

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-334/94-06 and 50-412/94-06
Docket Nos. 50-334 and 50-412
License Nos. DPR-66 and NPF-73
Licensee: Duquesne Light Company
Post Office Box 4
Shippingport, Pennsylvania 15077
Facility Name: Beaver Valley Power Station, Units 1 and 2
Inspection At: Shippingport, Pennsylvania
Inspection Conducted: March 7-11, 1994

Inspector: Laurie Peluso 03/29/94
Laurie Peluso, Radiation Specialist
Effluents Radiation Protection Section (ERPS)
Facilities Radiological Safety and
Safeguards Branch (FRSSB)
Date

Approved by: Judith A. Joustra 3/29/94
Judith A. Joustra, Chief, ERPS, FRSSB,
Division of Radiation Safety and Safeguards (DRSS)
Date

Areas Inspected: Announced safety inspection of the Radiological Environmental Monitoring Program (REMP) including: management controls, quality assurance audits, quality control program for analytical measurements, meteorological monitoring program, and implementation of the program.

Results: Within the areas inspected, the licensee continued to maintain an effective REMP. No safety concerns or violations of NRC requirements were identified.

DETAILS

1.0 Individuals Contacted

1.1 Licensee Personnel

- R. Dinello, Contractor, Senior Environmental Engineer
- * S. LaVie, Senior Health Physics Specialist
- * W. McIntire, Director, Safety and Environmental Services
- * A. Mizia, Quality Services Unit Supervisor
- D. Murcko, Instrument and Controls Engineer
- * B. Sepelak, Licensing Engineer
- * D. Sperry, Division V.P. Nuclear Operations
- * J. Wenkhous, Senior Environmental Services Specialist
- * R. Vento, Manager, Health Physics
- S. Vicinie, Lead Auditor, Quality Services

1.2 Nuclear Regulatory Commission (NRC) Personnel

P. Sena, Resident Inspector

* Denotes those individuals present at exit interview on March 11, 1994. Other licensee personnel were also interviewed during this inspection.

2.0 Purpose

The purpose of this inspection was to verify the licensee's capability to implement the Radiological Environmental Monitoring Program (REMP) and the Meteorological Monitoring Program (MMP) during normal and emergency operations.

3.0 Management Controls

3.1 Organization and Program Responsibilities

The inspector reviewed the organization responsible for implementation of the REMP and discussed with the licensee any changes since the inspection conducted in April 1993. Since the previous inspection, there have been no changes in either the organization or the oversight of the REMP.

3.2 Quality Assurance Audits

The inspector reviewed the following audit reports as part of the evaluation of the implementation of Technical Specifications (TS) requirements.

BV-C-93-05, QA Audit of Site Environmental Programs, dated January 20, 1994.

VEND-93-126, Pickering, Lowe, and Garrett (PLG, Inc.), dated March 16, 1993 (contractor for analysis of meteorological monitoring instrumentation).

The above audits were performed by qualified personnel and were of sufficient technical depth to properly assess the implementation of both programs. The inspector noted that the BV-C-93-05 report contained a brief synopsis of the audit but did not contain adequate detail to represent the areas audited. However, the inspector reviewed the audit checklists and field notes and determined that the audit probed for programmatic weaknesses and effectively assessed the quality of the REMP including the MMP. There were no audit findings, however one observation was determined. The inspector also reviewed the associated surveillance reports and noted that the surveillances were of sufficient technical depth to assess particular aspects of the REMP and MMP.

The inspector noted that the licensee's vendor audit was conducted by a different licensee using the Nuclear Procurement Issues Committee (NUPIC) checklist. The audit was performance based and verified that the vendor satisfactorily met 10 CFR Part 50, Appendix B requirements. The NUPIC audit had been accepted by the licensee as the audit of the vendor, PLG. The NUPIC audit appeared to meet the licensee's vendor audit criteria.

3.3 Annual Report

The inspector reviewed the Annual Radiological Environmental Report for 1992. This report provided a comprehensive summary of the analytical results of the REMP around the Beaver Valley Station and met the TS reporting requirements. The report also included the results of the Land Use Census and the EPA cross check program. No obvious omissions or anomalous data were identified. The reviewed results indicated that all samples were collected and analyzed as required and that the lower limits of detection specified in the TS were met. The inspector also reviewed the selected analytical REMP data records for 1993 and 1994 during this inspection. The reports were complete and the reviewed data indicated no adverse radiological impact on public health or the environment.

4.0 Implementation of the REMP

Members of Safety and Environmental Services have responsibility for implementing the REMP. A representative of the licensee's contractor, Teledyne Brown Engineering Environmental Services (formerly Teledyne Isotopes) collected environmental samples and maintained the sampling equipment. The environmental samples were sent to the contractor laboratory where the analysis was performed and the program summary which is documented in the Annual REMP Report was prepared.

