

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 50-334/85-28

Docket No. 50-334

License No. DPR-66 Priority - Category C

Licensee: Duquesne Light Company

P. O. Box 4

Shippingport, PA 15077

Facility Name: Beaver Valley Power Station, Unit 1

Inspection At: Shippingport, Pennsylvania

Inspection Conducted: December 16-20, 1985

Inspectors: J. McFadden 1-22-86  
J. McFadden, Radiation Specialist date signed

T. Dargatzis 1/23/86  
T. Dargatzis, Radiation Specialist date signed

Approved by: M. Shanbaky 1/23/86  
M. Shanbaky, Chief date signed  
Facilities Radiation Protection Section

Inspection Summary: Inspection on December 16-20, 1985 (Report No. 50-334/85-28).

Areas Inspected: Routine unannounced inspection of the radiation protection program including: organization and management controls, qualifications and training, ALARA program, and quality assurance audits. The inspection involved 74 inspector-hours onsite by two regionally-based inspectors.

Results: No violations were identified.

## DETAILS

### 1. Persons Contacted

During the course of this routine inspection, the following personnel were contacted or interviewed.

#### 1.1 Licensee Personnel

- \*D. G. Blair, Director, Radiological Health Services
- \*W. D. Canan, Sr. H.P. Specialist
- E. D. Cohen, Sr. H.P. Specialist
- \*D. O. Girdwood, Director, Radiological Operations
- \*C. R. Haney, Director, T&C Training
- M. S. Helms, H.P. Specialist
- \*J. A. Kosmal, Manager, Radiological Control
- \*F. J. Lipchick, Senior Licensing Supervisor
- L. K. Parkhill, Director, Prog. Dev.
- \*D. J. Roman, QA Maintenance Supervisor
- \*J. D. Sieber, General Manager, Nuclear Services
- M. O. Sommerville, Senior H.P. Specialist
- \*R. M. Vento, Director, Radiological Engineering
- \*W. F. Wirth, Director, Effl. Control and Environmental Monitoring

\*Attended the exit interview on December 20, 1985.

Additional licensee employees were contacted or interviewed during this inspection.

### 2.0 Purpose

The purpose of this routine inspection was to review the licensee's radiation protection program with respect to the following elements:

- Organization and Management Controls
- Qualifications and Training
- ALARA
- Quality Assurance Audits

### 3.0 Organization and Management Controls

The licensee's organization and management control of the radiological protection function were reviewed against criteria contained in:

- 10 CFR 50.34(b)(6), "Contents of applications; technical information"
- Licensee Technical Specification 6.0, "Administrative Controls"
- Licensee Radiological Controls Manual, Appendix 1, "Rad Con Administrative Guide"

The licensee's performance relative to these criteria was reviewed by discussions with the radiological protection staff. The licensee's management organization had undergone a restructuring and retitling. This activity affected changes in the radiological protection function. The current offsite and facility organizational charts in the facility technical specifications reflect the previous administrative and functional reporting chains for the radiological protection function. The licensee stated that the NRC had been notified of the reorganization and that required revisions to the facility technical specifications would be submitted.

The licensee stated that during the transitional phase of the reorganization, the functions and responsibilities of each position remained in force until the effective date of new appointments/reappointments and that each employee was given a copy of their official job description and duties on or before the date of their appointment. The inspectors reviewed the job descriptions for each of the positions within the radiological protection organization.

As of the time of this inspection, Appendix 1, Rad Con Administrative Guide, of the Radiological Control Manual had not yet been updated to reflect the new radiological control organization. The licensee stated that an updated Appendix 1 would be issued within several weeks. This matter will be reviewed in a future inspection. (50-334/85-28-01)

Within the scope of this review, no violations were identified.

#### 4.0 Qualifications and Training

The licensee's qualification and training programs for radiological protection management, supervision, and professional/technical personnel were reviewed against criteria contained in:

- 10 CFR 19.12, "Instructions to workers"
- Licensee Technical Specifications 6.3 and 6.4, "Facility Staff Qualifications" and "Training", respectively
- Licensee Radiological Controls Manual, Appendix 1, Part VI, "Qualifications and Training"
- Licensee Training Administrative Manual, Vol. 2, Chap. 3, Section 3.2, "Radiological Controls Training Programs-Radiological Operations Personnel Continuing Training"
- Regulatory Guide 1.8, "Personnel Selection and Training"
- ANSI N18.1-1971, "Selection and Training of Nuclear Power Plant Personnel"

The licensee's performance relative to these criteria was reviewed by discussions with radiological protection and training personnel and by review of training and personnel records.

The inspectors verified that a selected number of the radiological protection staff met or exceeded the minimum qualifications of ANSI N18.1-1971. This process required the review of records in the training and personnel departments and interviews with certain radiological protection personnel. Verification of the qualifications of additional personnel will be performed in a subsequent inspection. For the portion of the staff examined, there appeared to be a good blend of related experience and training and, in many cases, the minimum selection criteria were far exceeded.

