UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

August 10, 2006

Richard M. Rosenblum
Chief Nuclear Officer
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, CA 92674-0128

SUBJECT: NRC INSPECTION REPORT 050-00206/06-012

Dear Mr. Rosenblum:

This refers to the inspection conducted on July 17-21, 2006, at Southern California Edison Company's (SCE) San Onofre Nuclear Generating Station (SONGS), Unit 1 facility. This inspection was an examination of decommissioning activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspection included an examination of selected procedures and representative records, observations of activities, and interviews with personnel. The enclosed report presents the results of that inspection. The inspection determined that you were conducting decommissioning activities in compliance with regulatory and license requirements.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Should you have any questions concerning this inspection, please contact the undersigned at (817) 860-8191 or Mr. Emilio M. Garcia, Health Physicist, at (530) 756-3910.

Sincerely,

/RA/

D. Blair Spitzberg, Ph.D., Chief
Fuel Cycle and Decommissioning Branch

Docket No.: 050-00206
License No.: DPR-13

Enclosure: NRC Inspection Report
No.: 050-00206/06-012

cc w/enclosure:
Chairman, Board of Supervisors
County of San Diego
1600 Pacific Highway, Room 335
San Diego, CA 92101

Gary L. Nolff
Power Projects/Contracts Manager
Riverside Public Utilities
2911 Adams Street
Riverside, CA 92504

Eileen M. Teichert, Esq.
Supervising Deputy City Attorney
City of Riverside
3900 Main Street
Riverside, CA 92522

Ray W. Waldo
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, CA 92674-0128

David Spath, Chief
Division of Drinking Water and
Environmental Management
California Department of Health Services
P.O. Box 942732
Sacramento, CA 94234-7320

Michael R. Olson
San Onofre Liaison
San Diego Gas & Electric Company
P.O. Box 1831
San Diego, CA 92112-4150

Ed Bailey, Chief
Radiologic Health Branch
State Department of Health Services
P.O. Box 997414 (MS 7610)
Sacramento, CA 95899-7414

Mayor
City of San Clemente
100 Avenida Presidio
San Clemente, CA 92672

James D. Boyd, Commissioner
California Energy Commission
1516 Ninth Street (MS 34)
Sacramento, CA 95814

Douglas K. Porter, Esq.
Southern California Edison Company
2244 Walnut Grove Avenue
Rosemead, CA 91770

James T. Reilly
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, CA 92674-0128

Daniel P. Breig
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, CA 92674-0128

A. Edward Scherer
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, CA 92674-0128

Brian Katz
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, CA 92674-0128

cc w/enclosure (via e-mail distribution):
LDWert
DBSpitzberg
HAFreeman
JCShepherd, NMSS/DWMEP/DD
CCOsterholtz, SRI
EMGarcia
RJEvans
KEGardin
FCDB File

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No:	050-00206
License No:	DPR-13
Report No:	050-00206/06-012
Licensee:	Southern California Edison Co. P.O. Box 128 San Clemente, California 92674
Facility:	San Onofre Nuclear Generating Station, Unit 1
Location:	San Clemente, California
Dates:	July 17 - 21, 2006
Inspectors:	Emilio Garcia, Health Physicist Fuel Cycle & Decommissioning Branch
Approved and Accompanied By:	D. Blair Spitzberg, Ph.D., Chief Fuel Cycle & Decommissioning Branch
Attachment:	Supplemental Inspection Information
ADAMS Entry:	IR05000206-06-012 on 07/17/2006 - 07/21/2006; Southern California Edison Co., San Onofre Nuclear Generating Station; Unit 1. Decommissioning Report. No VIOs.

EXECUTIVE SUMMARY

San Onofre Nuclear Generating Station, Unit 1
NRC Inspection Report 050-00206/06-012

This inspection was a routine, announced inspection of decommissioning activities being conducted at San Onofre Nuclear Generating Station, Unit 1 facility. Areas inspected included organization, management, and cost controls; safety reviews, design changes and modifications; decommissioning performance and status review; and radioactive waste treatment and environmental monitoring. The inspection determined that you were conducting decommissioning activities in compliance with regulatory and license requirements.

