U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-352/85-26

Docket No. 50-352

License No. NPF - 27 Priority - Category C

Licensee: Philadelphia Electric Company

2301 Market Street

Philadelphia, Pennsylvania 19101

Facility Name: Limerick Generating Station

Inspection At: Limerick, Pennsylvania

Inspection Conducted: May 20-23, 1985

Inspectors: M. Miller 6/25/85
M. Miller, Radiation Specialist date

K. Holsopple 6-26-85
K. Holsopple, Radiation Specialist date

Approved by: W. Pasciak 6/26/85
W. Pasciak, Chief, BWR Radiological Protection Section date

Inspection Summary: Inspection on May 20-23, 1985 (Report No. 50-352/85-26)

Areas Inspected: Routine, announced safety inspection of the licensee's Radioactive Waste Management Program. Areas reviewed included status of previously identified items, radioactive waste management organization, liquid and solid radioactive waste systems and processing, and audits. The inspection involved 56 inspector hours onsite by two regionally-based inspectors.

Results: No violations were identified.

Details

1.0 Persons Contacted

1.1 Licensee Personnel

*G. Leitch, Plant Manager
*W. Knapp, Director, Radiation Protection Section
*J. Franz, Operations Superintendent
*J. Spencer, Plant Services Superintendent
*J. Doering, Operations Engineer
*D. DuBiel, Senior Health Physicist
*C. Endriss, Regulatory Engineer
*J. Wiley, Senior Chemist
N. Abruzzese, APO
S. Baker, Unit 1 Technical Assistant
S. Barszowski, APO
B. Delaney, Radwaste Shift Supervisor
*C. Harmon, Quality Assurance - Electric Production
G. Lauderback, Quality Assurance - Electric Production
*J. McElwain, Auditor
*G. Murphy, Technical Support Health Physicist
*V. Warren, TE - Regulatory
L. Wells, Radwaste Physicist

1.2 Vendor Personnel

*J. Ferguson, Radwaste Engineer
J. Horton, Chemist

1.3 U.S. Nuclear Regulatory Commission

*W. Pasciak, Chief, BWR Radiation Protection Section
*J. Wiggins, Senior Resident Inspector

1.4 Pennsylvania Bureau of Radiation Protection

*S. Maingi, Nuclear Engineer

*denotes attendance at the exit interview on May 23, 1985

2.0 Purpose

The purpose of this routine safety inspection during the start-up phase was to review the licensee's Radioactive Waste Management Program. Areas reviewed included:

- Status of Previously Identified Items
- Radioactive Waste Management
- Radioactive Liquid Waste Processing and Effluent Control
- Radioactive Solid Waste Processing and Storage
- Audits

3.0 Status of Previously Identified Items:

(Closed) License Condition III.D.3.3. The inspector verified that the licensee has made provisions for rapid iodine collection and analysis as required by NUREG-0737, Item III.D.3.3. (For details see Inspector Follow-up Item 352/84-66-11).

(Closed) 80-BU-10. The inspector reviewed the licensee's contamination surveillance program and administrative procedures as required by IE Bulletin 80-10. The inspector determined that routine monitoring and administrative controls are being implemented.

(Closed) Inspector Follow-up Item (352/84-66-03): Assure arrangements exist for shipment of samples to the off-site laboratory. The licensee completed the procedures for shipment of highly radioactive liquid samples in the PAS-1 Cask, including the preparation of shipping manifests. These procedures addressed the requirements for transporation of highly radioactive material in a certified shipping cask.

(Closed) Inspector Follow-up Item (352/84-66-11): Develop and implement a procedure for performing in-field analysis of radioiodine sampling cartridges. The inspector reviewed Procedure HP-204, Revision 0, "Rapid Assessment of Radioiodine Concentration," and Lesson Plan LP-HPC-0500, Revision 0 which provided instructions for the above procedure. The inspector determined that the licensee addressed field iodine sampling and analysis, and had trained most of the HP technicians in the same. The inspector noted that the procedure addressed purging the silver zeolite cartridges, low flow rate sampling and the use of a conservative rate meter/counter efficiency.

