

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-334/92-10 and 50-412/92-09
Docket Nos. 50-334 and 50-412
License Nos. DPR-66 and NPF-73
Licensee: Duquesne Light Company
P.O. Box 4
Shippingport, Pennsylvania
Facility Name: Beaver Valley Power Station, Units 1 and 2
Inspection At: Shippingport, Pennsylvania
Inspection Conducted: April 13-17, 1992

Inspector: Jason C. Jang 4-21-92
Jason C. Jang, Sr. Radiation Specialist
Effluents Radiation Protection Section (ERPS)
Date

Approved by: Robert J. Bores 4-21-92
Robert J. Bores, Chief, ERPS, Facilities
Radiological Safety and Safeguards Branch,
Division of Radiation Safety and Safeguards
Date

Areas Inspected: Unannounced safety inspection of the radioactive liquid and gaseous effluent control programs including: management controls, audits, calibration of effluent and process radiation monitoring systems, air cleaning systems, and implementation of the above programs.

Results: Within the areas inspected, the licensee implemented very effective radioactive liquid and gaseous effluent control programs. The Health Physics Department management oversight in the conduct of the effluent control programs was noteworthy. No safety concerns or violations were identified.

DETAILS

1.0 Individuals Contacted

1.1 Licensee Employees

- * E. Cohen, Director, Unit 1 Radiological Operations
- * R. Freund, Senior Health Physics Specialist
- * D. Girdwood, Director, Unit 2 Radiological Operations
- * J. Kosmal, Manager, Health Physics
 - S. LaVie, Senior Health Physics Specialist
 - A. Lonnett, Senior Health Physics Specialist
- * F. Schustor, Unit 2 Operations Manager
- * D. Spoerry, General Manager, Nuclear Operations Services
- * G. Thomas, General Manager, Corporate Nuclear Services
- * N. Tonet, Manager, Nuclear Safety
- * R. Vento, Director of Radiological Engineering
- K. Winter, Senior Health Physics Specialist

1.2 NRC

- * J. Noggle, Region I Radiation Specialist
- * L. Rossbach, Sr. Resident Inspector
- P. Sena, Resident Inspector

* Denotes those present at the exit meeting on April 17, 1992.
Other licensee employees were contacted and interviewed during this inspection.

2.0 Purpose

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

3.0 Audits

The inspector reviewed the following audits of radioactive liquid and gaseous effluent control programs with respect to Technical Specification requirements.

BV-C-90-20 (April 19-June 8, 1990)

BV-C-91-05 (April 30-July 9, 1991)

The inspector noted that the above audits were performed by qualified auditors, and the audits appeared to thoroughly assess radioactive liquid and gaseous effluent control programs. Audits identified a few findings in the effluent area. However, none were of safety significance. The appropriate Department responded to these findings with corrective actions in a timely manner. The inspector also noted that the licensee was using a tracking system for the open items. The inspector had no further questions in this area.

4.0 Liquid and Gaseous Effluent Control Programs

4.1 Program Changes

The inspector reviewed the organization and administration of the radioactive liquid and gaseous effluent control programs. The licensee reorganized this area on November 1, 1991. The effluent control program is the responsibility of the Director, Radiological Engineering, who reports to the Manager of Health Physics. The Manager of the Health Physics Department reports to the Unit General Manager of the Nuclear Operations Services who, in turn, reports to the Vice President, Nuclear Group.

The Health Physics Department employed a "Specialist" concept to the new organization. Each specialist was assigned to a program(s) and that specialist also had the responsibility for the program(s). The inspector noted that the specialists had excellent knowledge in their assigned areas.

Based on the above review, the inspector determined that, other than the reorganization, there were no significant changes in the licensee's radioactive liquid and gaseous effluent control programs since the previous inspection conducted on April 2-6, 1990. In fact, the licensee enhanced the effluent control programs through the new organization.

4.2 Review of Semiannual Radioactive Effluent Reports

The inspector reviewed the Semiannual Radioactive Effluent Reports for 1990 and 1991 and determined that the licensee met the Technical Specification (TS) reporting requirements.

The inspector noted that there were no obvious mistakes, omissions, anomalous measurements or trends in these reports. These reports provided total amount of released radioactivity through liquid and gaseous effluent pathways, and included projected radiation exposures to the public.

4.3 Liquid and Gaseous Radioactive Effluent Controls

The inspector reviewed selected licensee's procedures and radioactive liquid and gaseous discharge permits to determine the adequacy of the implementation of the Technical Specification (TS) and of the Offsite Dose Calculation Manual (ODCM) requirements for both units. The inspector also discussed with the licensee various aspects of the radioactive effluent control programs, such as communication with Radwaste Operations.

