U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-352/84-20

Docket No. 50-352

License No. CPPR-106 Priority -- Category B

Licensee: Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

Facility Name: Limerick Generating Station

Inspection At: Limerick, Pennsylvania

Inspection Conducted: April 24 and 26-27, 1984

Inspectors: R L Nimitz 6/11/84
R.L. Nimitz, Senior Radiation Specialist date

Approved by: M Shanbaky 6/11/84
M.M. Shanbaky, PhD., Chief, Facilities date
Radiation Protection Section

Inspection Summary: Inspection on April 24 and 26-27, 1984 (Report No.50-352/84-20)

Areas Inspected: Routine, unannounced inspection of the licensee's Radiation Protection Program and Radioactive Waste System Testing including: licensee preparation and planning for fuel transfer and inspection activities; radiation protection procedure development; radioactive waste system testing; and implementation of radiological controls for fuel receipt. The inspection involved 19 inspector-hours onsite by one region-based inspector.

Results: One violation was identified (failure to adhere to radiation protection instrument test and calibration procedures as required by Special Nuclear Material License No. SNM 1926; details paragraph 4.0). The licensee was found to be adequately preparing Radiation Protection Program elements to support new fuel transfer and inspection.

DETAILS

1. Persons Contacted

Philadelphia Electric Company

* D. Dubiel, Senior Health Physicist
* C. Endriss, Regulatory Engineer
* J. Frantz, Assistant Station Superintendent
* G. Leitch, Station Superintendent
* R. Titolo, Applied Health Physicist

Bechtel Power Corporation

W. Hempstead, Start-Up Group Supervisor, Group F

Nuclear Regulatory Commission

J. Wiggins, Senior Resident Inspector
S. Chaudhary, Senior Resident Inspector

* denotes those individuals attending the exit interview on April 27, 1984

The inspector also contacted other licensee personnel during the inspection.

2. Purpose of Inspection

The purpose of this routine inspection was to review the following elements:

- Licensee preparation and planning for performance of fuel transfer and inspection activities
- Licensee Radiation Protection Program procedure developement
- Radioactive Waste System Testing
- Implementation of Radiological Controls for Fuel Receipt Inspection

3. Radiological Controls Program Development for Fuel Transfer and Inspection

The inspector met with licensee representatives to discuss the status of radiological controls program development for fuel transfer and inspection.

The discussions indicated the licensee was actively planning and preparing for fuel transfer and inspection. Licensee senior plant management was involved in assuring that all applicable station groups were establishing appropriate program elements, including procedures, to support the fuel transfer and inspection activities. All appropriate groups, including radiological controls, were requested to develop a "punch-list" of items needed to support the transfer/inspection. Licensee representatives indicated the program to support the transfer and inspection of fuel would be

in place on May 28, 1984. The licensee anticipated receiving a license for these activities on or about June 11, 1984.

Based on the above review, the licensee was adequately planning and developing applicable radiological controls program elements to support fuel transfer and inspection.

4. Radiation Protection Program Procedure Development

The licensee's program for developing radiation protection procedures was reviewed with respect to its adequacy and effectiveness. The review was with respect to criteria contained in the following:

- Proposed Technical Specifications, 6.8, "Procedures and Programs"
- Regulatory Guide 1.33, Revision 2, 1978, "Quality Assurance Program Requirements (Operation)"
- ANSI/ANS 3.2, 1976, "Administration Controls and Quality Assurance for the Operations Phase of Nuclear Power Plant"
- Final Safety Analyses Report, Section 12, "Radiation Protection"
- Memorandum - PORC Subcommittees dated September 9, 1983
- A-15, Revision 2, "Procedure for Preparation and Revision of Health Physics Procedures"
- A-1, Revision 1, "Procedure for Preparation and Approval of Administrative Procedures"
- A-4, Revision 0, "Plant Operations Review Committee Procedure"

The evaluation of licensee performance in the area was based on discussions with cognizant licensee personnel, examination of documentation and observations by the inspector.

Findings

The licensee has obtained copies of Radiation Protection Procedures from other sites and from INPO. The licensee is using these procedures to provide input to Limerick Radiation protection procedures. Final drafts of newly developed procedures are reviewed and revised (as necessary) by a committee entitled "Sub-Plant Operations Review Committee" (Sub-PORC). The Sub-PORC is comprised of specialists in each applicable program area (e.g. radiation, protection, maintenance) who perform a detailed review of the procedure prior to its submittal to PORC for final review and approval in accordance with proposed Technical Specification requirements. Functions of the Sub-PORC are specified in a memorandum from the Assistant Superintendent to the individuals responsible for overseeing Sub-PORC activities.

Review indicated that appropriate industry standards and practices were being incorporated into the procedures.

Based on the above, the licensee's methodology for developing procedure appeared to be adequate.

The adequacy of radiation protection procedures will be reviewed during future inspections.

Within the scope of this review, the following matter remains open and will be reviewed during a subsequent inspection:

- Administrative controls for functional operation and membership of the Sub-PORC (50-352/84-20-02)

5. Radioactive Waste Systems

5.1 System Installation Verification

Selected portions of the Liquid Radioactive Waste Systems were walked down to verify that installed components were consistent with the Final Safety Analyses Report (FSAR) description. The following subsystems were walked down.

