

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

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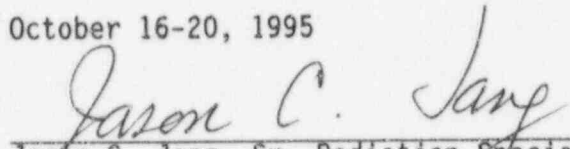
LICENSEE: Boston Edison Company
600 Rocky Hill Road
Plymouth, Massachusetts 02360

FACILITY NAME: Pilgrim Nuclear Power Station

INSPECTION AT: Plymouth, Massachusetts

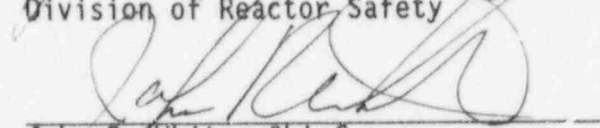
DATES: October 16-20, 1995

INSPECTOR:


Jason C. Jang, Sr. Radiation Specialist
Radiation Safety Branch
Division of Reactor Safety

10-25-95
Date

APPROVED BY:


John R. White, Chief
Radiation Safety Branch
Division of Reactor Safety

11-1-95
Date

Areas Inspected: Announced safety inspection of the radioactive liquid and gaseous effluent control programs including: management controls, audits, air cleaning systems, calibration of effluent/process radiation monitoring systems, and implementation of the Offsite Dose Calculation Manual (ODCM) and the above programs.

Results: Within the areas inspected, the licensee implemented effective radioactive liquid and gaseous effluent control programs. The Chemistry Department staff maintained and enhanced excellent knowledge in these programs. No safety concerns or violations of NRC requirements were identified.

DETAILS

1.0 INDIVIDUALS CONTACTED

1.1 Licensee Personnel

- *N. Desmond, Regulatory Relations Group Manager
- *C. Goddard, Nuclear Services Group Manager
- *D. Fountain, Chemistry Department Manager (Acting)
- *J. Keene, Regulatory Affair Manager
- L. Olivier, Vice President - Nuclear and Station Director
- *A. Muse, Chemistry Supervisor
- *K. Sejkora, Environmental Program Manager
- *A. Shatas, Sr. QA Engineer, Quality Assurance
- *G. Whitney, Licensing Engineer

1.2 U. S. Nuclear Regulatory Commission

- *R. Laura, Senior Resident Inspector
- B. Korona, Resident Inspector

*Denotes those present at the exit interview on October 20, 1995. The inspector also contacted and interviewed other licensee employees.

2.0 PURPOSE

The purpose of this inspection was to review the licensee's ability to control and quantify effluent radioactive liquids, gases, and particulates during normal and emergency operations.

3.0 MANAGEMENT CONTROLS

3.1 Program Changes

There were no significant changes in the licensee's radioactive liquid and gaseous effluent control programs since the previous inspection conducted in July 1994. The Chemistry Department has the responsibility to conduct the radioactive liquid and gaseous effluent control programs and to implement the Offsite Dose Calculation Manual (ODCM).

3.2 Review of Semiannual Effluent and Projected Dose Assessment Reports

The inspector reviewed the semiannual radioactive effluent release reports for 1994 and the 1994 projected dose assessment report. These semiannual reports provided total released radioactivity for liquid and gaseous effluents. These reports also contained any changes to the ODCM as necessary and meteorological data. There were no obvious anomalous measurements, omissions or trends. The 1994 projected dose assessment report contained maximum individual and population doses resulting from routine radioactive airborne and liquid effluents. Doses were well below the regulatory limits.

4.0 QA AUDITS/QA SURVEILLANCE REPORTS

The inspector reviewed the following QA audit and surveillance reports conducted by the Quality Assurance Department (QAD) for the Radioactive Liquid and Gaseous Effluent Surveillance Programs and implementation of the ODCM:

- 94-06; Chemistry and Radwaste Programs,
- 94-2.3-20; Determination of Gaseous Release Activity at the Main Stack (MS) and Reactor Building Vent (RBV),
- 94-2.3-22; Airborne Effluent Monitoring of the Trash Compact Facility,
- 95-019; Quarterly Source Checks of MS and RBV Process Radiation Monitors,
- 95-025; Determination of Alarm Setpoint for Process Radiation Monitors,
- 95-026; MS and RBV Monthly Source Check,
- 95-048; Calibration of SJAE Monitor,
- 95-082; Liquid Radioactive Waste Discharge, and
- 95-127; Salt Service Water Sampling

One deficiency and two recommendations were identified for the effluent control programs during the QA audit conducted in 1994 (QA Audit No. 94-06). Neither the finding item or recommendation were safety significant. The corrective action was completed in a timely manner. These audits were conducted by the QAD and covered the radioactive liquid and gaseous effluent control programs. The inspector noted that the audits were conducted by members of the QAD with assistance from other technical personnel. The QAD staff used a tracking system to follow the corrective actions. The inspector noted that the scope and technical depth of the audit were very good to assess the effluent control programs. The inspector had no further questions in this area.

