



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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February 23, 2000

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SUBJECT: NRC INSPECTION REPORT NO. 50-275/00-01; 50-323/00-01

Dear Mr. Rueger:

This refers to the inspection conducted on February 7-11, 2000, at the Diablo Canyon Nuclear Power Plant, Units 1 and 2 facilities. The purpose of the inspection was to review the radioactive effluent waste management and engineered-safety-feature air filtration testing programs. The enclosed report presents the results of this inspection.

Overall, the liquid and gaseous radioactive effluent waste control and engineered-safety-feature air filtration testing programs were effectively implemented.

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.: 50-275
50-323
License Nos.: DPR-80
DPR-82

Pacific Gas and Electric Company

-2-

Enclosure:
NRC Inspection Report No.
50-275/00-01; 50-323/00-01

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-3-

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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 DC SRI and Site Secretary (DLP, JWG).

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

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket Nos.: 50-275
50-323

License Nos.: DPR-80
DPR-82

Report No.: 50-275/00-01
50-323/00-01

Licensee: Pacific Gas and Electric Company

Facility: Diablo Canyon Nuclear Power Plant, Units 1 and 2

Location: 7 1/2 miles NW of Avila Beach
Avila Beach, California

Dates: February 7-11, 2000

Inspector: Michael P. Shannon, Senior Radiation Specialist

Approved By: Gail M. Good, Chief, Plant Support Branch

Attachment: Supplemental Information

EXECUTIVE SUMMARY

Diablo Canyon Nuclear Power Plant, Units 1 and 2
NRC Inspection Report No. 50-275/00-01; 50-323/00-01

This announced, routine inspection reviewed engineering safety feature filter ventilation systems maintenance and in-place filter testing, implementation of the liquid and gaseous radioactive effluent monitoring program, status of the effluent monitors and chemistry counting equipment, training and qualifications of personnel, and quality assurance oversight.

Plant Support

- Engineered safety feature filter ventilation systems were properly maintained and in good material condition. The system engineer responsible for the engineered safety filter systems was very knowledgeable of the systems. In-place filter tests and laboratory tests of charcoal adsorber samples complied with the appropriate Technical Specification requirements (Sections E2.1 and E3.1).
- Overall, an effective radiological effluent control program was in place. The 1997 and 1998 Annual Radioactive Effluent Release Reports were submitted in accordance with regulatory requirements and documented a decreasing trend in the radioactivity released through liquid and gaseous effluents. Whole-body dose to the public from radiological effluent releases for 1997 and 1998 were less than 1 percent of the yearly regulatory limit. Sampling and analysis procedures provided the staff with the necessary guidance to complete the tasks assigned (Section R1.1).
- All effluent monitors and tanks were located as described in the Updated Final Safety Analysis Report. Effluent monitors and analytical instrumentation were properly calibrated (Section R2).
- An effective continuing training program was maintained. Chemistry/environmental operations management was appropriately involved in the continuing training program (Section R5).
- Nuclear quality services oversight was effective. Audits were comprehensive and provided management with an adequate assessment of the radiological effluent controls program. Action requests identified issues at a low threshold which provided management with the tools needed to assess program effectiveness (Section R7).

Report Details

Summary of Plant Status

Both Units operated at full power.

III. Engineering

E2 Engineering Support of Facilities and Equipment

E2.1 Engineered Safety Feature Filter Ventilation Systems

a. Inspection Scope

The inspector performed visual inspections of the Units 1 and 2 control room, auxiliary building and fuel handling building ventilation filtration systems and interviewed the engineer assigned to the systems.

b. Observations and Findings

During walk downs of the above ventilation filtration systems, the inspector determined that, in general, all systems were properly maintained and in good material condition. The inspector determined that there was no obvious physical damage to the air cleaning systems which would have prevented them from performing their required safety functions. However, during the tour of Unit 1 fuel handling building cleanup ventilation system, it was noted that the inspection port on door No. 1E-5 (high efficiency particulate air filter room) was leaking air past its gasket. The licensee wrote Action Request A0502507 to address the issue. Test ports for in-place filter testing were installed and accessible. Redundant filtration systems were available, as required. From interviews with the system engineer assigned to the above systems, the inspector determined that this individual was very knowledgeable of the systems.

c. Conclusions

Engineered safety feature filter ventilation systems were properly maintained and in good material condition. The system engineer responsible for the engineered safety filter systems was very knowledgeable of the systems.

E3 Engineering Procedures and Documentation

E3.1 Engineered Safety Feature Filter Ventilation System Equipment Testing Results

a. Inspection Scope (84750)

The inspector reviewed the following documents to determine compliance with Technical Specification requirements:

- Records of in-place filter testing of high efficiency particulate air filters and charcoal adsorbers
- Records of laboratory tests of charcoal adsorbers

b. Observations and Findings

Filter testing and run times of the engineered safety feature filter ventilation systems were properly tracked by the control room and responsible system engineer. Through a review of the in-place filter test results and the results of the laboratory testing of charcoal adsorber samples, the inspector confirmed that the licensee complied with the Technical Specification requirements of Sections 4.7.5.1 and 4.7.6.1.

c. Conclusions

In-place filter tests and laboratory tests of charcoal adsorber samples complied with the appropriate Technical Specification requirements.

