

ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Inspection Report: 50-361/95-27  
50-362/95-27

Licenses: NPF-10  
NPF-15

Licensee: Southern California Edison Co.  
P.O. Box 128  
San Clemente, California

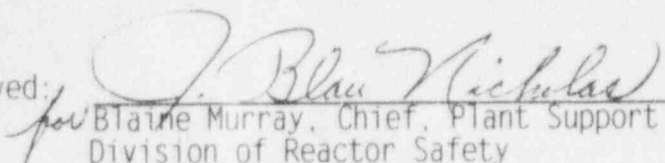
Facility Name: San Onofre Nuclear Generating Station, Units 2 and 3

Inspection At: San Onofre Site, San Clemente, California

Inspection Conducted: November 13-17, 1995

Inspector: L. T. Ricketson, P.E., Senior Radiation Specialist  
Plant Support Branch

Approved:

  
Blaine Murray, Chief, Plant Support Branch  
Division of Reactor Safety

12/8/95  
Date

Inspection Summary

Areas Inspected (Units 2 and 3): Routine, announced inspection of liquid and gaseous radioactive waste management programs including audits and appraisals, changes in the radwaste system design and operation, process and effluent monitors, dose commitment, engineered safety-feature filtration and control room habitability, and training and qualifications.

Results (Units 2 and 3):

Plant Support

- Good oversight of the radiological effluents program was maintained by the quality assurance organization. Comprehensive audits were conducted by qualified auditors. The effluents program was reviewed sufficiently through quality assurance surveillances and observations to provide licensee management with insight on the program's day-to-day performance (Section 1).

- Corrective action programs were used appropriately by the chemistry and quality assurance organizations to identify problems and potential adverse trends. A decrease in the level of performance of chemistry personnel was identified by the licensee at the end of the third quarter of 1995. Because of the relatively low number of problems and the relatively recent identification of problems in this area, insufficient information was available to form conclusions concerning the overall effectiveness of the implementation of corrective actions in this area (Section 1).
- Process and effluent monitors were checked and calibrated properly. A good system of tracking monitor maintenance and surveillances was implemented. There were no problems with the physical conditions of the monitors. No unmonitored pathway for effluents to reach the environment was identified. Proper radiation monitor setpoints were used to ensure that concentrations of radioactive effluents did not exceed regulatory limits (Section 3).
- Effluent concentrations and resulting doses to the public were within regulatory limits. Radioactive effluent sampling, analyses, permit preparation, and dose calculations were performed properly using the methodology established in the Offsite Dose Calculation Manual (Section 4).
- Engineered-safety-feature (ESF) air filtration units were tested at the required intervals. The air filtration units were generally maintained well; however, on one occasion, the charcoal adsorber in one unit was inadvertently wetted, and the unit was inoperable for more than four months without the licensee's knowledge (Section 5).
- The radiological effluents and radiation monitoring instrumentation programs were staffed with qualified personnel (Section 6).

## RADIOACTIVE EFFLUENT MONITORING (84750)

### 1. Audits and Appraisals

The inspector reviewed audits and other forms of program appraisals to verify compliance with the requirements of Technical Specification 6.5.3.5 and 10 CFR 20.1101(c) and agreement with the commitments in Chapter 13.4 of the Final Safety Analysis Report.

The inspector reviewed Audit Report SCES-434-94, "Radioactive Effluent Controls Program," conducted July 25 to October 20, 1994. The inspector found the audit was comprehensive. The audit identified two minor errors related to the completion of documentation. These items were corrected during the course of the audit. The auditors concluded that the radiological effluents program was in compliance with the requirements of Technical Specifications and the Offsite Dose Calculation Manual and that there were no significant program deficiencies. The inspector verified through interview that members of the audit team had chemistry experience related specifically to radiological effluents control.

The inspector reviewed surveillances performed by quality assurance personnel and concluded that the effluents program was reviewed often enough to keep management informed of the program's day-to-day performance.

The inspector noted Corrective Action Request 014-95 was initiated on October 30, 1995, because of "inconsistent performance and program implementation" by chemistry personnel. Five examples were identified, including one example that involved the use of an incorrect radiation monitor setpoint. Another example involved the measurement of the contents of the wrong waste gas decay tank.