5.0 IMPLEMENTATION OF THE EFFLUENT CONTROL PROGRAMS

The inspector reviewed the licensee's implementation of the Radioactive Liquid and Gaseous Effluent Control Programs through the plant tour, discussions with licensee personnel, review of selective radioactive liquid and gaseous release permits, and review of the associated procedures.

The inspector toured radioactive liquid and gas process facilities including: (1) liquid and gaseous effluent radiation monitoring systems (RMS); (2) gaseous effluent sampling stations; (3) effluent RMS at the main control room, (4) radwaste control room; and (5) augmented offgas facilities. All equipment was operable at the time of this inspection.

The Chemistry Department has the responsibility to conduct the effluent control programs. During discussions with the members of Chemistry Department, the inspector noted that the responsible individuals had excellent knowledge in the areas of: (1) radioactive liquid and gaseous effluent controls; (2) quantifying the total amount of liquid and gaseous effluent release using the RMS; and (3) protection of the public health and safety and the environment.

The inspector discussed with the licensee the turbine building ventilation monitoring system to enhance the gaseous effluent monitoring system. A new effluent monitoring system (airborne particulates and radioiodines sampling and noble gas monitor) was installed and placed into service. Although the noble gas monitor was operable at the time of this inspection, the licensee did not use it officially to monitor noble gas release because the monitor was not calibrated using the licensee's approved procedures. The monitor will be calibrated using the licensee's approved procedures in the near future. The monitor was calibrated by the vendor. The inspector stated that calibration results will be reviewed during a subsequent inspection.

The inspector determined that the reviewed release permits were complete and met the requirements for sampling analyses at the frequencies and lower limits of detection established in the Technical Specifications

The inspector also determined that the reviewed radioactive effluent control procedures were sufficiently detailed to control all routine effluent releases effectively.

Based on the above reviews and discussions, the inspector determined that the licensee was implementing an excellent radioactive liquid and gaseous effluent control programs.

6.0 CALIBRATION OF EFFLUENT/PROCESS RADIATION MONITORING SYSTEMS (RMS)

The inspector reviewed the most recent calibration test results for the following effluent/process RMS to determine the implementation of the Technical Specification requirements.

- Liquid Radwaste Effluent Monitor
- Main Steam Line Monitors
- Reactor Building Closed Component Cooling Monitors
- Main Stack Noble Gas Monitors (Normal and High Range)
- Reactor Building Vents Noble Gas Monitors (Normal and High Range)
- AOG Post Treatment Monitor (offgas)
- Air Ejector Monitor

The I&C Department and the Chemistry Department have the responsibility to perform electronic calibrations and radiological calibrations, respectively. All reviewed calibrations were performed at the required frequencies and results were within the licensee's acceptance criteria.

Based on the above reviews, the inspector determined that the licensee has an effective calibration program for the effluent/process RMS.

7.0 AIR CLEANING SYSTEMS

The inspector reviewed the licensee's most recent surveillance test results for the Standby Gas Treatment System and the Control Room Air Cleaning Systems. The following test results were reviewed:

- Visual Inspections,
- In-Place HEPA Leak Tests,
- In-Place Charcoal Leak Tests,
- System Air Capacity Tests,
- Delta Pressure Tests, and
- Laboratory Tests for the Iodine Collection Efficiencies

All reviewed test results were within the licensee's Technical Specification limits. Based on the above reviews, the inspector determined that the licensee implemented the requirements for the air cleaning systems effectively. The inspector had no further questions in this area.

8.0 EXIT INTERVIEW

The inspector met with the licensee representatives denoted in Section 1.1 of this inspection report at the conclusion of the inspection on October 20, 1995, at the Pilgrim site. The inspector summarized the purpose, scope, and findings of the inspection. The licensee acknowledged the inspection findings.