

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-352/92-01 and 50-353/92-01

Docket Nos. 50-352 and 50-353

License Nos. NPF-39 and NPF-85

Licensee: Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19105

Facility Name: Limerick Generating Station, Units 1 and 2

Inspection At: Limerick Generating Stations

Inspection Conducted: January 6-10, 1992

Inspector:

Jason C. Jang
Jason C. Jang, Sr. Radiation Specialist
Effluents Radiation Protection Section (ERPS)
Facilities Radiological Safety and Safeguards
Branch (FRS&SB)

1-15-92
date

Approved by:

Robert J. Bores
Robert J. Bores, Chief, ERPS, FRS&SB
Division of Radiation Safety and Safeguards

1/16/92
date

Areas Inspected: Unannounced 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 above programs.

Results: Within the areas inspected, the licensee implemented effective programs. No safety concerns or violations were identified.

DETAILS

1.0 Individuals Contacted

1.1 Licensee

- J. Albert, System Engineer
- * J. Doering, Plant Manager
- * R. Dubiel, Superintendent - Plant Services
- E. Frick, Radiochemist
- * B. Graber, Instrumentation Physicist, Health Physics
- J. Hopkins, I&C Foreman
- M. Horton, System Engineer
- * T. Jackson, Senior Chemist
- * M. Kaminski, Engineer - NQA
- K. Lally, Chemist
- * J. Melaugh, I&C Foreman
- * D. Neff, Licensing Engineer
- * L. Parlato, Effluent Physicist, Health Physics
- * D. Shutt, Technical Assistant, Licensing
- * R. Weingard, I&C Engineer

1.2 NRC

- * T. Kenny, Senior Resident Inspector
- * L. Scholl, Resident Inspector

- * Denotes those individuals present at the exit interview on January 10, 1992.
Other licensee personnel were also contacted during the course of this inspection.

2.0 Purpose

The purpose of this inspection was (1) to review the licensee's ability to measure liquid and gaseous radioactive effluents during normal and emergency operations and (2) implementation of the Offsite Dose Calculation Manual. The licensee transferred the Radiological Effluents Technical Specifications (RETS), including the Radiological Environmental Monitoring Program, to the Offsite Dose Calculation Manual (ODCM) per the NRC Generic Letter 89-01 in 1991.

3.0 Management Controls

3.1 Program Changes

The inspector reviewed the organization for administration of the radioactive liquid and gaseous effluent control programs and discussed with the licensee any changes made since the last inspection conducted on May 7-11, 1990. The inspector determined that the radioactive effluent control programs remained the same as at the time of the last inspection in this area.

3.2 QA Audits

The inspector reviewed the 1990 audit report (Audit Number A-0000067) for the radioactive liquid and gaseous effluent control programs. The audit was conducted by the Nuclear Quality Assurance Department. The inspector noted that the audit identified six recommendations, none of safety significance, and the appropriate departments responded to these findings in a timely manner.

3.3 Review of Radiological Semiannual Effluent Reports

The inspector reviewed the semiannual radioactive effluent release reports for 1990 and the first part of 1991, and determined that the licensee met the Technical Specification requirements. These reports provided total released radioactivity for liquid and gaseous effluents, including projected radiation exposures to the public.

3.4 Transfer of RETS to ODCM per Generic Letter 89-01

The licensee transferred the Radiological Effluents Technical Specifications (RETS), including the Radiological Environmental Monitoring Program, to the Offsite Dose Calculation Manual (ODCM) per the NRC Generic Letter 89-01 in 1991. The licensee's ODCM (Revision 10) was effective on October 1, 1991. The inspector reviewed this ODCM and determined that the licensee transferred appropriate RETS requirements to the ODCM. The inspector had no further questions in this area.

4.0 Radioactive Liquid and Gaseous Effluent Controls

The inspector reviewed selected licensee radioactive liquid and gaseous discharge permits and the following associated procedures (Chemistry and Health Physics Departments) as part of the examination of the implementation of the ODCM.

