



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-8064**

February 9, 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 NO. 50-361/2000-01; 50-362/2000-01

Dear Mr. Ray:

This refers to the inspection conducted on January 10-14, 2000, at the San Onofre Nuclear Generating Station, Units 2 and 3 facilities. The purpose of the inspection was to review your solid radioactive waste management and radioactive material transportation programs. The enclosed report presents the results of this inspection. The programs reviewed were implemented properly.

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

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

/RA/

Gail M. Good, Chief
Plant Support Branch
Division of Reactor Safety

Docket Nos.: 50-361
50-362
License Nos.: NPF-10
NPF-15

Enclosure:
NRC Inspection Report No.
50-361/2000-01; 50-362/2000-01

cc w/enclosure:

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E-Mail report to D. Lange (DJL)
E-Mail report to NRR Event Tracking System (IPAS)
E-Mail report to Document Control Desk (DOCDESK)

E-Mail notification of report issuance to the SONGS SRI and Site Secretary (JAS7, SFN1).

E-Mail notification of issuance of all documents to Nancy Holbrook (NBH).

bcc to DCD (IE06)

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket Nos.: 50-361
50-362

License Nos.: NPF-10
NPF-15

Report No.: 50-361/2000-01
50-362/2000-01

Licensee: Southern California Edison Co.

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

Location: 5000 S. Pacific Coast Hwy.
San Clemente, California

Dates: January 10-14, 2000

Inspector(s): James S. Dodson, Radiation Specialist
Plant Support Branch

Approved By: Gail M. Good, Chief
Plant Support Branch, Division of Reactor Safety

Attachment: Supplemental Information

EXECUTIVE SUMMARY

San Onofre Nuclear Generating Station, Units 2 and 3
NRC Inspection Report No. 50-361/2000-01; 50-362/2000-01

The NRC conducted an inspection of the solid radioactive waste management and radioactive material transportation programs. Areas reviewed included: the solid radioactive waste management program, radioactive material transportation program, facilities and equipment, staff knowledge and performance, staff training and qualifications, and nuclear oversight activities.

Plant Support

- 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. Waste manifests were prepared in accordance with regulatory requirements (Section R1.1).
- The licensee met regulatory requirements for the packaging and shipping of radioactive materials and radioactive waste. Packages were properly marked and labeled, and radioactive material transport vehicles were properly placarded. Shipping documentation, emergency response information, and instructions were prepared in accordance with regulatory requirements (Section R1.2).
- There were no significant changes to the solid radwaste facilities, equipment, and the process control program. Housekeeping and material condition were acceptable (Section R2).
- The individuals responsible for training and oversight were knowledgeable of regulatory and procedural requirements. Radwaste supervisors, foreman, and technicians were knowledgeable of transfer, packaging, waste classification, marking, labeling, storage, documentation, vendor supplied computer software operation, and radioactive material transportation regulations (Section R4).
- The licensee provided solid radwaste and transportation personnel with the appropriate training and retraining (Section R5).
- The nuclear oversight organization and health physics division management provided effective oversight of radioactive waste management and transportation activities. Field observations and self assessments were comprehensive and provided adequate depth to identify problems and provide oversight of radwaste management and transportation activities (Section R7).

Report Details

IV. Plant Support

R1 Radiological Protection and Chemistry Controls

R1.1 Solid Radioactive Waste Management Program

a. Inspection Scope (86750)

The inspector interviewed licensee personnel and reviewed the following program areas:

- Waste storage and container accountability
- Waste stream sampling results
- Waste classification
- Waste characteristics
- Waste shipment manifests

b. Observations and Findings

Waste Storage and Container Accountability

During tours of the radiological controlled areas, the inspector confirmed that radioactive waste was stored in accordance with commitments in the Updated Final Safety Analysis Report, Chapter 11.4. 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.

Waste Stream Sampling

The inspector reviewed the analysis results and the associated evaluations for the identified waste streams. The inspector determined that sampling and analyses were completed at the required intervals. Analyses were performed by a vendor laboratory and the licensee as required by procedure. The scaling factors used in the vendor supplied computer code were verified with current analysis results as required by procedure.

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 eleven randomly selected radioactive waste shipments and confirmed that the waste shipments were properly classified in accordance with 10 CFR 61.55.