Chemistry Division Investigation Report 95-009 documented the incident in which an incorrect radiation monitor setpoint was used during an effluent release. The report stated that the wrong radiation monitor was identified when preparing a radioactive effluent release permit. As part of the investigation, a root cause analysis was performed and the licensee identified the root cause and two contributing causes. The inspector reviewed the proposed corrective actions and determined that the actions addressed the identified root cause and contributing causes.

The inspector also reviewed quarterly station problem reports that trended the performance of site organizations and noted that the performance of the chemistry program had declined slightly during the third quarter of 1995, because of the examples of inconsistent performance discussed above.

## 2. Changes in the Radwaste System Design and Operation

The inspector reviewed changes to the radioactive waste management program to verify agreement with Chapter 11 of the Final Safety Analysis Report.

The inspector interviewed chemistry personnel and reviewed the annual radioactive release reports for 1993 and 1994 in order to determine changes made in the Offsite Dose Calculation Manual and the radioactive waste management program. The most significant change was the addition of the south yard facility with two potential airborne release points. The airborne radioactive material could result from radioactive materials handling or decontamination activities conducted within the facility. The inspector determined through interview that stack monitors were not yet installed in the new facility; however, no decontamination activities had been performed in the facility. Portable monitors were used to monitor airborne radioactivity resulting from the handling of radioactive materials. The inspector concluded that this area did not provide an unmonitored path for radioactive materials to reach the environment and that changes to the radioactive waste management program were performed properly.

## 3. Process and Effluent Monitors

The inspector reviewed the use, channel checks, and calibration of process and effluent monitors and interviewed personnel from the chemistry department and the radiation instrumentation group to determine compliance with the requirements in the Offsite Dose Calculation Manual and agreement with the commitments in Chapter 11.5 of the Final Safety Analysis Report.

With licensee representatives, the inspector performed walkdowns of many of the effluent monitors and identified no problems with installation or physical condition. No unmonitored pathways to the environment were identified. The inspector reviewed records of operability and confirmed that radiation monitoring instruments were checked in accordance with the requirements in Tables 4-2 and 4-4 of the Offsite Dose Calculation Manual.

The inspector reviewed selected calibration records and verified that radiation monitoring instruments were properly calibrated and were within the calibration interval required by Tables 4-2 and 4-4 of the Offsite Dose Calculation Manual. Further, the inspector reviewed the computer tracking mechanism used by the licensee to track maintenance work and to ensure that sufficient notice was provided to the radiation instrument personnel to perform calibrations within the required intervals. The inspector noted that the licensee's system worked well.

The inspector reviewed selected records that documented setpoint calculations and determined that the proper setpoints were used for particular process and effluent radiation monitoring instruments.

#### 4. Dose Commitment

The inspector reviewed the licensee's effluent releases to determine compliance with the requirements in Technical Specification 6.8.4, the Offsite Dose Calculation Manual, and 10 CFR Part 20, Appendices B and I.

The licensee's dose calculation methodology was reviewed and documented in NRC Inspection Report 50-361/95-22; 50-362/95-22. The inspectors concluded that the licensee's computer calculations of offsite doses resulting from radioactive waste effluents were accurate and in accordance with the methods defined in the Offsite Dose Calculation Manual. A summation of the licensee's effluent releases for 1993 and 1994 was included as an attachment to the report. No regulatory limits were exceeded.

The inspector observed the sampling, analysis, permit preparation, and radiation setpoint installation prior to the November 14, 1995, release of material from the waste gas decay tank. The operation was a cooperative effort by operations and chemistry personnel. No significant problems were observed. The inspector reviewed the post release dose calculation associated with this release and noted that the dose was calculated properly in accordance with the methodology described in the Offsite Dose Calculation Manual. The report also included the updated status of releases as measured as a percentage of the limit in the Offsite Dose Calculation Manual. The inspector noted that gaseous releases for the year to date resulted in only a small fraction of the allowable limit.

#### 5. Engineered-Safety-Feature Filtration and Control Room Habitability System

The inspector reviewed records of surveillance testing, performed walkdowns of air cleaning systems, and interviewed systems engineering personnel to determine compliance with the requirements of Technical Specifications 3/4.7.5 and 3/4.9.12 and agreement with the commitments in Chapters 6.4, 7.3, and 9.4 of the Final Safety Analysis Report.