Organization, Management, and Cost Controls at Permanently Shutdown Reactors

- The licensee's organizational structure was consistent with the requirements of the SONGS Unit 1 Technical Specifications. All managerial positions were staffed with experienced individuals (Section 1.1).

- The licensee's decommissioning funding status as reported in their Decommission Funding Report was reviewed and found to meet applicable requirements. Based on licensee projections of decommissioning costs and the amount of work completed at the end of 2005, adequate funding would be available to complete Unit 1 decommissioning (Section 1.2).

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

- The licensee's safety review and design change program was in compliance with 10 CFR 50.59 requirements (Section 2).

Decommissioning Performance and Status Review at Permanently Shutdown Reactors

- The licensee was controlling the radiologically restricted area in accordance with requirements. The licensee continued to make progress decommissioning the Unit 1 site (Section 3).

Radioactive Waste Treatment, and Effluent and Environmental Monitoring

- The licensee's programs for monitoring radioactive liquid and gaseous effluent releases and environmental monitoring were in compliance with license requirements. All required samples had been collected, no sample result exceeded applicable limits, and no adverse trends were identified (Section 4).

Report Details

Summary of Plant Status

San Onofre Nuclear Generating Station (SONGS), Unit 1 was permanently shut down during November 1992 and was permanently defueled by March 1993. The unit remained in SAFSTOR until June 1999 when decommissioning was initiated. At the time of this inspection, the licensee was conducting decommissioning activities under the DECON option as stated in its Post Shutdown Decommissioning Activities Report dated December 15, 1998. DECON is defined as the immediate removal and disposal of all radioactivity in excess of levels which would permit the release of the facility for unrestricted use.

Work completed since the previous inspection included segmentation and removal of the spent fuel pool liner and continued demolition of the concrete in containment.

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

1.1 Organization

a. Inspection Scope

The inspector reviewed the licensee's organizational structure against the requirements of the SONGS Unit 1 Technical Specifications, the De-fueled Safety Analysis Report (DSAR) and the Topical Quality Assurance Manual (TQAM).

b. Observations and Findings

Section 6.2 of the Technical Specifications requires that the lines of authority, responsibility and communications be established and defined for the highest management levels through intermediate levels to include all organizations. The Technical Specification also requires that a Southern California Edison Company (SCE) Vice President shall be responsible for overall unit safety and that a SCE Vice President shall have corporate responsibility for decommissioning activities.

The July 2006, amendment to the DSAR designated the Senior Vice President as the Chief Nuclear Officer and to whom all levels of the organization report. Previously, this position was designated as the Executive Vice-President. The Senior Vice-President reports to the SCE Chief Executive Officer. The Vice-President Nuclear Generation had ultimate responsibility for the safe operation of the three units. The Vice-President of Engineering and Technical Services had responsibility for the decommissioning of Unit 1. The DSAR further defined the lines of authority, responsibility and communications through the intermediate levels of all onsite organizations. This organization was consistent with that described in Chapter 1-B of the Topical Quality Assurance Manual, with the exception that the title of Executive Vice-President had not yet been revised to Senior Vice-President. The licensee maintained an updated Organization Chart to reflect the individuals assigned to each position.

The incumbents to the positions of Senior Vice-President, Vice-President Nuclear Generation, Vice-President of Engineering and Technical Services, Station Manager and Manager, Unit 1 Decommissioning had been appointed to their positions since December 2004, but all had many years of experience in the nuclear field and of service with the licensee.

c. Conclusion

The licensee's organizational structure was consistent with the requirements of the SONGS Unit 1 Technical Specifications. All managerial positions were staffed with experienced individuals.