Facility technical specification 6.4, "Training", requires that a retraining and replacement training program for the facility staff be maintained under the direction of the training department. The stated objective of the Radiological Operations Personnel Continuing Training Program is to assure that radiological control personnel remain competent to perform or supervise responsibilities under both routine and emergency conditions. This program presently consists of nineteen training modules developed by the training department for, and in response to, the expressed need of the radiological protection organization. These modules address the type of topics enumerated in Section 5.5 of ANSI N18.1-1971 such as emergency plans, normal operating procedures, normal plant conditions and processes, abnormal operating procedures, general safety topics, and changes in equipment and operating procedures. Some of these modules are also used to fulfill specific requirements for general employee, radiation worker, and respiratory protection retraining. These modules vary in length from one to four days. A selected set of modules is usually presented for approximately eleven consecutive weeks. Approximately four sets are scheduled per year.

Training department records indicated that there was uneven participation by the radiological protection staff in the modular retraining program. Several staff members stated that, although they had not attended any of the modular retraining sessions for several years, professional meetings/seminars or special one-time on-site courses had been attended.

Within the scope of this review, no violations were identified.

#### 5. ALARA

The licensee's implementation of an ALARA program was reviewed against criteria contained in:

- Regulatory Guides 8.8 and 8.10
- Radcon Procedure 8.5, "ALARA Review"

- Site Administrative Procedure, Chapter 22, "Nuclear Group ALARA Review Committee"
- Site Administrative Procedure, Chapter 23, "Occupational Radiation Exposure Reduction"

The licensee's performance relative to these criteria was determined by discussion with the ALARA Coordinator and Director of Radiological Engineering.

The inspectors determined that the ALARA Review Committee had held five meetings since December 1984 as required by the site procedures. There was no major outage in 1985 and planning for the 1986 outage had not begun. The committee's efforts focused on formalizing the participation by various departments on the committee and completion of radiological engineering efforts that began prior to organization of the committee.

The licensee's ALARA efforts included the purchase of equipment to facilitate work on the steam generators. This also involved installation of permanent work platforms and manway cover manipulators and purchase of a manway stud tensioner. The purchase and sharing of other equipment with sister stations having the same design steam generators is being discussed.

A corporate-level goal of 450 man-Rem per year based on a three year average has been established. Although the 3 year average annual exposure has been over 600 man-Rem recently, the low exposures received during the current non-outage year will probably result in achieving the ALARA goal.

Within the scope of this review, no violations were observed.

#### 6.0 Quality Assurance Audits

The licensee's recent audits were reviewed against criteria contained in:

- 10 CFR 50, Appendix B, Criterion XVIII, "Audits"
- Licensee Technical Specification 6.5.2.8, "Administrative Controls - Review and Audit - Offsite Review Committee - Audits"
- Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)"
- ANSI N18.7-1976/ANS-3.2, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants"

The licensee's performance relative to these criteria was reviewed by examination of the third of the three audits of the Radiological Controls Department which were conducted by the QA organization in 1985, by examination of a training audit, and by discussions with QA personnel.

The third 1985 audit of the Radiological Controls Department (BV-1-85-47) covered control of radioactive standards and calibration sources, documentation of fuel receipt and surveys, performance of surveys, instrument maintenance and calibration, posting of controlled areas, labeling and packaging of radioactive materials, and respiratory protection. No deficiencies were identified by the auditors. The two previous audits (BV-1-85-08 covering solid radioactive waste and BV-1-85-30 covering dosimetry and radiation work control) were reviewed in a previous inspection. The practice of performing a yearly audit (consisting of three audits of different areas) of the Radiological Controls Department exceeds the minimum requirements of at least once per 24 months stated in the facility technical specifications (6.5.2.8 - Administrative Controls-Audits) and represents a licensee strength.

Technical Specification 6.5.2.8 covering audits states that the performance, training, and qualifications of the entire facility staff are to be audited at least once per 12 months. Discussions with QA personnel indicated that the audit entitled "BVPS Unit No. 1 Training - ORC" (BV-1-85-13) is the vehicle used to meet this audit requirement. The licensee stated that audit characteristic No. 2 involved checking the training and experience of selected personnel from a wide range of facility departments against the selection criteria of ANSI N18.1-1971. Facility technical specification 6.3 (Administrative Controls - Facility Staff Qualifications) states that each member of the facility and Radiation Protection staff will meet or exceed the minimum qualifications of ANSI N18.1-1971. The inspector noted that the sampling of facility staff for this audit did not include any radiation protection personnel. However, the licensee stated that, in each future annual audit of staff qualifications, a sampling of radiation protection staff will be included. This matter will be reviewed in a future inspection (50-334/85-28-02).

Within the scope of this review, no violations were identified.

## 7.0 Exit Interview

The inspectors met with the personnel denoted in section 1.1 at the conclusion of the inspection on December 20, 1985. The scope and findings of the inspection were discussed at that time. At no time during this inspection was written material provided to the licensee by the NRC inspectors.