(Closed) Inspector Follow-up Item (352/84-45-14): Revise neutron dosimetry procedure to delete inference of known average neutron energy. The inspector verified that procedure HP-618, Revision 4, "Determination of Neutron Dose," no longer stated that the average neutron energy was known.

(Closed) Inspector Follow-up Item (352/85-13-03): Review calibration of instruments used to conduct the start-up radiation surveys. The inspector reviewed instrument calibration records and determined that the radiation survey instrumentation used for the gamma radiation surveys at zero to five percent power level were calibrated.

(Closed) Unresolved Item (352/85-21-01): Review acceptability of the licensee's neutron survey instrument (Model PNR-4) calibration. The inspector noted the licensee was following the manufacturer's recommended procedure which included the use of a pulse generator for an electron calibration, a Cs-137 source for determination of its gamma insensitivity, and a RaBe source for a one-point (low scale) neutron response check. The inspector reviewed the licensee's supportive documentation concerning the manufacturer's calibration procedure, which stated the manufacturer previously determined the source to detector

response of the unit in a defined (i.e., traceable to NBS) neutron field. The licensee also stated that an NBS transfer calibration source would be used to calibrate the PNR-4 units to improve the calibration methodology. The licensee stated this capability would be available prior to completion of the power ascension test program.

(Closed) Inspector Follow-up Item (352/85-21-02): Increase emphasis in handling personnel contamination. The inspector noted that a recent technician meeting was conducted to discuss the importance of localizing and isolating personnel contamination prior to transport to the licensee's decontamination facility. The criteria for follow-up whole body counts was also discussed. The licensee demonstrated proper handling of personnel contamination, as evidenced by the HP technicians actions to decontaminate individuals entering the plant with radon progeny products from environmental sources.

4.0 Radioactive Waste Management Organization and Staffing

The responsibility for the administration, technical direction and implementation of the licensee's Process Control Program (PCP) for solid and liquid radioactive waste is the function of the Radwaste Engineer, who reports to the Operations Engineer. Overall responsibility for radioactive waste management and control resides with the Operations Engineer, who reports to the Superintendent of Operations. The inspector discussed with the Radwaste Engineer and Operations Engineer the interfaces with the other departments, as depicted in the radwaste organization chart (Attachment 1 to this report), and the station goals for radwaste and water inventory control The inspector noted that the Radwaste Engineer position was being filled by a consultant.

The inspector reviewed selected program procedures, and staffing capabilities to perform radwaste processing and surveillances, as required by the licensee's Technical Specifications. In addition, radwaste operators and radwaste handlers were interviewed to determine their qualifications to perform these functions and verify their qualifications as defined in the approved Radwaste Organization Position Descriptions.

Within the scope of this review, no violations were identified. However, the following concerns were identified:

- No station administrative procedure(s) has been established which describes the Radwaste Management Organization.

  The licensee stated a procedure describing the responsibilities of the interfacing groups would be developed.

- The radwaste shift supervisor position will have been held by three persons in less than one year. To permit the new shift supervisor some time to understand his/her responsibilities and authorities,

particularly in regard to liquid effluents, a turnover period should be provided as a management control for this key position.

The licensee stated that a thirty-day turnover period would be provided for the new individual to work with the present radwaste shift supervisor.

- The licensee had not established solid or liquid radioactive waste volume and liquid discharge goals, and the water balance program had not been fully developed.

  The licensee stated that these annual items would be established when full power operations begin.

  These concerns in the radwaste management organization will be reviewed during a future inspection (352/85-26-01).

