAR. The organization and staffing were appropriate for the defueled condition of Unit 1. Decommissioning activities were being conducted in accordance with the PSDAR. Facility material condition, occupational safety, and housekeeping and were satisfactory for the status of the site.

2 Occupational Radiation Exposure (83750)

2.1 Inspection Scope

Technical Specification D6.11 which establishes the licensee's radiation protection program for the Unit 1 decommissioning and defueled operations, was reviewed to determine whether the licensee was in compliance with the respective requirements. Areas reviewed included the radiation protection procedures and as low as is reasonably achievable (ALARA) reviews. The inspector also reviewed the adequacy of the licensee's radiation protection program pertaining to decommissioning planning, radiation work, and material free release surveys.

2.2 Observations and Findings

a. Radiation Protection and ALARA

The inspector reviewed ALARA planning and radiation exposure permits developed for work activities conducted in calendar year 2000. The original SONGS Unit 1 ALARA goal for 2000 was 105 person-rem. As of May 2000, the Unit 1 collective personnel exposures were 30.7 person-rem. The revised collective dose projected through the remainder of 2000 was 110 person-rem, which was a 5 person-rem increase due to an asbestos abatement program. Since the previous inspection in March 2000, personnel exposures due to Unit 1 decommissioning were 6.0 person-rem. The following are principal Unit 1 decommissioning project contributions to personnel exposures for the 2000:

Activity	Person-Rem
Capping/cutting steam generator hot/cold legs	10.02
Health Physics/Radioactive Materials Technicians Support	6.72
Plant loose equipment removal	3.7
Containment inspections	1.0
Temporary shielding removal	0.6
Reactor vessel head removal	0.3

ALARA planning was adequate for the tasks being performed. ALARA assessments had been completed by the radiation protection staff.

b. Radiation Work Activities and Radiation Area Tours

Radiation surveys were performed with an NRC calibrated microRoentgen meter during site tours. The average exposure rate around Unit 1 was approximately 20 microRoentgen/hour. The inspector observed decommissioning work activities in the radiologically controlled areas such as the turbine deck and auxiliary building. No unusual radiation levels were noted, and work activities observed were being appropriately conducted. The inspector conducted radiation surveys of feedwater heaters that were being decommissioned and shipped for waste disposal. The inspector did not detect any residual contamination on the feedwater heaters. The inspector observed some of the turbine rotor cut-up and segmentation work. Health physics coverage was evident and included work area air sampling.

The inspector toured the containment. Workers had to wear full protective clothing inside containment. The inspector observed containment workers don and doff protective clothing and conduct personal contamination surveys of themselves and equipment when exiting the containment. During the containment tour, the inspector noted that the licensee had the basement level closed off in order to minimize the potential for workers tracking contamination into clean areas. Work activities inside of containment included the following: removal of the control rod drive mechanism, reactor vessel head removal preparation, reactor interference removal, and cutting of the last steam generator loop. The inspector noted that the licensee was appropriately using lead shielding and low radiation dose areas to lower the potential for worker exposures. Additionally, the inspector noted through discussions with workers that the licensee re-assigned personnel who received higher exposures while working in containment to decommissioning activities and areas where dose rates were considerably lower in order to balance worker exposures.

c. Material Free Release Program

From February 20 through May 19, 2000, the licensee had decommissioned 8,276,050 pounds of metal and concrete from the diesel generator building and main turbine. The licensee had determined that all of the decommissioned waste from these areas was clean and suitable for free release. The licensee had shipped 2,067,601 pounds of the clean waste offsite for disposal. However, 7,424,550 pounds of the material was released to the licensee's diesel generator building demolition contractor for salvage. Additionally, the licensee free released 56,837 pounds of non-radiological hazardous waste (asbestos, lead, and mercury) from Unit 1 decommissioning activities. The inspector noted the licensee shipped 3,400 pounds of radioactive mixed waste to a licensed waste processor.

The inspector reviewed the implementation of the SONGS material release radiation survey program for the Unit 1 decommissioning. This included review of the regulatory requirements and standards for "Free Release Surveys," material release procedures that used for Unit 1 release surveys, free release survey records, survey instruments, and licensee self-assessments of free-release activities.

As a result of the previous inspection in March 2000, the licensee had conducted two evaluations of the material release program. The implementing procedure SO123-VII-20.9.2, Revision 2, "Material Release Surveys," was reviewed for its applicability to Unit 1 decommissioning activities by the inspector and the licensee. The principle objectives of the procedure were to:

- To describe survey methods and criteria for the removal of materials from radiological controlled areas (RCA) and radioactive material areas (RMAs) to preclude the release of licensed radioactive material to unrestricted areas.

