U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-334/84-31

Docket No. 50-334

License No. DPR-66 Priority -- Category C

Licensee: Duquesne Light Company

Post Office Box 4

Shippingport, PA

Facility Name: Beaver Valley Power Station, Unit 1

Inspection At: Shippingport, PA

Inspection Conducted: December 17-21, 1984

Inspectors: P. Clemons
P. Clemons, Radiation Specialist — 3/6/85 date

P. Clemons for
T. Dragoun, Radiation Specialist — 3/6/85 date

Approved by: M. Shanbaky
M. Shanbaky, Chief, PWR
Radiological Safety Section,
EPRPB — 3/6/85 date

Inspection Summary:

Inspection on December 17-21, 1984, Report No. 50-334/84-31

Areas Inspected: Routine, unannounced safety inspection of the licensee's radioactive materials transportation program including: management controls and organization; quality assurance and quality control program; procurement and use of packagings; classification and solidification of waste.

Results: Two apparent violations were identified: (1) failure to conduct a quality control program to assure compliance with 10 CFR 61.55 and 61.56 (2) failure to conduct audits of transportation activities per 10 CFR 50, Appendix B.

DETAILS

1. Persons Contacted

1.1 Licensee Personnel

J. D. Sieber, Senior Manager - Nuclear Group
J. A. Kosmal, Manager - Radiological Controls
S. C. Fenner, Director, Operations Quality Control
D. G. Blair, Senior Health Physics Specialist
W. D. Canan, Senior Health Physics Specialist
K. H. Gibson, Quality Assurance Engineer
H. J. Jenkins, Rad Waste Coordinator
J. D. Johns, Quality Assurance Engineer
F. J. Lipchick, Senior Compliance Engineer
A. F. Mahan, Health Physics Specialist
C. V. Sabol, Quality Assurance Engineer
E. A. Schnell, Radcon Supervisor
B. F. Sepelak, Nuclear Service Engineer
M. O. Somerville, Health Physics Associate
D. M. Vento, Radiation Programs Coordinator

1.2 NRC Personnel

W. M. Troskoski, Senior Resident Inspector
D. M. Johnson, Resident Inspector

All personnel above attended the exit interview on December 21, 1984.

2. Purpose

The purpose of this routine inspection was to review the licensee's radioactive materials transportation program with respect to the following elements:

- Management controls and organization
- Quality Assurance and Quality Control
- Procurement and use of packagings
- Classification and solidification of waste

3. Management Controls and Organization

The responsibilities for transportation activities are shared by the Operations and Radcon Departments. One HP Associate assists in the preparation of shipping documents and one Senior HP Specialist coordinates the vendor analysis of waste samples. The Manager of Radiological Controls retains overall responsibility. Material is prepared for shipment and loaded by Operations personnel under the direction of the

Operations - Rad Waste Coordinator. Procedures are available for each activity.

A proposed reorganization will assign responsibility for shipping/receiving to the Director - Radiological Operations (new position). However, the responsibility for radwaste processing has not been specifically assigned. The licensee indicated that the reorganization may be revised prior to implementation to assign this responsibility. This matter will be reviewed in a future inspection (84-31-01). Training for all personnel is periodically provided at the licensee's training center by various subcontractors. These courses provide personnel with training in the appropriate regulations.

Within the scope of this review no violations were identified.

4. Quality Assurance and Quality Control

10 CFR 71.101 "Quality assurance requirements" requires the licensee to establish a Quality Assurance (QA) program for transport packages satisfying eighteen criteria listed in the regulations. In lieu of a separate program, the licensee has incorporated the QA of transport packages into the existing station QA program that was approved by the commission pursuant to 10 CFR 50, Appendix B.

Criterion XVIII, "Audits", of Appendix B, Part 50 requires that a comprehensive system of planned and periodic audits shall be carried out to verify compliance with all aspects of the quality assurance program for transport packages and to determine the effectiveness of the program.

The licensees implementation of this program was reviewed relative to the regulatory requirements and the recommendations provided in Regulatory Guide 7.10 "Establishing Quality Assurance Programs for Packaging Used in the Transport of Radioactive Material".