The inspector also noted that additional training programs were being developed to supplement the operators, health physics staff and radwaste handlers. Milestones for completion of this training was provided in the licensee letter dated May 23, 1985 in response to IE bulletin 79-19 requirements. However, based on interviews with radwaste handlers, there was a minimal understanding of radiation protection requirements. The licensee stated that a support personnel supervisory meeting would be conducted with senior health physics staff to address this concern. In addition, weekly safety meeting with the radwaste handlers would be held to reinforce appropriate radiation protection practices and requirements. The inspector stated the effectiveness of these corrective actions would be reviewed during a subsequent inspection (352/85-26-02).

5.0 Radioactive Liquid and Solid Waste Processing and Effluent Control

5.1 Chemistry Surveillances

The inspector reviewed the results of the licensee's surveillance program in the area of liquid radioactive waste. The review indicated that the licensee is meeting Technical Specification requirements for liquid effluent sampling and analysis. The inspector also reviewed the results of surveillance tests performed to demonstrate compliance with the Technical Specification requirements for calculations of dose contributions from plant radioactive effluents to unrestricted areas using the methodology specified in the Offsite Dose Calculation Manual (ODCM). Chemistry group personnel are responsible for effluent sampling and analysis and entering the effluent data in the RMMS computer system used for calculating the unrestricted area dose contributions. The calculations were being performed by the Health Physics Group. The inspector noted that the Chemistry and Health Physics Groups were coordinating well in this area.

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

5.2 Radioactive Liquid and Solid Waste Processing and Storage

The inspector reviewed selected program procedures to determine the status of the licensee's program for implementation of their PCP. The radwaste enclosure was toured including the R/W Control room, resin filling and decontamination station, resin storage area and dry active waste sorting and storage area. Discussions were conducted concerning the licensee computer assisted program for waste quantification, characterization, and record keeping.

Within the scope of this review no violations were identified. However, the following concerns were identified:

- Radwaste operations procedures with regard to dewatered resin transfer to high integrity containers were too flexible and criteria for options (i.e. should versus shall) was not provided.

- Although a majority of the procedures for implementation of the PCP had been finalized, four procedures were not completed. These were:

  - Cask loading;
  - Changing scaling factors for waste characterization;
  - ST-0-066-731, Sampling of DAW, and
  - ST-0-066-732, Sampling of Filer/Demin Sludge.

  The license stated that all procedures would be reviewed, revised and finalized, as necessary to ensure conformance with the PCP as the radiological control requirements. The licensee stated this action would be completed by July 26, 1985. This action will be reviewed during a subsequent inspection (352/85-26-03).

  With regard to the licensee's computer assisted program to ensure compliance with 10 CFR 61, the inspector noted that it appeared to be a viable and thorough approach for complying with both 10 CFR and applicable 49 CFR regulations. However, the program (PAK-RAD) was just being brought on line and needed some refinement. This area will be reviewed during a future radioactive waste transportation inspection.

6.0 Audits

The inspector reviewed licensee audits in the area of Radwaste Handling and Shipping with respect to Technical Specification 6.5.2.8, "Audits".

The licensee's performance relative to this criteria was determined by review of draft audit AC-85-15-HPC, dated February 4 through April 11, 1985. The qualifications of the auditors were reviewed relative to ANSI N45.2, Quality Assurance Program Requirements for Nuclear Facilities," and Quality Assurance Division Procedure, QADP-14, Revision 10, "Personnel Qualification Program."

The licensee's audit appeared adequate, comparing implementation of the proposed Process Control Program and conformance to regulations. Audit findings had not been finalized. The inspector noted that the lead auditor and audit team members had completed the licensee's approved personnel qualification program.