1.2 Cost Controls

a. Inspection Scope

The inspector reviewed the licensee's implementation of the requirements of 10 CFR 50.75(f)(1) regarding status of decommissioning funding.

b. Observations and Findings

10 CFR 50.75(f)(1) requires each power reactor licensee to submit a report on a 2-year basis of (1) the amount of decommissioning funds estimated to be required for decommissioning; (2) the amount accumulated to the end of the preceding calendar year; (3) a schedule of annual amounts remaining to be collected; (4) the assumptions used regarding the rates of escalation in decommissioning cost; (5) the rates of earnings on decommissioning funds; (6) rates of other factors used in funding projections; (7) any contracts upon which the licensee is relying pursuant to 10 CFR 50.75(e)(1)(v); (8) any modifications occurring to a licensee's current method of providing financial assurance; and (9) any material changes to trust agreements. This regulation requires the biennial report to be submitted by March 31 of the reporting year.

The report covering the decommissioning fund status through calendar year 2005 was submitted to the NRC on March 13, 2006. This timely report included information on the nine items required in 10 CFR 50.75(f)(1).

c. Conclusion

The licensee's decommissioning funding status as reported in their Decommission Funding Report was reviewed and found to contain all information required by 10 CFR 50.75. Based on licensee projections of decommissioning costs and the amount of work completed at the end of 2005, adequate funding would be available to complete Unit 1 decommissioning.

2 Safety Reviews, Design Changes, and Modifications at Permanently Shutdown Reactors (37801)

2.1 Inspection Scope

The purpose of this portion of the inspection was to ascertain whether the licensee's training program provides effective periodic training for personnel preparing, reviewing, and approving safety evaluations.

2.2 Observations and Findings

Regulation 10 CFR 50.59 addresses the change control process, a process used by the licensee to determine if a proposed change to the facility, procedures, tests, or experiments is subject to a license amendment and NRC approval. The process is implemented through site procedure SO123-XV-44, "10 CFR 50.59 and 72.48 Program." This procedure provided instructions for both initial screening and subsequent full evaluation, if necessary, of facility or procedure changes to confirm if the licensee can implement these changes without NRC approval. The program was a common program for the two operating units and the decommissioning unit. The initial screens and full evaluations are documented through the computerized Action Request System. This computerized system checks to verify that the individual preparing, reviewing and approving safety screens and full evaluations were current in their training.

During the period of July 1, 2005 to July 17, 2006, no 10 CFR 50.59 safety evaluations were conducted for Unit 1 activities and 35 safety screens were created or closed. The inspector reviewed the training records and determined that all preparers and reviewers were current with their training.

The inspector reviewed On-site Review Committee meeting minutes for the period of June 1, 2005 to June 21, 2006. This committee had a standing agenda item to review 10 CFR 50.59 safety evaluations. The minutes indicated that no Unit 1 10 CFR 50.59 safety evaluations had been performed during this period. The minutes of the February 15, 2006, meeting note that the Director, Unit 1 Decommissioning was no longer a member of the Committee. This change was favored by the Director, Unit 1 Decommissioning and in view of the status of Unit 1 was acceptable.

2.3 Conclusions

The licensee’s safety review and design change program was in compliance with 10 CFR 50.59 requirements.

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

3.1 Inspection Scope

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

3.2 Observations and Findings

a. Site Tours/Control of Decommissioning Activities

The inspector conducted tours of the Unit 1 facility to observe radiological area postings and boundaries. Access to the restricted and contaminated areas was controlled by radiation caution signs, barricades, boundary lines, locked doors, and locked gates. Radiological boundaries were well defined and postings were up-to-date in all areas.

The inspector conducted independent radiological surveys in the radiologically restricted area using a Ludlum Model 2401-EC survey meter (NRC No. 21173G, calibration due date 09/23/06). No abnormal radiological survey results were observed and all ambient gamma exposure rate measurements were in agreement with posted radiation levels.

During this inspection, the licensee completed solidifying previously collected radiologically contaminated water. The licensee intended to ship the resulting solid to an offsite disposal site.

