
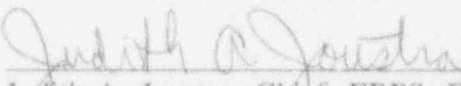


U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report Nos. 50-352/94-10 and 50-353/94-10  
Docket Nos. 50-352 and 50-353  
License Nos. NPF-39 and NPF-85  
Licensee: PECO Energy  
P. O. Box 195  
Wayne, Pennsylvania 19087-0195  
Facility Name: Limerick Generating Station (LGS), Units 1 and 2  
Inspection At: LGS & Chesterbrook, Pennsylvania  
Inspection Conducted: March 21-April 6, 1994

Inspector:   
Laurie Peluso, Radiation Specialist  
Effluents Radiation Protection Section (ERPS)  
Facilities Radiological Safety and  
Safeguard Branch (FRSSB)

04/13/94  
Date

Approved by:   
Judith A. Joustra, Chief, ERPS, FRSSB,  
Division of Radiation Safety and Safeguards (DRSS)

4/13/94  
Date

Areas Inspected: Announced safety inspection of the Radiological Environmental Monitoring Program (REMP) including: follow-up of previously identified item, management controls, quality assurance audits, quality control program for analytical measurements, meteorological monitoring program, and implementation of the program.

Results: Within the areas inspected, the licensee continued to maintain an effective REMP. No safety concerns or violations of NRC requirements were identified.

## DETAILS

### 1.0 Individuals Contacted

#### 1.1 Licensee Personnel

- \* K. Borton, Licensing Engineer
- \* R. Boyce, Plant Manager
- \* M. Christinziano, Nuclear Engineering Department, Branch Manager
- E. Grega, Chemistry Training
- \* F. Hickey, Effluents Physicist
- \* R. Scholz, Manager of Technical Services Branch
- R. Stadnik, Sr. Engineering Technician, Station Support Dept., Laboratories
- \* G. Stewart, Engineer-Experience Assessment
- \* D. Wahl, Health Physicist, Technical Services Branch

#### 1.2 RMC Environmental Services, Inc.

D. Fillman, Project Manager-Sampling Contractor

#### 1.3 Nuclear Regulatory Commission (NRC) Personnel

- \* J. Joustra, Chief, Effluents radiation Protection Section, Region I
- \* N. Perry, Senior Resident Inspector

\* Denotes those individuals present at exit interview on March 24, 1994.  
Other licensee personnel were also interviewed during this inspection.

### 2.0 Purpose

The purpose of this inspection was to verify the licensee's capability to implement the Radiological Environmental Monitoring Program (REMP) and the Meteorological Monitoring Program (MMP) during normal and emergency operations.

### 3.0 Previously Identified Item

(Closed) Violation (50-353/93-12-01) While the 2A South Stack effluent sample pump was inoperable, the 2B South Stack effluent sample pump became inoperable. The licensee failed to immediately initiate grab sampling for noble gases. Grab samples were taken two days later when the licensee discovered the error. The licensee's corrective actions, which were to include completing the Reportability Evaluation/

Event Investigation Form (RE/EIF), were not adequate and were not complete at the time of the initial review in that the RE/EIF was either lost or not written.

The inspector reviewed the licensee's corrective actions during this inspection. The corrective actions were now adequate and complete. There were no repeat issues since the last inspection. This item is closed.

#### 4.0 Management Controls

##### 4.1 Organization and Program Responsibilities

The inspector reviewed the organization responsible for implementation of the REMP and discussed with the licensee any changes since the inspection conducted in May 1993. Since the previous inspection, there have been no changes significant in either the organization or the oversight of the REMP.

The Health Physicist of the Technical Services Branch (formerly named Environmental Group) had responsibility for the REMP. The licensee's contractor, RMC Environmental Services, Inc., collected environmental samples and maintained the air and water sampling equipment. The environmental samples were sent to the contractor laboratory, Teledyne Brown Engineering Environmental Services (formerly Teledyne Isotopes), where the analyses were performed. The laboratory sent the results to the Health Physicist to be reviewed and compiled in the Annual REMP Report.

##### 4.2 Quality Assurance Audits

An audit of the REMP has been scheduled to begin March 30, 1994. The 1993 audit report had been reviewed during the previous inspection. (See Inspection Report 50-352/93-13 and 50-353/93-13 for details.)