- To describe employees' responsibilities for performing material release surveys.

The basis for the licensee's free release survey program for items potentially contaminated with licensed radioactive material was derived from NRC Inspection and Enforcement Circular 81-07, "Control of Radioactivity Contaminated Material" dated May 14, 1981, as supplemented by NRC Information Notice 85-92, "Surveys of Waste Before Disposal from Nuclear Reactor Facilities" dated December 2, 1985. In preparation for the demolition of the diesel generator building and free release of the concrete and steel, the licensee conducted a directed self-assessment of this decommissioning activity in March 2000. The inspector reviewed the self-assessment including an attachment to the assessment, "Questions and Proposed Answers Regarding the Release of Large Amounts of Material Which are Believed to be Free of Licensed Radioactive Material," dated November 8, 1999.

The licensee had determined that the existing site procedure for material release surveys, SO123-VII-20.9.2 which was written for SONGS Units 1, 2, and 3 during operational status was applicable and appropriate for Unit 1 decommissioning. Guidance used by the licensee for release of material from the Unit 1 included the following:

- Items and material will not be removed from the restricted area until they have been surveyed or evaluated for potential radioactive contamination by qualified persons.

- Care will be taken to ensure that no licensed radioactive material is released offsite by using survey methods for detecting very low levels of radioactivity.

- Final measurements of each package of aggregated waste will be conducted to ensure that an accumulation of licensed material resulting from a buildup of non-detectable radioactivity had not occurred.

- The free release criterion for direct and smear surveys is less than 100 counts per minute above background using a Geiger-Mueller (GM) count rate meter and pancake probe.

- The free release criterion for aggregate and indirect surveys using a microRoentgen meter or scintillation detector was "No Detectable Activity."

The inspector reviewed the material release logs for Unit 1 from February 9 through May 23, 2000. The inspector also reviewed the instrument calibration records for radiation detection devices used for Unit 1 decommissioning activities from October 1999 through May 2000. The inspector noted that the radiation detection instruments used during the demolition of the diesel generator building were listed in the release survey and evaluation packages. The inspector verified that instruments used for the surveys of the diesel generator building had been calibrated as required by license procedures. The inspector verified the instruments that had been used during Unit 1 decommissioning aggregate and indirect release surveys had been calibrated.

Based on the inspector's review of the diesel generator building release surveys, the associated evaluation record, and the Unit 1 material release logs, it was determined that no material had been released from the Unit 1 site containing detectable levels of radioactive material. In some cases, health physics technicians surveyed materials being released more thoroughly than was required by the pre-survey evaluation. For example, some material being released from the diesel generator was evaluated and determined to have a low likelihood of being contaminated. Therefore, health physics technicians were only required to survey 10 percent of the material being released. Additionally, material release logs for Unit 1, which are considered backup surveys in some cases, indicated that all material released from the Unit 1 site since February 2000 met the site release criteria. The inspector concluded that the licensee's Unit 1 decommissioning and free release program met the requirements of Procedure SO123-VII-20.9.2 and regulatory requirements.

2.3 Conclusions

The radiation protection and decommissioning programs met applicable requirements. Radioactive materials, radiation work activities, and radiation areas were being controlled in accordance with the requirements of 10 CFR Part 20 and Technical Specification D6.11. The inspector concluded that the licensee's Unit 1 decommissioning and free release program met the requirements of applicable procedures and technical specifications.

3 Spent Fuel Pool Safety at Permanently Shutdown Reactors (60801) Maintenance and Surveillance at Permanently Shutdown Reactors (62801)

3.1 Inspection Scope

The inspector reviewed compliance with requirements for the spent fuel pool as specified in Technical Specifications D3.1 and D4.1 which include water level, temperature, and periodic surveillances. The inspector reviewed maintenance and surveillance activities at SONGS Unit 1 that related to spent fuel pool (SFP) operations.

3.2 Observations and Findings

a. Spent Fuel Pool and Control Room Tours

The inspector conducted a walkdown of the SFP system and performed a review of daily logs, surveillances, and records. The Unit 1 SFP had 216 available slots for spent fuel. Of these, 207 contained spent fuel assemblies, 4 contained trash containers, and 4 slots contained mixed oxide fuel. The SFP water clarity and material condition of the structures were good.

SONGS Unit 1 demonstrated compliance with PSDAR requirements for the SFP using Operating Instruction S01-12.1-4, "Control Room Daily Log." Data was collected and recorded on the daily surveillance logs by both the day shift and the night shift crew. Technical Specification D3.1.1, "Spent Fuel Pool Temperature," required the pool water to be maintained at less than 150°F. Technical Specification D4.1 required daily verification of the SFP water temperature. A review of surveillance data indicated temperatures were typically maintained near 70°F.