- Floor Drain Collection Subsystem
- Equipment Drain Collection Subsystem
- Laundry Waste Subsystem
- Chemical Waste Subsystem

In addition, the FSAR piping and instrument drawing were compared to licensee piping and instrument drawings to identify any anomalies.

Documents Reviewed

- FSAR Figure 11.2.1, "Liquid Radwaste - Equipment Drain Processing P&ID", Revision 23
- FSAR Figure 11.2.2, "Liquid Radwaste - Floor Drain Processing P&ID", Revision 23
- FSAR Figure 11.2.3, "Liquid Radwaste - Chemical and Laundry Processing", Revision 23

Findings

Within the scope of this review, no deviations between FSAR descriptions and installed equipment were identified.

The following matter requiring licensee attention was identified:

- Rubber gaskets for spool pieces on line HCC-9 on the Floor Drain Demineralizer (Tank 00F-306) were found to be deteriorating. Considering that radioactive material in this demineralizer will produce high radiation fields during plant operation, the licensee should determine: 1) that correct gaskets were initially installed, 2) if the current gaskets are acceptable for this use and; 3) correct any generic deficiencies associated with these gaskets (e.g. gasket deterioration on other systems). The licensee's action on this matter will be reviewed during a subsequent inspection. (50-352/84-20-03)

5.2 Gaseous Waste System Testing

The inspector observed on-going portions of gaseous radwaste system flushing. The review was with respect to criteria contained in the following:

- Start-up Technical Program Procedure No. 1F72.2-0, "Gaseous Radwaste Flush Procedure - System No. 72B, Gaseous Radwaste Recombiners and Filters", dated March 8, 1984.

Findings

No deviations or unacceptable conditions were identified.

5.3 Liquid Radwaste System Testing

The inspector observed on-going portions of liquid radwaste system testing. The review was with respect to criteria contained in the following:

- Start-up Technical Program Procedure No. TT1.1-1, "Driven Mechanical Equipment Testing", dated April 6, 1983

The testing of Equipment Drain Sump Pump 1AP126 was observed.

Findings

No deviations or unacceptable conditions were identified.

6 Fuel Receipt Radiological Controls Program Implementation

The implementation of Radiological Controls for fuel receipt were reviewed with respect to criteria contained in the following:

- Special Nuclear Material License No. 1926
- 10CFR20, "Standards for Protection Against Radiation"

- 10CFR19, Notices, Instructions, and Reports to Workers; Inspections"

The evaluation of licensee performance in this area was based on: observation of on-going fuel receipt activities, discussions with cognizant personnel and review of documentation.

Findings

Within the scope of this review, the following violation was identified:

Special Nuclear Material License No. SNM-1926 dated April 3, 1984 states in License Condition No. 9 that the license is authorized for use in accordance with statements, representations, and conditions specified in the revised application dated January 24, 1984 and its supplements dated February 6 and 27, 1984. The January 24, 1984 letter states, in part. in section 2.1, "Radiation Control", that all instruments shall be tested and calibrated routinely in accordance with approved station procedures. The February 6 and 27, 1984 letter did not modify this statement.

1) Radiation Protection Procedure No. HP-401, Revision 0, "Control Accountability, Maintenance and Repair of Health Physics Instrumentation", requires in section 6 that all radiation survey equipment in use will be source checked at least daily. If the source check reading is not within ± 20% of the listed reading, the instrument is to be removed from service and tagged. Health Physics Group Information Notice No. 84-01, "Techniques for Performing Response Checks", dated March 13, 1984 specifies that the PRM-6 survey meter with HP-210 probe should read between 35,000 and 50,000 counts per minute (CPM) when source checked.

   Contrary to the above, on April 24, 1984, a PRM-6 with HP-210 probe (SN #1123) failed to meet the source check acceptance criteria specified in procedure HP-401 and IN84-01 and was neither removed from service nor tagged. The instrument was used to survey personnel and articles in the fuel receipt area.

2) Radiation Protection Procedure No. HP-469, Revision 0, "Calibration of Eberline PRM-6 Pulse Rate Meter", dated March 20, 1984 requires for calibration in section 6 that an efficiency determination, using a beta source be performed. If the instrument does not meet at least 10%, the instrument is to be repaired.

   Contrary to the above, on April 24, 1984 an Eberline PMR-6 (SN #1123) with an HP-210 probe was used to check personnel and equipment for contamination and had not been efficiency checked for beta.

The inspector discussed the above with licensee representatives and stated that failure to adhere to radiation protection procedures was a violation of Condition No. 9 of Licensee No. SNM-1926 (50-352/84-20-01)

Within the scope of this inspection the following matters requiring improvement were identified.

- A PRM-6 (SN #1122) with an HP-210 probe was used on April 24, 1984 to survey fuel boxes for contamination. No records could be located by the licensee to demonstrate that the equipment had been efficiency checked in accordance with procedure HP-469. Licensee representatives indicated that the instrument was checked but the data could not be located. This indicates a need to improve instrument calibration records maintenance.

The above matters were discussed with licensee management on April 24, 1984. The licensee immediately removed those instruments with questionable calibration from service. The licensee also reinstructed technicians in the source checking of instruments.

7. Exit Interview

The inspector met with licensee representative (denoted in section 1) on April 27, 1984. The inspector summarized the purpose scope and findings of the inspection. At no time during the inspection was written material provided to the licensee by the inspector.