E7 Quality Assurance in Engineering Activities (84750)

The inspector confirmed that an audit was performed of the vendor performing laboratory testing of samples of the charcoal adsorber material. The inspector concluded from a review of the audit summary that there were no adverse findings which would render the vendor laboratory test results invalid.

IV. Plant Support

R1 Radiological Protection and Chemistry Controls

R1.1 Implementation of the Liquid and Gaseous Radioactive Waste Program

a. Inspection Scope (84750)

Selected personnel involved in the radioactive waste effluent program were interviewed, and the following items were reviewed:

- Offsite Dose Calculation Procedures
- Technical Specification requirements
- 1997 and 1998 annual effluent release reports
- Sampling procedures
- Release permits

b. Observations and Findings

The Annual Radioactive Effluent Release Reports for 1997 and 1998 were submitted in accordance with requirements in Section 6.9.1.6 of Technical Specifications and documented in accordance with the format described in NRC Regulatory Guide 1.21, Revision 1, June 1974. The annual effluent release reports documented a decreasing

trend in the radioactivity released through liquid and gaseous effluents. From the review of the annual reports and data supplied by the licensee, the inspector determined that releases of radioactive effluents were within regulatory requirements and did not exceed the limits defined within the Offsite Dose Calculation Procedures. The inspector noted that whole-body dose to the public from liquid and gaseous radiological effluent releases for 1997 and 1998 were less than 1 percent of the yearly regulatory limit.

From a review of randomly selected sampling and analysis procedures, the inspector determined that the procedures were clearly written and provided the staff with the necessary guidance to complete their assigned tasks. On February 9, 2000, the inspector observed the sampling and analysis of Demineralizer Regenerant Receiver Tank No. 0-2 from Sample Sink 1-2 on the 85-foot elevation of the auxiliary building. No problems were identified during these evolutions. Station procedures were correctly followed, and the chemistry/radiation protection technician used good health physics practices during the tasks.

No problems were identified during the review of six randomly selected batch liquid release permits and six randomly selected continuous gaseous release permits.

c. Conclusions

Overall, an effective radiological effluent control program was in place. The 1997 and 1998 Annual Radioactive Effluent Release Reports were submitted in accordance with regulatory requirements and documented a decreasing trend in the radioactivity released through liquid and gaseous effluents. Whole-body dose to the public from radiological effluent releases for 1997 and 1998 were less than 1 percent of the yearly regulatory limit. Sampling and analysis procedures provided the staff with the necessary guidance to complete the tasks assigned.

R2 Status of Radiation Protection and Chemistry Facilities and Equipment

a. Inspection Scope (84750)

Areas reviewed included:

- Effluent monitor physical condition
- Effluent monitor calibrations
- Analytical instrumentation calibrations

b. Observations and Findings

The inspector performed a walk down of the liquid and gaseous effluent monitors and storage tanks in both units. All effluent monitors and tanks were located as described in the Updated Final Safety Analysis Report. Material condition of the monitors and tanks, as well as, housekeeping were very good.

The monitors were properly calibrated with radiation sources were representative of plant related isotopes. Monitor channel checks were performed in accordance with procedural requirements.

From observations and interviews with the engineer responsible for oversight of the counting room equipment, the inspector determined that all analytical instrumentation used for analyzing effluent samples was properly maintained and calibrated with radiation sources which were representative of plant related isotopes. Daily source response checks were performed in accordance with station procedures. A review of the radiation source documentation revealed that the calibration sources were traceable to the National Institute of Standards and Technology.

c. Conclusions

All effluent monitors and tanks were located as described in the Updated Final Safety Analysis Report. Effluent monitors and analytical instrumentation were properly calibrated.

R5 Staff Training and Qualification

a. Inspection Scope (84750)

Personnel involved with the radioactive waste effluent training program were interviewed, and the following items were reviewed:

- Continuing training lesson plans
- Management oversight of the training program

b. Observations and Findings

From a review of the chemistry-related steering committee meeting minutes, the inspector determined that chemistry/environmental operations management was appropriately involved in the continuing training program. The inspector reviewed the effluent continuing training program course material for 1999 and determined that the material provided technicians with the appropriate topics to help ensure that their technical competence was maintained.

Job performance measures and qualification cards were well developed, and chemistry/environmental operations line supervision was appropriately involved in the development of these items. Site and industry lessons learned were included in the training program. Training feedback forms were used to enhance the continuing training program material.

c. Conclusions

An effective continuing training program was maintained. Chemistry/environmental operations management was appropriately involved in the continuing training program.