With licensee representatives, the inspector performed walkdowns of the air cleaning systems associated with the control room isolation system and the fuel handling building isolation system. No problems involving the physical conditions of the air cleaning systems were identified.

During the walkdown of the air cleaning units, a licensee representative discussed with the inspector the circumstances and subsequent corrective actions taken as a result of an event documented in Licensee Event Report 95-13 (reviewed and closed in NRC Inspection Report 50-361/95-16; 50-362/95-16). The charcoal in the Train B Fuel Handling Building Post Accident Cleanup Unit (E-371) was inadvertently wetted during a routine surveillance test of the sprinkler system on January 31, 1995. The licensee discovered this situation on June 12, 1995. The licensee determined the cause to be a leaking



isolation valve that did not seat properly because of corrosion buildup within the pipe. As corrective action, the licensee replaced the valve, inspected other similar air cleaning units, and revised the surveillance procedures to ensure that water was not allowed to accumulate in the piping and drain onto the air cleaning components. There have been no subsequent, similar problems involving air cleaning systems.

The inspector reviewed Maintenance Procedure S023-I-2.35, "Fuel Handling Building Post-Accident Cleanup Filter System Post-Maintenance/720-Hour Operation/18 Month Operability Test," Revision 5, and Maintenance Procedure S023-I-2.44, "Control Room Emergency Air Cleanup System Operation and Operability Test Surveillance," Revision 6, and determined that the procedures incorporated guidance from American National Standards Institute (ANSI) 510 to ensure that in-place and laboratory testing of filters and adsorbers were performed properly.

From the review of selected surveillance records, the inspector determined that surveillance requirements for ensuring operability of engineered-safety-feature air cleaning systems were performed in accordance with the requirements of applicable technical specifications.

#### 6. Training and Qualifications

The inspector reviewed the qualifications of selected personnel involved with the areas covered by this inspection to determine compliance with the requirements of Technical Specifications 6.3 and 6.4 and the commitments in Chapter 13 of the Final Safety Analysis Report.

The inspector reviewed training records and interviewed the chemistry supervisor in charge of effluent management, chemistry effluent engineers, and selected chemistry technicians and determined that no additional personnel had joined the effluents program since the previous inspection. Each of the effluent engineers had at least several years experience. Through interview and observation, the inspector determined that chemistry personnel were knowledgeable of the tasks performed and met the qualification requirements implemented by Chemistry Procedure S0123-III-0 ISS2, "Chemistry Organization and Administrative Policies," Revision 8, and the "Chemistry Effluent Engineer Qualification Guide," Revision 0, as applicable.

Through a review of the appropriate qualification matrix, the inspector determined that radiation instrumentation personnel listed on selected surveillance test records and individuals observed installing radiation instrument setpoints met qualification requirements associated with the tasks they performed.

## ATTACHMENT 1

### 1 PERSONS CONTACTED

#### 1.1 Licensee Personnel

- \*M. Bua, Supervisor, Chemistry
- \*P. Chang, Effluent Supervisor, Chemistry
- \*J. Clark, Manager, Chemistry
- \*K. Flynn, Supervisor, Systems Engineering
- \*G. Gibson, Manager, Nuclear Regulatory Affairs/Compliance
- \*R. Kaplan, Compliance Engineer, Nuclear Regulatory Affairs
- T. Kent, Effluent Engineer, Chemistry
- \*R. Krieger, Vice President, Nuclear Generation
- L. McCann, Effluent Engineer, Chemistry
- D. Wickman, Assistant Engineer, Systems Engineering
- \*H. Wood, Site Quality Assurance Auditor, Nuclear Oversight Division

#### 1.2 NRC Personnel

- \*R. Huey, Acting Branch Chief
- \*J. Sloan, Senior Resident Inspector
- \*D. Solorio, Resident Inspector

\*Denotes personnel that attended the exit meeting. In addition to the personnel listed, the inspector contacted other personnel during this inspection period.

### 2 EXIT MEETING

An exit meeting was conducted on November 17, 1995. During this meeting, the inspector reviewed the scope and findings of the report. The licensee did not express a position on the inspection findings documented in this report. The licensee did not identify as proprietary, any information provided to, or reviewed by the inspector.