U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report/License Nos. 50-334/95-04, DRP-66
50-412/95-04, NPF-73

Licensee: Duquesne Light Company
PO Box 4
Shippingport, PA 15077

Facility Name: Beaver Valley Power Station, Units 1 and 2

Inspection At: Shippingport, PA

Inspection Conducted: January 30 - February 3, 1995

Inspector: Jason C. Jang
Jason C. Jang, Sr. Radiation Specialist
Effluents Radiation Protection Section (ERPS)

Approved by: for
E. Ullrich, Chief
Effluents Radiation Protection Section

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

Results: Within the areas inspected, the licensee maintained excellent effluent control programs. The responsible individuals in the the Health Physics Department demonstrated excellent knowledge in implementing the above programs. No safety concerns or violations of NRC regulatory requirements were observed.

DETAILS

1.0 INDIVIDUALS CONTACTED

1.1 LICENSEE EMPLOYEES

* A. Bevan, HP Specialist, Health Physics
  A. Crella, HP Specialist, Health Physics
* M. Helms, Sr. HP Specialist, Health Physics
  M. Fowler, I&C Supervisor
  J. Kunz, I&C Supervisor
  S. LaVie, Sr. HP Specialist, Health Physics
* F. Lipchick, Sr. Licensing Supervisor, Licensing
* A. Lonnett, Sr. HP Specialist, Health Physics
* W. McIntire, Director, Safety and Environmental Services
* A. Mizia, Supervisor, QA Audit
  D. Reeves, System Engineer
* B. Sepelak, Licensing Engineer
* R. Vento, Manager, Health Physics

1.2 NRC EMPLOYEES

* L. Rossbach, Sr. Resident Inspector
  S. Greenlee, Resident Inspector
  P. Sena, Resident Inspector

* Denotes those present at the exit meeting on February 3, 1995. Other licensee employees were contacted and interviewed during this inspection.

2.0 PURPOSE

The purpose of this inspection was to review the licensee's capability for measuring and quantifying radioactive liquid and gaseous effluents during normal and emergency operations.

3.0 AUDITS

The inspector reviewed the QA Audit report BV-C-94-10 for the radioactive effluent control programs with respect to Technical Specification requirements. The audit was conducted by the Quality Services Unit and no audit findings and/or recommendations were identified. The inspector also noted that the audit was performed by qualified auditors. Although the audit report did not contain effluent control areas, the associated audit lists and field notes were deemed to have thoroughly assessed the radioactive liquid and gaseous effluent control programs. The inspector had no further questions in this area.

4.0 LIQUID AND GASEOUS EFFLUENT CONTROL PROGRAMS

4.1 PROGRAM CHANGES

There were no significant changes in the licensee's radioactive liquid and gaseous effluent control programs since the previous inspection conducted in August 1993.

During previous inspections conducted in April 1992 and in August 1993, the inspector noted that the licensee employed a "specialist concept" for these programs. Each specialist was assigned to a program and had the responsibility for that program. During this inspection, the inspector noted that the "specialists" performed their responsibilities in a very professional manner and demonstrated their ownership of the assigned area. The inspector also noted that the effluent specialist maintained the excellent effort to minimize radioactive releases to the environment.

Based on the above reviews, the inspector determined that the "specialists" enhanced the effluent control programs.

4.2 REVIEW OF SEMIANNUAL RADIOACTIVE EFFLUENT REPORTS

The inspector reviewed the Semiannual Radioactive Effluent Reports for 1993 and the first half of 1994. The semiannual effluent reports provided the total released radioactivity in liquid and gaseous effluents. The inspector also reviewed the 1993 and 1994 calculated projected radiation doses to the public. The projected radiation doses to the total body and organs of members of the public were well below regulatory limits specified in the licensee's Technical Specifications. The inspector also reviewed available effluent release records for the second half of 1994 and 1995 and determined that these records did not contain obvious anomalous measurements or omissions. The inspector had no further questions in this area.

4.3 LIQUID AND GASEOUS RADIOACTIVE EFFLUENT CONTROLS

The inspector reviewed the licensee's effluent control procedures and radioactive liquid and gaseous discharge permits to determine the adequacy of implementation of the Technical Specifications and of the Offsite Dose Calculation Manual (ODCM) for both units.

Through reviews of selected liquid and gaseous discharge permits and the associated procedures, and discussions with the licensee regarding discharges, the inspector determined that the licensee continued to implement effective control over radioactive liquid and gaseous releases from the site.