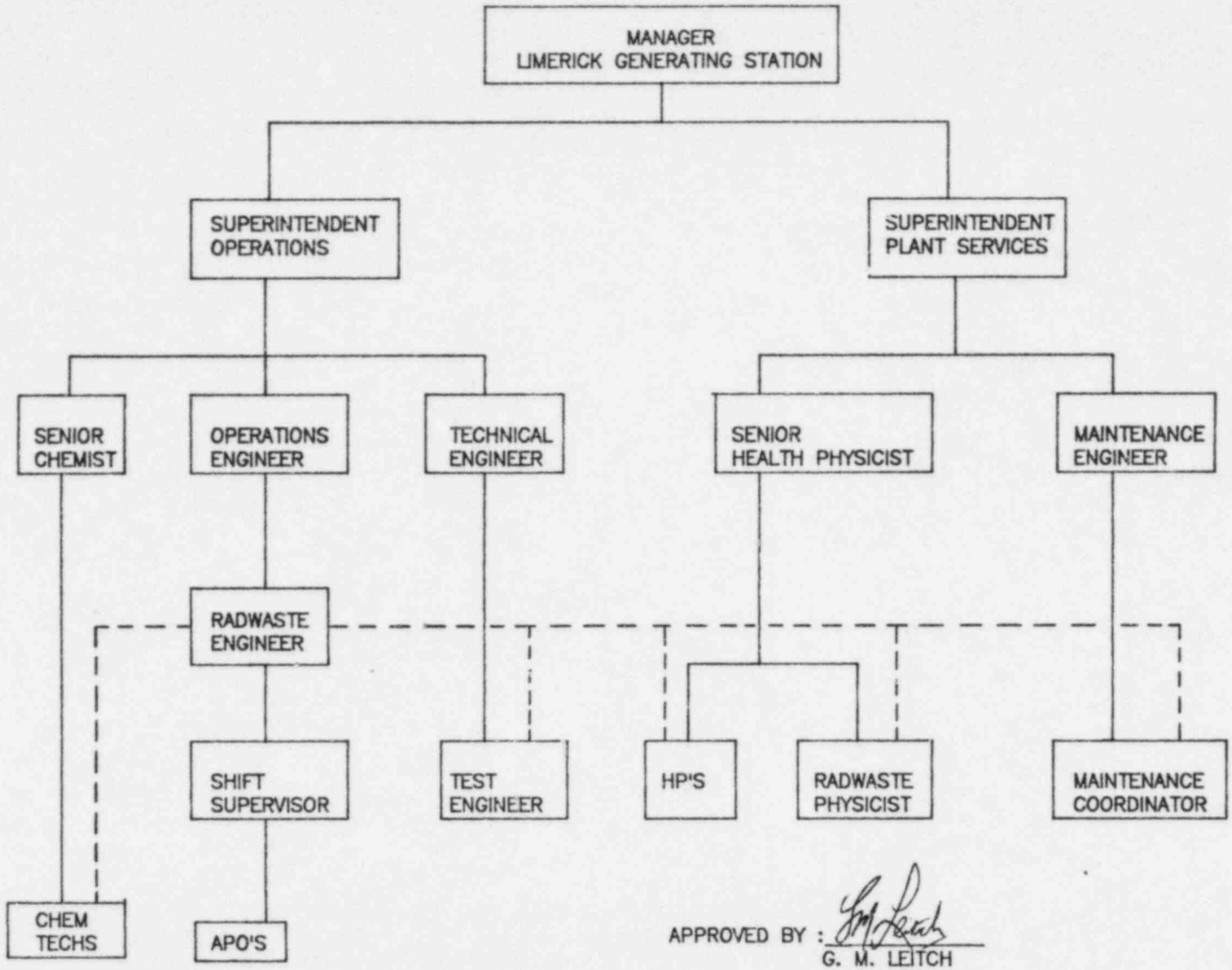
Within the scope of this review, no violations were identified. The inspector noted that a second audit would be performed prior to licensee shipment of radioactive waste.

7.0 Exit Interview

The inspector met with licensee representatives (denoted in Section 1) at the conclusion of the inspection on May 23, 1985. 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 inspectors.

ATTACHMENT 1

LIMERICK GENERATING STATION
RADWASTE MANAGEMENT ORGANIZATION



APPROVED BY : _____
G. M. LEITCH
MANAGER
LIMERICK GENERATING STATION