Waste Characteristics

Through record review and observations, the inspector confirmed that the licensee met the structural integrity requirements of 10 CFR 61.56 (b)(1) by using high integrity containers. No adverse findings related to the licensee's radioactive waste characteristics had been identified by burial site representatives.

Manifests

The inspector reviewed eleven randomly selected shipping documentation packages and confirmed that the licensee prepared manifests 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.

c. Conclusions

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. Waste manifests were prepared in accordance with regulatory requirements.

R1.2 Radioactive Material Transportation Program

a. Inspection Scope (86750)

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

b. Observations and Findings

Packaging

The inspector reviewed A_2 values for selected radionuclides in the licensee's waste classification computer data base and confirmed that they matched the values in 49 CFR 173.435. The licensee maintained records that documented Type B packages used by the licensee were designed to meet the applicable requirements specified in 10 CFR 71.12.

Radiation Surveys

Radiation surveys were conducted by the inspector during tours of the radioactive waste processing and storage facilities to ensure that external radiation levels were within the allowable limits of 49 CFR 173.441. The inspector verified that radioactive waste

package external radiation levels were within allowable limits for randomly selected packages.

Package Marking, Labeling, and Loading and Vehicle Placarding

The inspector conducted field observations and reviewed randomly 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.

Shipping Papers and Documentation

The inspector reviewed eleven randomly selected examples of shipping documentation and 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.

c. Conclusions

The licensee met regulatory requirements for the packaging and shipping of radioactive materials and radioactive waste. 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.

R2 Status of Radiological Protection and Chemistry Facilities and Equipment

a. Inspection Scope (86750)

The inspector reviewed the Updated Final Safety Analysis Report, Chapter 11.4, and toured the auxiliary building, on-site radwaste facilities, truck bay and truck bay storage areas, multipurpose handling facility, and south services repair center.

b. Observations and Findings

The licensee made no significant changes to solid radwaste facilities. There were no changes in equipment or the Process Control Program. The inspector noted no deviations from commitments in the Updated Final Safety Analysis Report, Chapter 11.4.

During the tours of the auxiliary building and on-site radwaste facilities, the inspector noted that the housekeeping was acceptable.

To selectively review the material conditions in the licensee's radwaste facilities, the inspector conducted a walkdown of accessible radwaste tanks and resin transfer system components including, pumps, valves, and associated piping. Material condition was acceptable.

c. Conclusions

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

R4 Staff Knowledge and Performance

a. Inspection Scope (86750)

The inspector interviewed a nuclear oversight auditor, health physics self-assessment supervisor, radwaste general foreman, radwaste shipping and receiving supervisor, two radioactive material control technicians, radwaste supervisor, and the radwaste training instructor involved in the radioactive material transportation program.

b. Observations and Findings

The nuclear oversight auditor who conducted quality assurance audits was knowledgeable of regulatory and procedural requirements for solid radioactive waste management and transportation. The radwaste training instructor had a good understanding of procedural, regulatory, and training/retraining requirements. The radwaste supervisors, foreman, and technicians responsible for shipping were knowledgeable of radioactive waste classification, packaging, marking, labeling, storage, documentation, vendor supplied computer software operation, and radioactive material transportation regulations.

c. Conclusions

The individuals responsible for training and oversight were knowledgeable of regulatory and procedural requirements. Radwaste supervisors, foreman, and technicians were knowledgeable of transfer, packaging, waste classification, marking, labeling, storage, documentation, vendor supplied computer software operation, and radioactive material transportation regulations.

R5 Staff Training and Qualification

a. Inspection Scope (86750)

The inspector reviewed training lesson plans and verified current and past training records for the nuclear oversight auditors, rawaste supervisors, radwaste foreman, radioactive material control technicians, radwaste support personnel, and the radwaste training instructor.

b. Observations and Findings

Training lesson plans and records confirmed that the licensee provided the appropriate training and periodic retraining in Department of Transportation and NRC regulatory requirements. Additionally, the training and retraining programs included instructions and a review of procedures for personnel involved in the transfer, storage, packaging, and transport of radioactive material.

c. Conclusions

The licensee provided solid radwaste and transportation personnel with the appropriate training and retraining.

