U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-440/84-30(DRSS)

Docket No. 50-440 License No. CPPR-148

Licensee: Cleveland Electric Illuminating Company
Post Office Box 5000
Cleveland, OH 44101

Facility Name: Perry Nuclear Power Plant, Unit 1

Inspection At: Perry Site, Perry, OH

Inspection Conducted: January 7-11, 1985

D. E. Miller

Inspector: D. E. Miller 1/28/85
Date

L. R. Greger

Approved By: L. R. Greger, Chief 1/28/85
Facilities Radiation Protection Section Date

Inspection Summary

Inspection on January 7-11, 1985 (Report No. 50-440/84-30(DRSS)
Areas Inspected: Routine announced preoperational inspection of the radiation protection and radwaste programs, including: organization, management controls, qualifications, and training; procedures; solid, liquid, and gaseous radwaste systems; and status of preoperational testing procedures and testing. Also reviewed was IE circulars and information notices. The inspection involved 35 inspector-hours onsite by one NRC inspector.
Results: No violations or deviations were identified.

## DETAILS

1. Persons Contacted

T. Barton, Contract Engineer, Nuclear Design and Engineering Section
*R. Bowers, Corporate Health Physicist, Reliability and Design Assurance Section
*W. Burkhart, Supervisor, Radwaste Unit
D. Byard, Health Physics Supervisor, Health Physics Unit
G. Dunn, Chemist, Chemistry Unit
*K. Kaplan, Senior Engineering Technician, Procurement and Administrative Quality Section
*S. Kensicki, Technical Superintendent, Perry Plant Technical Department
*J. Lausberg, Supervisor, Operational Quality Section, Operational Support and Program Unit
*M. Milkovich, Engineering Aide, Nuclear Licensing and Fuel Management Section
*R. Stratman, General Supervising Engineer, Radiation Protection Section
*E. Traverso, Supervisor, Chemist Unit
*L. VanDerhorst, Plant Health Physicist, Health Physics Unit
*S. Wojton, Senior Engineer, Nuclear Design and Analysis Section
*J. Waldron, Manager, Perry Plant Technical Department

*J. Grobe, Senior Resident Inspector, NRC

*Denotes those present at the exit meeting.

2. General

This preoperational inspection, which began at 1:00 p.m. on January 7, 1985, was conducted to examine progress made in development of the licensee's radiation protection and solid, liquid, and gaseous radwaste programs. Also reviewed was status of preoperational testing procedures and response to selected IE circulars and information notices.

3. Health Physics and Radwaste Organization, Management Controls, and Qualifications

The inspector reviewed the health physics and radwaste units' organization, responsibilities, and authorities; staffing; proposed methods of identification and correction of programmatic weaknesses; communication with employees; and proposed documentation and methods of programmatic implementation. Development of standards and implementing procedure is discussed in Section 5.

Health Physics Unit (HPU)

Since previously reported in Inspection Report No. 50-440/84-13, several health physics related organizational changes have been made, including:

- Three experienced radiation protection technicians (RPTs) have been hired. These technicians meet the qualifications requirements for "Technicians" specified in Section 4.5.2 of ANSI/ANS 3.1-1978.

- One RPT who holds an associates degree in radiation protection sciences has been hired; this technician does not meet the "Technician" requirements.

There were no terminations. The present RPT complement is 16; the proposed complement for one reactor operation is 25. The licensee plans a HPU manning complement of 30-35 for one unit operation; the present complement is 18.

According to licensee representatives, they are actively recruiting additional professional/technical and specialist persons to complete staffing of the HPU. The inspector discussed with the licensee the apparent need to expedite hiring to assure adequate support for the health physics program by Unit 1 fuel load.

During future inspections, the inspector will review HPU organization and management controls to assess readiness for fuel load.

No violations or deviations were identified.

Radwaste Unit

The radwaste unit is currently staffed with a supervisor and seven technicians. Final staffing and job duty proposals have been deferred pending completion of union/management negotiations concerning what liquid and solid radwaste systems operations are to be performed by members of bargaining units. Also, decisions concerning what Unit in the Radiation Protection Section will be responsible for preparing radwaste shipping papers have not been made.

Formal procedures concerning radwaste packaging and shipping are being written; none are yet complete. This matter is further discussed in Section 5.

