

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-352/84-58

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, Unit 1

Inspection At: Limerick, Pennsylvania

Inspection Conducted: October 9-12, 1984

Inspectors: *Harvey Zibulsky*
H. Zibulsky, Chemist

11-5-84
date

Approved by: *W. J. Pasciak*
W. J. Pasciak, Chief
BWR Radiation Safety Section

11/7/84
date

Inspection Summary:

Inspection on October 9-12, 1984 (Report No. 50-352/84-58)

Areas Inspected: Routine, announced inspection of the licensee's nonradiological chemical program. Areas reviewed included: quality control of analytical measurements, analytical procedures, staffing and training. The inspection involved 26.5 hours on-site by one region based inspector.

Results: The licensee was in compliance with NRC requirements examined during the inspection.

DETAILS

1. Individuals Contacted

- *D. Clohery - Quality Assurance Engineer (PECO)
- *J. Sabados - Supervisory Chemist (PECO)
- *W. Leinheiser - Chemist (Hydro Nuclear)
- *M. Grube - Site Coordinator (Hydro Nuclear)
- J. Wiley - Senior Chemist (PECO)
- A. MacAinsh - Quality Assurance Site Supervisor (PECO)
- D. Mierzejewski - Training Consultant (General Physics)

*Denotes those present at the exit interview.

The inspector also interviewed other licensee employees including members of the chemistry staff.

2. Laboratory Quality Control

The adequacy and effectiveness of the licensee's nonradiological chemistry quality control program was reviewed against the requirements of Technical Specification 6.8, USNRC Regulatory Guide 1.33, Revision 2, ANSI N18.7-1976, and standard industrial practices.

The licensee's performance relative to these requirements and standards was determined by review of records, discussions with licensee personnel, and observations by the inspector.

For the analyses observed, calibration standards were used over the full range of operation. Separate control standards were sometimes used, but not documented by the licensee for quality control. The licensee's procedure, CH-1004.1 - "Preparation and Use of Control Charts", has not been implemented in the laboratory. The mathematics, as written in the procedure, are burdensome for nonradiological chemistry control charts. The inspector recommended a simpler calculation, which will be included in the revised procedure. The inspector told the licensee that the utilization and documentation of control standards would add to the assurance that the measurement system was properly operating and calibration standards were correct. By plotting the control standards on charts with a ± 2 sigma acceptance criteria, the laboratory personnel will be able to identify whether analytical differences were significant and whether trends were developing. The measurement control program will be reviewed at a subsequent inspection. Inspector Follow-up Item (84-58-01).

No violations were identified.

3. Analytical Procedures

The inspector reviewed the licensee's analytical procedures in the non-radiological chemistry area. The procedures are required by Regulatory Guide 1.33, Revision 2, referenced in Section 6.8 of the Technical

Specifications. The inspector verified conformance to these procedures by review of licensee records and by observation of the analyses.

In reviewing procedure CH-314 - "Determination of Boron by Mannitol Method", the inspector recommended that two end points be used (pH 5.5 and 8.5) instead of the single endpoint that is being used (pH 7.0). The licensee will include this change in the revised procedure.

The inspector observed the analyses of chloride and fluoride by specific electrode, silicon by colorimetry, and the metals by Direct Current Plasma Emission Spectrometer. The procedures and instruments used for the analyses are generally adequate.

The inspector recommended that the laboratory personnel start using safety precautions in the laboratory to familiarize themselves in them prior to actual irradiated samples being brought into the laboratory for analysis. The licensee said they will start this immediately.

No violations were identified.

4. Staffing and Training

The inspector reviewed the licensee's organization with respect to staffing and structure in the chemistry area. The primary objective of the chemistry program is to monitor and maintain the chemical parameters within plant systems. The chemistry department is headed by a Senior Chemist with support from a Corporate Radiation Protection and Senior Laboratory Chemist. Technicians report to 2 Technical Assistants who report to a Senior Technical Assistant. A Support Chemist, a Special Projects Chemist and the Senior Technical Assistant report to a Supervisory Chemist who reports to the Senior Chemist.

There is a good communication among the chemistry personnel and an out of control analysis in the laboratory can be enacted upon without delay.

An applicant for the HP/Chemistry group must complete a 9 day training/screening period, at which time, basic math and physics are taught. If the applicant passes a written exam, he continues on to an 18 week course. On successful completion of the training program, the applicant becomes a Technician C. After further courses and on-the-job training for a period of about 2 years, the Technician can be elevated to level B. The Training Consultant introduced a more comprehensive training program which the inspector recommended to be adopted by the licensee.

No violations were identified.

5. Exit Interview

The inspector met with the licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on October 12, 1984. The inspector

summarized the purpose and scope of the inspection and the inspector findings. At no time during the inspection was any written material provided to the licensee by the inspector.