- o ST-5-061-570-0, Preparation of Radwaste Discharge Permit
- o ST-5-076-810-0, North Stack Monthly Noble Gas and Tritium Sampling and Analysis
- o ST-5-076-810-1, Unit 1 South Stack Monthly Noble Gas and Tritium Sampling and Analysis
- o ST-5-076-810-2, Unit 2 South Stack Monthly Noble Gas and Tritium Sampling and Analysis

The inspector noted that the above procedures were sufficiently detailed to perform all necessary steps without difficulties.

During review of the liquid discharge permits, the inspector identified higher than expected background count results for the liquid effluent radiation monitoring system (about 22,000 counts per minute). The licensee recorded on the liquid radwaste discharge permits the radiation monitoring results for background and during the release. The monitoring results during the release condition would be expected to be higher than the background monitoring results. Because of the high monitor background, the monitoring results during the release were not distinguishable from the monitor background, regardless of radioactivity content in the tank being discharged. The inspector discussed with the licensee the high background counts for the liquid effluent monitor. The licensee stated that this problem will be reviewed and corrected as necessary in the near future. It was noted that there were no negative impacts on the environment and/or the public health and safety as a result of the high background counts because all the discharged tanks had been discharged only after the required analysis had been performed.

The inspector also reviewed the gaseous effluent discharge records and had no further questions in this area.

Based on the above reviews and discussion with the licensee, the inspector determined that the licensee was implementing effective radioactive liquid and gaseous effluent control programs.

5.0 Calibration of Effluent/Process Radiation Monitors

The inspector reviewed the most recent calibration results for the following effluent and process radiation monitors to determine this aspect of the implementation of the ODCM requirements.

- o Liquid Radwaste Effluent Monitor (common)

- o Service Water Effluent Monitors (both units)
- o Main Steam Line Monitors (both units)
- o North Vent Noble Gas Monitor (common)
- o South Vent Noble Gas Monitors (both units)
- o Hot Maintenance Shop Noble Gas Monitor (common)
- o Main Condenser Offgas Monitors (both units)
- o Wide Range Accident Noble Gas Monitor (common)

The I&C Department has the responsibility to perform the electronic and radiological calibrations for the above effluent/process radiation monitors. The Chemistry Department has responsibility to perform alarm and trip set point calculations required by the ODCM.

All reviewed calibrations were performed at the required frequencies and results were within the licensee's acceptance criteria. However, during the review of the calibration results for the above gaseous and liquid effluent radiation monitors, the inspector noted that the licensee could improve the calibration methodology to minimize systematic error. The inspector discussed the following with the licensee: (1) application of statistical methods to calculate monitor efficiency rather than use of graphical methods and (2) review of the radiological calibration results by appropriate individuals, such as the Radiochemist and Effluent Physicist. The licensee stated that these items will be reviewed and incorporated in the near future, as necessary.

Based on the review of the calibration results of above effluent/process radiation monitors, the inspector determined that the licensee met the ODCM requirements.

6.0 Air Cleaning Systems

The inspector reviewed the licensee's most recent surveillance test results to determine the implementation of the Technical Specifications for the (1) control room emergency fresh air supply systems, (2) reactor enclosure recirculation systems, and (3) standby gas treatment systems. The inspector reviewed the most recent test results of the following inspections and surveillances for the above air cleaning systems.

- o Visual Inspections
- o In-Place HEPA Leak Tests
- o In-Place Charcoal Leak Tests
- o Pressure Drop Tests
- o System Air Flow Rate Tests
- o Laboratory Tests for the Iodine Collection Efficiencies

The inspector also toured air cleaning system areas and determined that the systems were operable at the time of this inspection.

Based on the above reviews and tour, the inspector determined that the licensee was implementing Technical Specification requirements effectively.

7.0 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 January 10, 1992 at the Limerick site. The inspector summarized the purpose, scope, and findings of the inspection.