4.1 REMP Procedures

The inspector reviewed the Environmental Procedure Manual (EPM) as part of the evaluation of the implementation of the REMP. The EPM included a description of the program, sample collection procedures, and data submittal and review. The EPM also contained the contractor laboratory's procedures for sample analysis. The inspector noted that the procedures were concise and provided the required guidance for implementing an effective REMP.

In addition to the procedure review, the inspector reviewed the volume meter calibration results for the air samplers. The calibrations were performed as scheduled, using the appropriate procedure, and the results were within the licensee's acceptance criteria. The inspector noted that the licensee conducted weekly inspections of the air samplers and water compositors.

Based on the above review of the manual and discussions with the licensee representatives, the inspector determined that the licensee had a very good procedure manual with which to implement the REMP.

4.2 Direct Observation

The inspector examined selected environmental sampling stations to determine whether samples were being obtained from the locations designated in the Offsite Dose Calculation Manual (ODCM) and whether the air samplers were operable, calibrated, and maintained. These stations included air samplers for particulate and airborne iodines, automatic composite water samplers, milk, vegetation, and a number of thermoluminescent dosimetry (TLD) stations for direct ambient radiation measurements. All the air sampling equipment was operational, TLDs were placed at their designated locations, and the water compositors were operating and taking samples. Milk and vegetation samples were available and collected from the locations specified in the ODCM. The

inspector witnessed the contractor collect water samples.

Based on independent observations and interviews with the contractor, the inspector determined that sample collection was performed correctly according to the appropriate procedures.

5.0 Environmental Dosimetry Program Comparison

The results of the NRC Thermoluminescent Dosimeter (TLD) Direct Radiation Monitoring Network are published quarterly in NUREG-0837. This network provides continuous measurements of the ambient radiation levels around 72 nuclear power plant sites throughout the United States. Each site is monitored by approximately 30 to 50 TLD stations in two concentric rings extending to about five miles from the nuclear power plant.

One purpose of this network is to provide a means of comparing the results of licensee direct radiation monitoring programs conducted around individual nuclear power plants with that of the nationwide NRC program. Therefore, several NRC TLDs are collocated with selected licensee TLD stations.

The inspector noted that the licensee tracks, trends, and reviews the TLD results, including those of the NRC-collocated TLDs. The inspector discussed and reviewed the results with the licensee and noted that the licensee's quarterly results during 1993 were generally slightly lower than those of the NRC. This difference may be due to different dosimeter types, different transit doses, differences in time of field exposure, and specific TLD location variations. With the above uncertainties and variabilities considered, the results of the two sets of TLDs are in good comparison.

6.0 Quality Assurance and Quality Control for Analytical Measurements

The inspector reviewed the licensee's programs for quality assurance (QA) and quality control (QC) to determine whether the licensee had adequate control with respect to sampling, analyzing, and evaluating data for the implementation of the REMP.

The licensee had a very comprehensive QA/QC program which included the contractor laboratory, the quality control laboratory, and an independent laboratory. The quality control program for the analysis of environmental samples included blind duplicates, splits, and spiked samples. The results were generally in agreement with the known values, with few exceptions. Reasons for the disagreements were investigated and resolved. The results were documented in the annual report.

Each laboratory maintain their own QC program including participation in the EPA cross check program. The inspector reviewed the results and noted that they were within the EPA acceptance criteria. The results were documented in the annual report.

The inspector noted that the licensee continued to maintain an excellent QA program to ensure that the routine and non-routine REMP sample results were thoroughly reviewed by the Senior Environmental Services Specialist. Any results that appeared suspect were recounted and reviewed.

Based on the above reviews and discussions with the licensee, the inspector determined that the licensee had excellent QA and QC programs.

7.0 Meteorological Monitoring Program (MMP)

The inspector reviewed the licensee's MMP to determine whether the instrumentation and equipment were operable, calibrated, and maintained. The meteorological tower is equipped with redundant wind speed, wind direction, and temperature sensors at the 35, 150, and 500 foot elevations. Calibrations were performed quarterly, which is more frequent than the semi-annual TS requirement. The calibrations were performed by the vendor using the licensee's procedures. The inspector reviewed the most recent calibration results and noted that the calibrations were performed as scheduled and the results were within the licensee's defined acceptance criteria.

The inspector verified the licensee's capability to obtain real-time meteorological conditions, such as the wind speed, wind direction, and delta temperature values from the primary tower equipment. The inspector compared the real-time data from the strip charts at the weather station to the digital 15-minute averages displayed in the Control Room, Unit 1. The results were in agreement taking into account the variance in the data. The inspector noted that all the sensors on the tower were operating at the time of the inspection.

Based on the above inspector observations, record review and discussions with the licensee representatives, the inspector determined that the licensee continued to implement an effective MMP.

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 March 11, 1994. The inspector summarized the purpose, scope, and findings of the inspection. The licensee acknowledged the inspection findings.