During future inspections, the inspector will review organization and management controls and qualifications to assess readiness for fuel load.

No violations or deviations were identified.

4. Health Physics and Radwaste Training

The inspector reviewed training provided to health physics and radwaste unit personnel, and plans for future training. Development of the general employee orientation training program was also reviewed.

Health Physics Unit (HPU)

Since the last inspection in July 1984, three additional radiation protection technicians spent ten weeks at an operating reactor during refueling to gain operational commercial reactor experience.

Formal training provided to eleven radiation protection technicians is discussed in Inspection Report No. 50-440/83-36. This training was taught by HPU supervision and a contractor. Future formal training is to be provided by the Training Department; the training program is being developed. There is no firm implementation date.

The licensee has a sufficient number of ANSI/ANS 3.1-1978 qualified radiation protection technicians to provide back-shift coverage barring loss of individuals through termination, promotion, or job change.

Contents of the formal radiation protection technician training program will be reviewed during a future inspection.

No violations or deviations were noted.

Radwaste Unit

Formal training concerning NRC, DOT, and burial site radwaste packaging and shipping requirements is being developed by the Training Department, who will perform the training. As discussed in Section 3, final determination concerning what Unit within the Radiation Protection Section will be responsible for compliance with radwaste packaging/shipping requirements has not been determined.

Contents of the formal training program will be reviewed during a future inspection.

No violations or deviations were noted.

Employee General Orientation Training

This training program is being developed by the Training Department. According to the licensee, the proposed training, which includes security and general health physics subjects, will take about 12 hours. An additional four hours of training in respiratory protection is to be provided to persons who may use respiratory protective devices.

Contents of the orientation training program will be reviewed during a future inspection.

No violations or deviations were noted.

5. Health Physics and Solid Radwaste Procedures

The inspector selectively reviewed the following new or revised OM-11B series health physics procedures to determine if they are consistent with 10 CFR requirements, FSAR commitments, and good health physics practices. Minor problems noted were discussed with licensee representatives. No major problems were identified. The licensee stated that about 20 implementing procedures remain to be written and internally reviewed.

HPI-B9, Revision 0, Emergency Dosimetry Issue
HPI-E2, Revision 2, Sealed Source Leak Tests
HPI-H1, Revision 1, Receipt of Radioactive Material
HPI-J4, Revision 0, Verification of 1000B Exposure Rates
HPI-J5, Revision 1, Calibration of the E520 Survey Meter
HPI-J7, Revision 0, Calibration of the 6112B Teletector
HPI-J15, Revision 1, Calibration and Drift Check of Self-Reading Docket Dosimeters
HPI-J16, Revision 0, Calibration of the Emergency Air Sampler EAS-1
HPI-J20, Revision 0, Calibration of the Tech-50

Procedures for solid radwaste packaging and shipping are being written; none have yet been reviewed and approved by the licensee.

Review of newly developed and revised procedures will continue.

No violations of deviations were identified.

6. Solid Radwaste

The inspector toured the solid radwaste packaging and storage area. The area and equipment appear to be as described in FSAR Section 11.4. The wet solid radwaste packaging system is a conventional cement solidification system designed by United Nuclear Industries. The system is designed to process/package three 55-gallon drums, or various volume liners, at a time. The packaging system includes a conventional remote mechanical drum capper. During the tour, the inspector noted that the licensee was having difficulty making the drum capper work properly for acceptance testing.

The inspector discussed with the licensee the apparent inherent difficulty of establishing a process control program which will assure proper solidification using the three-drum batch process, and the possible need to establish firm contingency plans for packaging of wet radwaste.

Procedures for packaging/shipping solid radwaste are discussed in Section 5. Status of preoperational testing is discussed in Section 9.

No violations or deviations were identified.

7. Liquid Radwaste Processing and Monitoring

The inspector toured the radwaste building. Components and installation of the liquid waste processing systems appear to be as described in the FSAR The inspector noted that the walls and floors are coated or sealed, components are well separated with intervening shielding, adequate space is generally available for component maintenance, and the control room is well layed out.

The inspector noted that there is essentially no leak retaining curbing at entrances to individual cubicles. The licensee stated that the need for such curbing is being evaluated. This matter will be reviewed further during a future inspection.