Technical Specification D3.1.2 required the SFP water level to be maintained at an elevation of not less than 40 feet 3 inches. Technical Specification D4.1 required daily verification. A review of the daily surveillance data indicated that water level was typically maintained near 40 feet 9 inches, and at no time was it below 40 feet 3 inches.

b. Surveillance Test

The inspector reviewed some of the licensee's surveillance tests that had been conducted at SONGS Unit 1 this year. This effort included the following surveillance procedures:

- SO1-12.1-4, "Control Room Shift and Daily Log Readings"
- SO1-12.1-7, "Process and Effluent Monitoring Check"
- SO1-12.3-1, "Spent Fuel Pool Cooling Train Systems Alignment Verification"
- SO1-12.4-1, "Quarterly SFP Cooling Pumps and Valves Performance Test"
- SO1-12.3-41, "Radiation Monitoring System Monthly Checks"
- SO1-12.9.11, "Miscellaneous Surveillances"
- SO1-12.9.16, "Fuel Handling Mode Equipment Status"

Records of surveillance tests completed in 2000 were reviewed and found to be adequate.

3.3 Conclusion

The Unit 1 SFP had been maintained in compliance with technical specifications for water level and temperature. No problems or concerns were identified. The licensee's surveillance for the Unit 1 SFP was found to be adequate. The licensee had implemented a SFP surveillance program that met license requirements.

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

4.1 Inspection Scope

The inspector reviewed selected QA program audits, self-assessments, action requests (AR) generated in response to audit findings, and surveillance reports (SR). The licensee's requirement for audits and reviews are specified in Technical Specification D6.5.

4.2 Observations and Findings

The inspector reviewed the following QA audits, self-assessments, ARs and SRs:

- nuclear regulation program audit (Report #SCES-015-00)
- Unit 1 upender work airborne radioactivity analysis; May 25, 2000
- self-assessment: Unit 1 Diesel Generator Demolition; April 3, 2000
- self-assessment: Decommissioning Activity Risk Assessment; May 5, 2000
- asbestos removal (SR#SOS-006-00)
- lead removal surveillance (SR#SOS-009-00)
- dry cask storage design process (SR#SOS-013-00)
- non-safety related design control packages (SR#SOS-024-00)
- annual radiological environmental operating report (SR #SCES-028-00)
- Unit 1 diesel generator building assessment (AR#00301647)
- release program/Unit 1 release program activities (AR#00200873)
- review of waste stream scaling factors (AR#00301858)

The selected QA program audits, self-assessments, ARs, SRs were extensive and thorough. The findings were well documented. There were no trends relative to Unit 1 activities. The inspector confirmed that audit and oversight activities were being conducted in compliance with Unit 1 Technical Specification D6.5.

4.3 Conclusions

The licensee's nuclear oversight program was effective in ensuring activities related to Unit 1 decommissioning were properly implemented and independently verified. The licensee was found to be in compliance with Technical Specification D6.5.

5 Radioactive Waste Treatment, and Effluent and Environmental Monitoring (84750) Solid Radioactive Waste Management and Transportation of Radioactive Materials (86750)

5.1 Inspection Scope

The inspector reviewed the licensee's solid radioactive waste program for compliance with the defueled safety analysis report (DSAR), Chapter 5.4 and Technical Specification D6.13 and toured the auxiliary building, onsite radwaste facilities, and storage areas.

The inspector interviewed licensee personnel and reviewed the following solid radioactive waste and transportation management program areas:

- Waste storage
- Waste classification
- Waste shipment manifests

The inspector reviewed examples of the following information: packaging; loading, storage, blocking, and bracing; vehicle placarding; driver instructions; emergency response; radiation surveys; shipping paper documentation; and package marking and labeling.

5.2 Observations and Findings

a. Tours of Solid Radwaste Facilities

The licensee had made no significant changes to solid radioactive waste facilities, equipment, or process control program. The inspector noted no deviations from commitments in the DSAR, Chapter 5.4. During tours of Unit 1 and onsite radioactive waste facilities, the inspector noted that the housekeeping was acceptable. The inspector conducted a walkdown of accessible radioactive waste tanks and system components. Material condition was acceptable. The inspector noted that the licensee had chosen to not use some of its waste compaction systems. During tours of the radiological controlled areas, the inspector confirmed that radioactive waste was stored in accordance with commitments in the DSAR. The inspector verified that randomly selected radioactive material containers were properly labeled and confirmed that the licensee's tracking system listed the correct location and status of the containers.

