

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 50-334/84-17

Docket No. 50-334

License No. DPR-66 Priority -- Category C

Licensee: Duquesne Light Company

Post Office Box 4

Shippingport, Pennsylvania 15077

Facility Name: Beaver Valley Power Station, Unit 1

Inspection At: Shippingport, Pennsylvania

Inspection Conducted: July 9-13, 1984

Inspectors: T. Dragoun 8/1/84  
T. Dragoun, Radiation Specialist date

Jason C. Jang 8/1/84  
J. Jang, Radiation Specialist date

Approved by: M. M. Shanbaky 8/2/84  
M. M. Shanbaky, Chief, FRP Section, Radiological Protection Branch date

Inspection Summary:

Inspection on July 9-13, 1984, (Report No. 50-334/84-17)

Areas Inspected: Routine, unannounced inspection of the licensee's radiation protection program including: organization and management controls; internal exposure control and assessment; ALARA program; radcon technician retraining; control of effluents; and unusual event reviews. The inspection involved 64 inspector-hours on site by two region based inspectors.

Results: No violations were identified.

## DETAILS

### 1.0 Persons Contacted

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

#### 1.1 Licensee Personnel

J. D. Sieber, General Manager, Nuclear Services  
J. A. Kosmal, Radcon Operations Coordinator  
D. G. Blair, Senior HP Specialist  
E. D. Cohen, Senior HP Specialist  
B. Haney, Senior HP Specialist  
S. F. LaVie, Senior HP Specialist  
V. Linnenbom, Reactor Control Chemist  
A. T. Lonnet, HP Specialist  
J. F. Rathke, I&C Coordinator  
E. Schnell, Radcon Supervisor  
B. F. Sepelak, Nuclear Safety & Licensing Engineer  
M. O. Somerville, HP Associate  
R. M. Vento, Radiological Programs Coordinator  
J. W. Wenkhous, Environmental Protection Programs Coordinator

#### 1.2 NRC Personnel

W. Troskoski, Senior Resident Inspector

All of the above personnel attended the exit interview on July 13, 1984.

### 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
- Internal Exposure Control and Assessment
- ALARA Program
- Technician Retraining
- Control of Effluents
- Unusual Event Reviews

### 3.0 Organization and Management Controls

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

- Technical Specification 6.3, "Facility Staff Qualifications"
- ANSI N18.1-1971, "Selection and Training of Nuclear Power Plant Personnel"
- Regulatory Guide 1.8, "Personnel Selection and Training"
- Technical Specification 6.2, "Organization"
- Licensee Radiological Controls Manual, Appendix 1

The licensee's performance relative to these criteria was determined by discussions with the Radcon Operations Coordinator and a review of job descriptions and responsibilities.

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

### 4.0 Internal Exposure Control and Assessment

The licensee's program for internal exposure control and assessment was reviewed against criteria contained in:

- 10 CFR 20.103, Exposure of Individuals to Concentrations of Radioactive Materials in Air in Restricted Areas
- Regulatory Guide 8.9, "Acceptable Concepts, Models, Equations and Assumptions for a Bioassay Program"
- 10 CFR 20.401, Record of Surveys, Radiation Monitoring, and Disposal
- Regulatory Guide 8.15, "Acceptable Programs for Respiratory Protection"
- ANSI N343, "Internal Dosimetry for Mixed Fission and Activation Products"
- ANSI Z86.1, "Commodity Specification for Air"
- Regulatory Guide 8.26, "Applications of Bioassay for Fission and Activation Products"

The licensee's performance relative to these criteria was determined by:

- interviewing selected personnel
- review of MPC-hours logs and internal exposure reports

-- review of whole body counting facilities.

Within the scope of this review, the following program improvement items were identified:

The licensee routinely verifies the quality of the breathing air supply using on site sampling equipment. Periodically, air samples are sent to a contractor (Air Quality Services, Inc.) for independent testing and analysis. The results are then used as a check of the on-site analysis. The licensee did not know which analytical procedures were used by the contractor. The licensee agreed to ensure that the contractors procedures were acceptable under ANSI Z86.1. (84-17-01)

The licensee uses sodium iodide detectors to screen workers for internal deposition of I-131 and Co-60. Personnel with suspected uptake are sent to the University of Pittsburgh for whole body counting and evaluation. The licensee has evaluated certain aspects of the University's whole body counting technique and uses a phantom for annual quality assurance tests. However, the licensee has not thoroughly reviewed the University's technique for compliance with Regulatory Guide 8.26 (ANSI N343). The licensee agreed to conduct a review and to arrange for access by Regional inspectors to review the facilities in the future. (84-17-02)

These items will be reviewed during a subsequent inspection.

#### 5.0 ALARA Program

The licensee's operational ALARA program was reviewed against criteria contained in:

- 10 CFR 20.1, Purpose
- Regulatory Guide 8.8 and 8.10 (ALARA guidance)

The licensee's performance relative to these criteria was determined from discussions with the Senior ALARA Specialist and a review of selected records.

The inspectors determined that the licensee has not completed action regarding parts of Inspector Follow-up Item 83-30-02 including:

- describe a methodology for performing ongoing job reviews
- provide for tracking dose versus percent job completion
- address a means to determine the effectiveness of the program.

These matters will be reviewed during a subsequent inspection.

## 6.0 Technician Retraining

The retraining program for radcon technicians was reviewed against criteria contained in:

- Technical Specification 6.4, Training
- ANSI N18.1-1971 - Selection of Training of Nuclear Power Plant Personnel
- Regulatory Guide 1.8, Personnel Selection and Training

The licensee's performance relative to these criteria was determined from discussions with the Training Coordinator and a review of lesson plans and student handout material.

The inspectors noted that the licensee has identified a weakness in the technician retraining in that instruction in technical topics has been infrequent and not all technicians participate. The licensee intends to provide technical training for all technicians once each six weeks beginning in August 1984.

## 7.0 Control of Effluents

The inspectors reviewed the licensee's radioactive effluent control program to determine compliance with Technical Specification Section 3/4-11 regarding limits on release rates, concentrations, and total quantities.

This review included discussions with the Environmental Assessment Group and reviews of Radcon Procedures 6.5, 6.6, and 6.10 pertaining to control of radioactive liquid and gaseous releases.

Within the scope of this review, the inspectors determined the licensee was in compliance with the Technical Specifications and no violations were observed.

## 8.0 Unusual Event Reviews

The licensee's review of unusual events was reviewed against criteria contained in :

- Technical Specification 6.6, Reportable Occurrence Action
- Station Administrative Procedures, Chapter 13, "Preparation of Draft Incident Reports and Conduct of Critiques", Revision 3
- 10 CFR 20.403, Notification of Incidents
- 10 CFR 20.405, Reports of Overexposures and Excessive Levels and Concentrations

The licensee's performance relative to these criteria was determined from discussions with the Radcon Supervisor and a review of selected records.

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

#### 9.0 Exit Interview

The inspectors met with licensee personnel denoted in Section 1.1 at the conclusion of the inspection on July 13, 1984. 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 inspector.