Most of the liquid waste processing system has been flushed and individual pumps tested. System preoperational testing has not started. Status of preoperational testing is discussed in Section 9.

No violations or deviations were identified.

8. Gaseous Effluent Monitoring Systems

Normal and accident range gaseous effluent monitors and samplers are described in Section 7 of Inspection Report No. 50-440/84-13; several possible problems concerning the ability of the systems to meet certain NUREG-0737 Task Item II.F.1.1 and 2 Clarification Items are discussed also.

Most of the systems are now installed in their original design configuration. The licensee has contracted consultants to review the installed systems to determine compliance with the NUREG clarification items, and to initiate necessary changes and tests. The inspector will review progress made during future inspections.

Preoperational testing will be deferred until all necessary alterations have been made.

No violations or deviations were identified.

9. Status of Preoperational Testing Procedures and Testing

The following test procedures have completed licensee internal review and have been forwarded to NRC Region III for review.

1D17A-P-001, Revision 0, PRMS Off-Gas Post Treatment RMS
1D17B-P-001, Revision 0, PRMS Off-Gas Pretreatment Carbon Vault RMS
1D17D-P-001, Revision 0, PRMS Containment Ventilation Exhaust Subsystem
1D17E-P-001, Revision 0, PRMS Main Steam Line RMS
1D17F-P-001, Revision 0, PRMS Liquid RM Subsystem, Emergency Service Water Loops A and B Rad Monitors
1D17G-P-001, Revision 0, PRMS Liquid Process RM Subsystem, Radwaste Effluent RMs
1D17H-P-001, Revision 0, PRMS Liquid Process RM Subsystem, Nuclear Closed Cooling Water
1D21-P-001, Revision 0, Area Radiation Monitoring System
1P87-P-001, Revision 0, Post Accident Sampling System

The following test procedures have not been forwarded to NRC Region III. These procedures will be reviewed when received.

1D17-P-001, PRMS Non-GE Channels
1D19-P-001, Post Accident Monitoring System
0G50-P-001, Liquid Radwaste System
0G51-P-001, Solid Radwaste Disposal System
1M98-P-001, ESF Inplace Charcoal and HEPA Filter Testing

Preoperation testing of the above systems has not begun. Progress made will be reviewed during future inspections.

No violations or deviations were identified.

10. IE Circulars and Information Notices

The inspector selectively reviewed the following Circulars and Information Notices which have been internally responded to by the licensee.

IE Circulars

- 79-21 "Prevention of Unplanned Releases of Radioactivity." Radwaste tank overflows are hard piped to floor drains which route to radwaste collector tanks or sumps. Valve drain pans drain to radwaste system.

IE Information Notices

- 82-31 "Overexposure of Diver During Work in Fuel Storage Pool." The licensee stated that any such work would be done by special procedure and extensive ALARA review.

- 82-36 "Respirator Users Warning for Certain 5-Minute Emergency Escape Self-Contained Breathing Apparatus." The licensee does not intend to use this apparatus.

- 83-14 "Dewatered Spent Ion Exchange Resin Susceptibility to Exothermic Chemical Reaction." The licensee does not intend to ship dewatered spent resin. Any such packaging/shipping would require 10 CFR 50.59 review.

- 83-21 & 83-67 "Defective Emergency-Use Respirators. The licensee does not intend to use BioPak 60P respirators.

- 83-68 "Respirator User Warning: Defective Self-Contained Breathing Apparatus Air Cylinders." The licensee does not intend to use fiberglass wound aluminum air cylinders described in this notice.

Several Bulletins, Circulars, and Information Notices are being reviewed and internally responded to by the license. These will be selectively reviewed during later inspections.

No violations or deviations were identified.

11. Exit Meeting

The inspector met with licensee representatives (denoted in Section 1) at the conclusion of the inspection on January 11, 1985. Discussed were the scope and findings of the inspection. In response to certain items discussed, the licensee:

a. Acknowledged the inspector's comment concerning the apparent need to expedite hiring to complete staffing of the Health Physics Unit. (Section 3)

b. Acknowledged the inspector's comment concerning the apparent inherent difficulty of establishing an adequate process control program for solid radwaste packaging using the installed equipment. (Section 6)