On January 4, 1995, at 1757 hours, the licensee commenced the Unit 1 reactor containment purge through the Ventilation Vent pathway (Ventilation Vent Radiation Monitor: RM-VS-104). The licensee (Senior Effluent Specialist) continuously evaluated the effluent monitoring

results in the control room to ensure that the reactor containment noble gas air concentrations were decreasing at the expected rates. The rate of decrease indicated by the effluent monitor (RM-VS-104) was about 50% each hour. This should occur until the monitor reaches its normal background of about 400 counts per minute. Actually, it did not occur as expected. The licensee's investigation determined that the Pressurizer Relief Tank (PRT) started leaking to the reactor containment at 1700 hours. The effluent specialist also noted that the effluent monitor for the Reactor Building Supplemental Leak Collection and Release System (SLCRS) Noble Gas Monitor went into lower alarm, although it was not the intended effluent pathway for this containment purge. This suggested a damper position problem in the SLCRS pathway. Licensee personnel (representatives from Operations, Health Physics, and System Engineers) performed a visual inspection for the PRT leak and the damper position of the SLCRS vent system and found the PRT leak source and the damper alignment error. The licensee immediately corrected the PRT leak and the damper position. The effluent specialist performed a projected dose calculation for the SLCRS pathway release and the results were well below TS limits.

Based on the above reviews, the inspector determined that the licensee continued to implement excellent effluent control programs.

5.0 RADIATION MONITORING SYSTEMS (RMS)

5.1 CALIBRATION OF RADIOACTIVE EFFLUENT RMS

The inspector reviewed the recent calibration results for the following radioactive effluent monitors to determine the implementation of the Technical Specification requirements:

UNIT 1:

- o Liquid Waste Effluent Monitor
- o Liquid Waste Contaminated Drain Line Monitor
- o Auxiliary Feed Pump Bay Drain Monitor
- o Component Cooling Recirculation Spray Heat Exchanges Monitor
- o Process Vent Noble Gas Monitor
- o Auxiliary Building Vent Noble Gas Monitor
- o Reactor Building/Supplementary Leak Collection Noble Gas Monitor
- o Containment Ventilation Noble Gas Monitor

UNIT 2:

- o Liquid Waste Effluent Monitor
- o Ventilation System Noble Gas Monitor
- o Elevated Release Noble Gas Monitor
- o Decontamination Building Vent Noble Gas Monitor
- o Waste Gas Storage Vault Noble Gas Monitor
- o Condensate Polishing Building Vent Noble Gas Monitor

The Instrument and Control (I&C) and Health Physics Departments had the responsibility to perform electronic and radiological calibrations for the above RMS. All reviewed calibration results were within the licensee's acceptance criteria.

During the review of electronic calibration results, the inspector noted that the licensee performed electronic alignments as spot checks for some of the above RMS. Electronic alignments should be performed for the intended or expected monitoring range of the RMS. The licensee stated that procedures will be reviewed and updated, as necessary, to reflect this matter. Electronic alignment techniques and corrections will be reviewed during a subsequent inspection.

Based on the above review, the inspector determined that the licensee had effective calibration techniques.

5.2 OPERABILITY OF EFFLUENT RMS

Although the calibration results were within the licensee's acceptance criteria, the licensee continued to track the operability for all effluent RMS using a daily surveillance log and history of each effluent RMS.

The inspector noted that the licensee continued the comparison between actual effluent monitor reading results and expected monitor readings determined from the laboratory sample measurements to ensure that the effluent monitors responded acceptably. The inspector reviewed these comparison results for liquid and gaseous effluent monitors (1993 and 1994) during this inspection. The results indicated that the comparisons were in reasonably good agreement.

Based on the above reviews, the inspector determined that the licensee continued to perform excellent tracking techniques for the operability of effluent RMS.

6.0 AIR CLEANING SYSTEMS

The inspector reviewed the licensee's most recent surveillance test results as part of the examination of the implementation of the Technical Specification requirements and FSAR commitments for the following systems for both units:

- o Control Room Emergency Habitability Systems
- o Supplemental Leak Collection and Release Systems (SLCRS)
- o Containment Buildings

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

The inspector also reviewed Unit 2 SLCRS unfiltered leak collection flow test results. The purpose of this test was to verify SLCRS Environmental Qualification air flow rates (air balance tests) in various cubicles, rooms, and areas. All test results were within the licensee's acceptance criteria. The inspector discussed with the responsible individual (System Engineer) the air balance test techniques and benefits. Based on these tests, the licensee now has a complete understanding of the air movement during normal and emergency operations. The inspector determined that the responsible System Engineer had an excellent knowledge not only of TS requirements but also of the plant air balance.

Based on the above review, the inspector determined that the licensee was implementing the requirements for the air cleaning systems effectively.

7.0 [' INTERVIEW

i. inspector met with licensee representatives (denoted in Sections 1.1 and 1.2 of this inspection report) at the conclusion of the inspection on February 3, 1995. The inspector summarized the purpose, scope, and findings of the inspection. The licensee acknowledged the inspection findings.