R7 Quality Assurance in Radiological Protection and Chemistry Activities

a. Inspection Scope (86750)

The inspector interviewed licensee personnel and reviewed the following items: nuclear oversight audit, nuclear oversight surveillance/observations, health physics division management field observations, self-assessments, and action requests.

b. Observations and Findings

There were no audits conducted by the licensee since the previous NRC inspection. There is an audit scheduled for March 2000 in the area of solid radioactive waste management and transportation. The licensee conducted 63 nuclear oversight field observations, 5 division self-assessment audits, and 18 division management field observations. The field observations and self assessments were comprehensive and provided adequate depth to identify problems and provide oversight of radwaste management and transportation activities. Problems identified were placed in the corrective action program.

The inspector reviewed a summary of action requests relating to solid radioactive waste and transportation and selected 14 action request packages for a detailed review. The inspector verified that the corrective actions were appropriate and completed in a timely manner.

c. Conclusions

The nuclear oversight organization and health physics division management provided effective oversight of radioactive waste management and transportation activities. Field observations and self assessments were comprehensive and provided adequate depth to identify problems and provide oversight of radwaste management and transportation activities.

V. Management Meetings

X1 Exit Meeting Summary

The inspector presented the inspection results to members of licensee management at an exit meeting on January 14, 2000. The licensee acknowledged the findings presented. No proprietary information was identified.

ATTACHMENT

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

- R. Krieger, Vice President
- D. Nunn, Vice President
- J. Madigan, Manager, Health Physics
- K. Slagle, Manager, Nuclear Oversight
- R. Sandstrom, Manager, Nuclear Training Division
- E. Scherer, Manager, Nuclear Regulatory Affairs
- G. Cook, Supervisor, Nuclear Regulatory Affairs
- M. McBrearty, Engineer, Nuclear Regulatory Affairs
- P. Elliott, Supervisor, Radwaste
- M. Farmer, General Foreman, Radwaste
- E. Bennett, Auditor, Nuclear Oversight
- S. Stinson, Supervisor, Nuclear Training Division
- C. Ahola, Supervisor, Radwaste Shipping and Receiving
- S. Schofield, Supervisor, Health Physics Self Assessment
- R. Morrison, Training Instructor
- A. Gray, Supervisor, Radwaste
- A. Martinez, General Foreman, Health Physics

NRC

- J. Kramer, Resident Inspector

INSPECTION PROCEDURES USED

86750 Solid Radioactive Waste Management and Transportation of Radioactive
Material

ITEMS OPENED AND CLOSED

Opened and Closed

None

PARTIAL LIST OF DOCUMENTS REVIEWED

Summary list of action requests relating to the inspection areas (8/98 to 1/7/2000)

Action Requests

AR-990700158-01
AR-981101041-01
AR-981101041-05
AR-981101041-03
AR-980801365-01

Nuclear Oversight Division Observations (8/98 to 1/7/2000)

Health Physics Division Observations (8/98 to 1/7/2000)

Health Physics Division Self Assessment (3Q98, 4Q98, 1Q99, 2Q99, 3Q99)

Procedures

| | |
|------------------|---|
| SO123-VII-20 | Health Physics Program, Revision 5 |
| SO123-VII-8 | Control of Radioactive Material, Revision 8 |
| SO123-VII-8.1 | Solid Radioactive Waste Sampling for Classification and Typification, Revision 17 |
| SO123-VII-8.1.2 | Radioactive Materials Curie Content Determination, Revision 4 |
| SO123-VII-8.1.4 | Solid Radioactive Waste Packaging for Class A Unstable Material, Revision 8 |
| SO123-VII-8.1.5 | Loading of Radioactive Material for Shipment, Revision 1 |
| SO123-VII-8.1.6 | Radioactive Waste Package Accountability, Revision 4 |
| SO123-VII-8.2.12 | Shipment of Radioactive Waste for Land Disposal to the Envirocare Facility at Clive, Utah, Revision 0 |
| SO123-VII-8.3.1 | Multipurpose Handling Facility (MPHF) Operations, Revision 4 |
| SO123-VII-8.16 | Radioactive Equipment and Material Storage (REMS), Revision 4 |
| SO123-VII-8.17 | Radman Software Package, Revision 3 |

Training Lesson Plans

RC7919 Overview of Packaging & Transportation of Radioactive Waste, Revision 1