b. Solid Radioactive Waste Procedures

The inspector reviewed the following licensee solid radioactive waste procedures that were being used at SONGS Unit 1:

- SO123-VII-8.1.2, “Radioactive Materials Curie Content Determination”
- SO123-VII-8.2, “Shipment of Radioactive Material”
- SO123-VII-8.2.5, “Shipment of Radioactive Waste for Disposal at Barnwell, South Carolina”
- SO123-VII-8.2.12, “Shipment of Radioactive Waste for Land Disposal at the Envirocare Facility at Clive, Utah ”

c. Radwaste Shipments: Manifests, Shipping Papers, and Documentation

Since October 1999, the licensee had shipped 471,070 pounds of radioactive waste for burial and processing. The inspector reviewed the following six shipping records and documentation:

- 00-6001: Barnwell, January 5, 2000, regenerative heat exchanger, 3409 millicuries
- 00-6002: Envirocare, April 20, 2000, steam generator metal, 3.1 millicuries
- 00-2001: GTS Duratek, March 10, 2000, dry active waste, 89.5 millicuries
- 00-2001D: GTS Duratek, April 5, 2000, solid oxides and dry active waste, 9.02 millicuries
- 00-2002D: GTS Duratek, April 5, 2000, containment equipment, solid oxides and dry active waste, 22.8 millicuries
- 00-2004D: GTS Duratek, May 15, 2000, solid oxides and dry active waste, 23.7 millicuries

The inspector confirmed that the licensee provided the shipping papers and information required by 49 CFR Part 172, Subpart C, and the emergency response information required by 49 CFR Part 172, Subpart G. Additionally, the inspector verified that shipping permits, licenses, certificates of compliance, user lists, and shipping regulations were current. No problems were noted. The inspector confirmed that manifests prepared by the licensee included the information required by 10 CFR Part 20, Appendix G. The shipment manifests included a certification that the transported material was properly classified, described, packaged, marked, labeled, and that it was in proper condition for transport. The certification was signed and dated by an authorized licensee representative.

d. Waste Classification

The licensee used a vendor-supplied computer software code to perform the calculations necessary to classify radioactive waste. The inspector reviewed sample results from six randomly selected radioactive waste shipments and confirmed that the waste shipments were properly classified in accordance with 10 CFR 61.55.

e. Package Marking, Labeling, and Loading and Vehicle Placarding

The inspector reviewed selected shipping documentation packages. The inspector determined that packages prepared for transport were properly marked and labeled and that radioactive material transport vehicles were properly placarded in accordance with 49 CFR 172.504 and 172.506.

5.3 Conclusions

The licensee met regulatory requirements associated with the solid radioactive waste management program. Radioactive material was properly stored and controlled. Radioactive waste was correctly classified and stabilized for burial. Waste manifests were prepared in accordance with regulatory requirements.

Packages were properly marked and labeled, and radioactive material transport vehicles were properly placarded. Shipping documentation and emergency response information and instructions were prepared in accordance with regulatory requirements.

There were no significant changes to the solid radwaste facilities, equipment, and the process control program. Housekeeping and material condition were acceptable.

6 Exit Meeting Summary

The inspector presented the inspection results to members of licensee management at the exit meeting on May 26, 2000. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspector.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

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D. Spiker, Manager, Nuclear Construction & Decommissioning
R. St. Onge, Manager, Decommissioning Project
J. Wambold, Vice President, Business and Financial Services
H. Wood, Quality Assurance Engineer, Nuclear Oversight
K. Yhip, Health Physics and Environmental Engineer

INSPECTION PROCEDURES (IP) USED

IP 36801	Organization, Management, and Cost Controls at PSRs
IP 40801	Self Assessment, Auditing, and Corrective Actions
IP 60801	Spent Fuel Pool Safety
IP 62801	Maintenance and Surveillance
IP 71801	Decommissioning Performance and Status Review at PSRs
IP 83750	Occupational Radiation Exposure
IP 84750	Radioactive Waste Treatment, and Effluent and Environmental Monitoring
IP 86750	Solid Radioactive Waste and Transportation of Radioactive Material

ITEMS OPENED AND CLOSED

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS USED

ALARA	As Low As is Reasonably Achievable
AR	Action Request
DSAR	Decommissioning Safety Analysis Report
IFI	Inspection Followup Item
IP	Inspection Procedure
ISFSI	Independent Spent Fuel Storage Installation
PDTS	Permanently Defueled Technical Specification
PSDAR	Post Shutdown Decommissioning Activities Report
QA	quality assurance
SCE	Southern California Edison
SR	Surveillance Report
SSC	Systems, Structures, and Components
SONGS	San Onofre Nuclear Generating Station
TCN	Temporary Change Notice