Removal of the steel spent fuel pool liner had been completed. The steel spent fuel pool liner anchors imbedded in the concrete were being removed during this inspection. Contaminated concrete surface in the spent fuel building was being scabbled to reduce contamination to levels acceptable for open-air demolition.

Work was continuing with the demolition and removal of the concrete in containment. A mechanical excavator had inadvertently pierced the steel containment resulting in flow of water into the containment. The licensee concluded that the containment sphere could become buoyant if it was not attached to the concrete base as originally envisioned. The licensee had developed a plan to anchor the steel sphere to the concrete base and to de-water the ground around the base to assure that the steel sphere did not become buoyant. The location of some of the de-watering wells required prior removal of the turbine building North extension. The turbine building North extension was needed for the demolition of the upper portions of the spent fuel building.

The licensee had completed construction of the new yard sump and was preparing to isolate the original intake and outfall canals. The eventual goal was to have these structures released from the license. The licensee stated that they would keep NRC informed of their schedule for sampling these structures.

The licensee had removed more than 46 percent (by weight) of the waste to be removed.

3.3 Conclusions

The licensee was controlling the radiologically restricted area in accordance with regulatory requirements. The licensee continued to make progress in decommissioning of the Unit 1 site.

4 Radioactive Waste Treatment, and Effluent and Environmental Monitoring (84750)

4.1 Inspection Scope

The inspector reviewed the licensee's program to control, monitor, and quantify releases of radioactive materials to the environment in liquid, gaseous, and particulate forms.

4.2 Observations and Findings

a. Effluent Monitoring

Section D6.8.4.a of the Permanently Defueled Technical Specifications states that a radioactive effluent control program shall be established, implemented, and maintained. The methodology used to monitor, sample, and analyze the liquid and gaseous effluents is provided in the Offsite Dose Calculation Manual (ODCM). The inspector compared the program requirements specified in the ODCM to the sample results as documented in the licensee's 2005 Annual Radioactive Effluent Release Report (ARERR) dated April 24, 2006. This report was submitted on time and the licensee collected all samples required by the ODCM. No sample result exceeded the applicable reporting level.

The report states that doses to an individual due to liquid effluents, airborne releases and direct radiation were all a fraction of a millirem and well below the applicable limits. The report notes that the ODCM was revised on February 25, 2005, with Revision 23. This revision incorporated 1) removal of all the "notes" and applicable sections regarding the completion of fuel transfer to the Independent Spent Fuel Storage Installation (ISFSI), 2) addition of notes supporting the planned demolition of the liquid radwaste treatment system, 3) updates related to the 2003-2004 Land Use Census, 4) corrected dilution flow rate values, and 5) a minor change to a radiological environmental monitoring program (REMP) sampling location. The report also notes that Liquid Radwaste Treatment System (LRTS) was permanently removed from service on May 13, 2005. The sump pumps, piping and radiation monitoring system skid were removed to support the demolition of the radwaste building.

The 2005 annual radioactive effluent release report also included solid waste shipment information. During 2005, the licensee shipped solid wastes to disposal sites in Utah and South Carolina, and to a volume reduction service in Utah. The licensee sent 85 shipments by rail and 153 shipments by truck. In addition, two shipments went to a volume reduction contractor. The contractor subsequently shipped the compacted wastes to the disposal site in Utah.

b. Environmental Monitoring

Section D6.8.4.b of the Permanently Defueled Technical Specifications states that a radiological environmental monitoring program shall be established, implemented and maintained. Program requirements are contained in the ODCM. The inspector compared the ODCM requirements with the information provided in the licensee's 2005 radiological environmental operating report dated April 24, 2006. The report "Annual Radiological Environmental Operating Report (AREOR)" was applicable to all three Units and ISFSI). This report was submitted on time and all ODCM required samples had been obtained. No sample result exceeded the applicable regulatory limit.