The licensee's program is described in the QA Manual. This manual has correctly classified transport packages as Category 1 - Safety Related. It is clear that the HP organization is responsible for the selection and procurement of transport packages. However, the inspector determined that QA oversight is not provided for selection and procurement of the transport packages. Also, when packagings are delivered from vendors, QA does not provide receipt inspection of these items nor verify that the required documentation is provided by the vendor. Likewise, when the packages are stored, maintained or used by the operations personnel, QA does not specifically examine the procedures but may audit selected procedures during the annual review.

The inspectors reviewed the QA audits of transportation activities for 1983 and 1984. The audit plan indicated that Criteria I, II, VI, XII and XVII of 10 CFR 50 Appendix B would be reviewed. However, both audits as performed, were limited in scope and reviewed only Criterion V, compliance with Instruction, Procedures and Drawings.

The QA audits were performed by teams of two Operations QA personnel. One of the auditors had received some training regarding transportation regulations. However, the licensee could not establish that the auditors were knowledgeable of transportation activities as delineated in Regulatory Guide 1.146, ANSI N45.2.3, and ANSI NQA-1. The licensee has not used experienced personnel to audit the station program.

The inspector stated that these weaknesses indicate a failure to conduct adequate Quality Assurance audits of transportation activities and constitutes an apparent violation of 10 CFR 50, Appendix B, Criterion XVIII "Audits".

5. Procurement and Use of Packagings

On October 29, 1984, the licensee shipped 17.5 Curies of solidified licensed material to a burial site using the HN-100 shipping cask. The licensee is a registered user of the shipping cask and a custom designed solidified waste container. The Certificates of Compliance (C of C) for these packages were available on site. Loading procedures have been developed based on the manufacture's recommendations. Prior to loading there is a mechanical inspection of the package by Quality Control (QC) personnel. The operations and QC personnel have been trained and qualified in the radwaste regulations and station operating procedures. The inspector noted that the C of C for the HN-100 cask requires that the cavity drain line plug be installed with a sealant. The licensee's documentation did not specifically indicate the proper use of sealant with each reinstallation of the drain line plug. The inspector discussed with the licensee the significance of this step in the procedures and that an improperly installed and sealed drain plug may result in leaks from the container. The licensee stated that a verification step will be added to the loading procedure to insure proper installation and sealing of drain line plugs. This matter will be reviewed in a future inspection (84-31-03).

6. Classification and Solidification of Waste

The licensee's low level waste generally consists of solidified resins and evaporator bottoms, mechanical filters, and compacted Dry Active Waste. Each shipment is individually sampled. The radioisotope type and quantity determined by an offsite vendor. The licensee periodically samples the waste streams and isotopic analyses are performed by the same vendor. The licensee's procedures provide dose rate to curie conversion factors. These factors were developed in 1975. The licensee stated that these factors are not currently in use. The licensee indicated that these factors will be revised in the future to incorporate the waste stream data prior to use in calculating Curie contents of waste packages.

The analysis of each shipment by the vendor is reviewed by a Senior HP Specialist. This data is used to determine the classification of the waste. However, there is no independent review by QC of the data or the calculations performed to classify the waste. The licensee also stated

that QC does not inspect the solidified waste to verify the structural stability.

10 CFR 20.311(d)(3), "Transfer for disposal and manifests", requires the licensee to "conduct a quality control program to assure compliance with 61.55 and 61.56 of this chapter"...

10 CFR 61.55 and 61.56 requires, in part, that solid waste shall not contain free standing liquid greater than 1% of the waste volume, the waste is properly classified, and the waste is structurally stable.

The inspector determined that on October 29, 1984, the licensee shipped 17.5 Curies of solidified licensed material to a waste burial site and the licensee did not conduct a quality control program to assure that the package did not contain free standing liquids greater than 1% of the waste volume, that the waste was properly classified; and that the waste was structurally stable.

The failure to conduct a quality control program to assure compliance with 61.55 and 61.56 represents a violation of 10 CFR 20.311(d)(3) (84-31-04).

7. Exit Interview

The inspector met with the personnel denoted in Section 1.0 at the conclusion of the inspection on December 21, 1984. The inspector discussed with the licensee's management the scope of the inspection and the inspection findings including the identified violations. At no time during this inspection effort was written material provided to the licensee by the NRC inspector.