The inspector determined that the radioactive effluent control procedures were sufficiently detailed to effectively control effluent releases. The inspector also determined that the reviewed discharge permits were complete and met the requirements for sampling and analyses at the frequencies and lower limits of detection established in the TS. The inspector was informed that the licensee had good communications with Radwaste Operations.

During the discussion with the licensee (the Effluent Control Specialist of the Health Physics Department), the inspector noted that the responsible individual had excellent knowledge in the areas of: (1) radioactive liquid and gaseous effluent controls, (2) effluent radiation monitoring systems (RMS), (3) quantifying the total amount of liquid and gaseous effluent release using the RMS, (4) protection of the public health and the environment, and (5) ODCM requirements. The inspector also noted that the Effluent Control Specialist had summarized historical radioactive liquid and gaseous release data since the start of commercial operations for trending purposes. The inspector determined that the trending analysis report was noteworthy.

Based on the above reviews, the inspector determined that the licensee had implemented excellent radioactive liquid and gaseous effluent control programs.

4.4 Calibration of Radioactive Effluent/Process Monitors

The inspector reviewed the most recent calibration results for the following radioactive effluent and process monitors to determine the implementation of the Technical Specification requirements.

Unit 1:

- o Liquid Waste Effluent Monitor
- o Liquid Waste Contaminated Drain Monitor
- o Main Steam Line Monitors
- o Process Vent Monitors
- o Containment Purge Exhaust Monitors
- o Containment Ventilation Monitor
- o Ventilation Vent Monitor
- o Elevated Release Gas Monitor

Unit 2:

- o Main Steam Line Hi-Range Monitor
- o Liquid Waste Effluent Monitor
- o Process Vent Monitor
- o Ventilation Vent Monitor
- o Decontamination Building Effluent Monitor
- o Waste Gas Storage Vault Effluent Monitor
- o Condensate Polishing Building Effluent Monitor

The I&C and Health Physics Departments had the responsibility to perform electronic and radiologic calibrations for the above effluent and process radiation monitoring systems (RMS). The inspector also reviewed several quarterly channel function tests for the above effluent radiation monitors. All reviewed calibration results and channel function tests were within the licensee's acceptance criteria. The licensee's acceptance criteria were adopted from technical evaluations of the manufacturer's manual. This is a general industry practice.

Based on the above review, the inspector determined that the licensee is meeting the Technical Specification requirements with respect to these monitors.

4.5 Operability of Effluent/Process RMS

The inspector toured all of radioactive liquid and gaseous effluent radiation monitors to determine the operability of the RMS for both units. All effluent radiation monitors were operable at the time of this inspection.

The comparison between actual effluent monitor reading results and expected monitor reading results (from the laboratory sample measurements to ensure that the effluent monitors respond acceptably) was discussed during the previous inspection conducted in October 1988. In response to this discussion, the licensee developed the comparison technique and the Effluent Specialist performed the comparison study. The inspector, therefore, reviewed these comparison results for liquid and gaseous effluent monitors during a previous inspection conducted in April 1990 and this inspection. The results indicated that the comparisons have been in good agreement since the 1990 inspection.

The RMS Specialist of the Health Physics Department had a tracking system to follow the operability for all effluent and process RMS. This specialist published RMS status reports (weekly, monthly, and yearly) which were excellent, and these reports contained information regarding: (1) causes of the inoperable RMS and (2) corrective actions.

Based on the above reviews, the inspector stated that the licensee had an excellent tracking system for the operability of effluent and process RMS. The inspector also noted that the RMS specialist maintained good communication with the I&C Department.

5.0 Air Cleaning Systems

The inspector reviewed the licensee's most recent surveillance test results to determine the status of implementation of the following Technical Specification (TS) requirements for both units.

- o TS 3/4.7.7, "Control Room Emergency Habitability Systems"
- o TS 3/4.7.8, "Supplemental Leak Collection and Release Systems"

The following surveillance results were reviewed and all reviewed test results were found to be within the licensee's Technical Specification acceptance criteria.

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

Based on the above review, the inspector determined that the licensee was implementing the requirements for the air cleaning systems effectively. The inspector had no further questions in this areas.

6.0 Exit Interview

The inspector met with the licensee representatives denoted in Detail 1.1 at the conclusion of the inspection on April 17, 1992. The inspector summarized the purpose, scope, and findings of the inspection.