Ambient radiation levels were measured at least 30 locations with calcium sulfate (CaSO4) thermoluminescent dosimeters (TLDs). The environmental dosimeters were exchanged quarterly. During 2005, the average routine indicator location dose was 17.19 millirem with a range of 10.13 to 29.32 millirem. The average control location dose was 16.12 millirem with a range of 12.96 to 20.05 millirem. The report concluded that statistically, the control and indicator doses were equivalent. The results suggests that plant operation had a negligible effect on the ambient dose rates.

Air particulate samples were collected on a weekly basis from eight indicator locations and from one control location. The samples were analyzed for gross beta activity, I-131, and composited quarterly for gamma isotopic analysis. Per the requirements of ODCM, the licensee evaluated the gross beta activity of the indicators to the control locations. The indicator location's maximum gross beta activity in air in 2005 was 0.0791 picocuries per cubic meter and the 2004 control location average was 0.0245 picocuries per cubic meter. No indicator location value exceeded ten times the annual average gross beta activity of the control location data from the previous year. All iodine-131 sample results were below the lower limit of detection. Quarterly composite gamma spectral analysis analyses identified only naturally occurring beryllium-7 (Be-7).

The licensee collected monthly ocean water samples from locations in the vicinity of each station discharge and from the control location. The samples were analyzed for naturally-occurring and licensee-related radionuclides. Quarterly composite ocean water samples were analyzed for tritium. Naturally occurring potassium-40 (K-40) was detected in all ocean water samples obtained in 2005. No licensee-related radionuclides were detected in ocean water samples during 2005.

Drinking water samples were collected on a monthly basis from one indicator location and from a control location. Samples were analyzed for tritium, gross beta, and 26 naturally-occurring and licensee-related radionuclides. No station-related radionuclides were detected in drinking water during 2005.

Fish, crustacea and mollusks, were collected on a semi-annual basis at the SONGS Unit I outfall and from a control location. The flesh portion of each sample type was analyzed for 26 station-related and naturally-occurring radionuclides. Naturally-occurring K-40 was detected in most marine samples collected during 2005. No plant-related isotopes were reported above the minimum detectable concentration (MDC).

The licensee conducted an internal quality assurance audit of the ODCM program during August-September 2004, which was reviewed in a previous inspection. The next audit of this area was scheduled for August 2006.

In summary, the licensee concluded that the site had a negligible radiological environmental impact during 2005. The inspector found that the sample results supported this conclusion. Further, no adverse trends were identified.

4.3 Conclusions

The licensee's programs for monitoring radioactive liquid and gaseous effluent releases and environmental monitoring were in compliance with license requirements. All required samples had been collected, no sample result exceeded applicable limits, and no adverse trends were identified.

5 Exit Meeting Summary

The inspector presented the preliminary inspection results to members of licensee management at the exit meeting on July 21, 2006. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspector.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

D. Brieg, Station Manager
S. Enright, Unit 1 Health Physics Manager
N. Hansen, Technical Specialist, Environmental
M. Kelly, Engineer, Nuclear Regulatory Affairs
M. Kirby, Operations Supervisor Unit 1
M. Mason, Unit 1 Health Physics Supervisor
J. Morales, Manager, Decommissioning
J. Scott, Technical Specialist, Nuclear Regulatory Affairs

INSPECTION PROCEDURES USED

IP 36801	Organization, Management and Cost Controls
IP 37801	Safety Reviews, Design Changes, and Modifications
IP 71801	Decommissioning Performance and Status Review
IP 84750	Radioactive Waste Treatment, and Effluent and Environmental Monitoring

ITEMS OPENED AND CLOSED

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS

AREOR	Annual Radiological Environmental Operating Report
ARERR	Annual Radioactive Effluent Release Report
DSAR	De-fueled Safety Analysis Report
ISFSI	Independent Spent Fuel Storage Installation
ODCM	Offsite Dose Calculation Manual
K-40	Potassium-40
LRTS	Liquid Radwaste Treatment System
MDC	Minimum Detectable Concentration
REMP	Radiological Environmental Monitoring Program
SCE	Southern California Edison Company
TLDs	Thermoluminescent Dosimeters
TQAM	Topical Quality Assurance Manual