R7 Quality Assurance in Radiation Protection and Chemistry Activities

a. Inspection Scope (84750)

Selected nuclear quality services department personnel involved with the oversight of the radioactive effluent waste program were interviewed, and the following items were reviewed:

- Qualifications of personnel who perform nuclear quality services department audits and assessments
- 1998 and 1999 nuclear quality services audits
- Nuclear quality services assessments
- Chemistry/environmental operations department self-assessments
- Radioactive waste effluent program action requests

b. Observations and Findings

Audits and Assessments

A review of the qualifications of the lead auditor involved in the oversight of the radiological effluent program revealed that the auditor had adequate experience and training to perform effective audits.

There were two nuclear quality services radiological effluent monitoring program audits performed since the last NRC inspection in October 1997, one in 1998 (981130008), and the other in 1999 (991160001). The inspector determined that both audits were comprehensive and provided management with an adequate assessment of the radiological effluent controls program. Six findings and six recommendations were identified between both audits. All findings were properly documented and tracked in the station's action request system. None of the findings were regulatory issues. All recommendations were closed in a timely manner. From discussions held with members of the nuclear quality services department, the inspector determined that the audit team members were qualified to assess the areas assigned. The inspector noted that the 1999 audit team included a technical specialist from another nuclear power facility. This individual reviewed their input to the audit, but did not review the entire audit prior to issuance. This was not in accordance with nuclear quality services management's expectation.

One nuclear quality services assessment of the radiological effluent monitoring program was performed since the last NRC radiological effluent control program inspection. The assessment report reviewed effluent discharge permits and the radiological effluent management system program. There was one action request and one recommendation written during this assessment. This report provided management with a detailed evaluation of the program areas reviewed. No regulatory issues were identified.

Department Self-Assessments

Two chemistry/environmental operations department self-assessments were performed since the last NRC inspection in October 1997. The self-assessments identified three effluent program related recommendations. All items were captured in the station's action request system and closed in a timely manner. No regulatory concerns were identified during the self-assessments.

Action Requests

The inspector reviewed a summary of action requests relating to the radiological effluent control program written since October 1, 1997, and selected 20 action requests for a detailed review. This review revealed that the licensee identified issues at a low threshold which provided management with the tools needed to assess the effluent control program. Corrective actions appeared to be effective to resolve the issues identified and, in general, action requests were closed in a timely manner.

c. Conclusions

Nuclear quality services oversight was effective. Audits were comprehensive and provided management with an adequate assessment of the radiological effluent controls program. Action requests identified issues at a low threshold which provided management with the tools needed to assess program effectiveness.

V. Management Meetings

X1 Exit Meeting Summary

The inspector presented the inspection results to members of licensee management at an exit meeting on February 11, 2000. The licensee acknowledged the findings presented. No proprietary information was identified.

ATTACHMENT

Supplemental INFORMATION

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W. Crockett, Manager, Nuclear Quality Services
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L. Womack, Vice-President, Nuclear Technical Services
F. Woo, Co-op Student, Nuclear Services and Licensing

NRC

D. Aker, Resident Inspector

LIST OF INSPECTION PROCEDURES USED

IP 84750 Radioactive Waste Treatment, and Effluent and Environmental Monitoring

LIST OF ITEMS OPENED AND CLOSED

Opened and Closed

None

LIST OF DOCUMENTS REVIEWED

Nuclear Quality Assurance Procedure OM4.NQ5, "Internal Audits," Revision 4
Nuclear Quality Assurance Procedure OM5, "Quality Assurance Program," Revision 3
Chemistry Procedure CAP A-6, "Gaseous Radwaste Discharge Management," Revision 23A
Chemistry Procedure CAP A-8, "Off-Site Dose Calculations," Revision 23A
Chemistry Procedure CAP E-5, "Liquid Radwaste Sampling," Revision 4
Chemistry Procedure CAP E-19, "Plant Vent Radioactive Effluent Sampling," Revision 9

Nuclear Power Generation Procedure CY2, "Radiological Monitoring and Controls Program,"
Revision 2A

Nuclear Power Generation Procedure CY2.IDI, "Radioactive Effluent Controls Program,"
Revision 3A

Nuclear Quality Services Audit 981130008, "Radioactive Effluents"

Nuclear Quality Services Audit 991160001, "Radioactive Effluents Program and Off-Site Dose
Calculation Procedure"

Nuclear Quality Services Assessment 003670760, "Radioactive Effluent Discharge
Permits/REMS"

Chemistry and Environmental Operations Department Self-Assessment A0469780, "Pre-INPO
Chemistry Team Self-Assessment"

Chemistry and Environmental Operations Department Self-Assessment A0485262, "Plant Vent
Sampling"

1998 and 1999 Annual Radioactive Effluent Release Reports

A summary of effluent program related Action Requests written since October 1997