During the last inspection, the inspector noted that future audits of the MMP would be included in the Emergency Plan audit. The inspector reviewed the MMP portion of the Emergency Plan audit report and determined that the audit verified calibration frequency and results.

##### 4.3 Annual Report

The inspector reviewed the Annual Radiological Environmental Report for 1992. This report provided a comprehensive summary of the analytical results of the REMP around the Limerick Generating Station and met the Technical

Specifications (TS) reporting requirements. The report also included the results of the Land Use Census and the EPA cross check program. The inspector also reviewed the selected analytical REMP results for 1993 during this inspection. The reviewed results indicated that all samples were collected and analyzed as required and that the lower limits of detection specified in the TS were met. No obvious omissions or anomalous data were identified.

## 5.0 Implementation of the REMP

### 5.1 REMP Procedures

The inspector reviewed the procedure manual as part of the evaluation of the implementation of the REMP. The manual included the contractor's environmental sample collection procedures. The inspector noted that the procedures provided the required guidance for collection of environmental sample media.

The inspector reviewed the licensee's administrative procedures. These procedures were documented in the manual, Nuclear Group Administrative Procedure for Radiological Report Generation. Three of these administrative procedures will be replaced by one procedure, HP-C-130 "Quality Assurance and Interdepartmental Responsibilities for the REMP" (draft). This procedure incorporated the responsibilities of the Technical Services Branch and the vendors, and the quality assurance of the REMP.

The inspector also reviewed the air sampler calibration procedure and results. Calibrations of vacuum gauges and orifices were performed as scheduled, using the procedure, and the results were within the licensee's acceptance criteria. The inspector noted that the responsible individuals from the testing laboratory documented all the calibration results in the Plant Information Management System (PIMS).

Based on the review of the procedures, the inspector determined that the licensee has good procedures with which to implement the REMP.

### 5.2 Direct Observation

The inspector examined selected environmental sampling stations to determine whether samples were being obtained from the locations designated in the Offsite Dose Calculation Manual (ODCM) and whether the air samplers were operable, calibrated, and maintained. These stations included air samplers for

particulate and airborne iodines, automatic composite water samplers, milk, vegetation, and a number of thermoluminescent dosimetry (TLD) stations for direct ambient radiation measurements. All the air sampling equipment was operational, TLDs were placed at their designated locations, and the water compositors were operating and taking samples, with one exception. Milk and vegetation samples were available and collected from the locations specified in the ODCM. The inspector witnessed the contractor collect water samples.

The water compositor at Station 13B1 was not operating at the time of this inspection. The compositor collects a specified amount of water over a predetermined time interval (such as, every 15 minutes) from a well which is filled by gravity through a long pipe in the river. Water is then sampled from the well. The licensee stated that the pipe in the river had been broken and silt tends to build up in the well and if the well gets filled with silt, the pump could fail. Therefore, the licensee turned off the pump and performed a manual weekly grab sample. The licensee plans to fix the pipe in the river during favorable environmental conditions this summer and plans to pump out silt that has built up in the well within three weeks after this inspection. This will be reviewed during a subsequent inspection.

The water compositor at Station 16C2 has not been operated for approximately three years. (See Section 4.1 of Inspection Report 50-352/93-13 and 50-353/93-13 for details.) The inspector discussed this issue with the licensee. The licensee stated that they are waiting for a "right of way" permit from the state to obtain power to operate the water compositor. Meanwhile the licensee takes a weekly grab sample according to the TS/ODCM requirements. This will be reviewed during a subsequent inspection.

Based on independent observations and interviews with the contractor and the licensee, the inspector determined that sample collection requirements had been met.

## 6.0 Quality Assurance and Quality Control for Analytical Measurements

The inspector reviewed the licensee's programs for quality assurance (QA) and quality control (QC) to determine whether the licensee had adequate control with respect to sampling, analyzing, and evaluating data for the implementation of the REMP.

The licensee had a very comprehensive QA/QC program which included the contractor laboratory and QC laboratory. The QC program for the analysis of environmental samples included blind duplicates and split samples. The results were

generally in agreement, with few exceptions. Reasons for the disagreements were investigated and resolved. The results were documented in the annual report.

Both the contractor and QC laboratories participated in the EPA cross-check program. Periodic reports of the results are supplied to the licensee. The inspector reviewed the results and noted that the results were within the EPA acceptance criteria.

Based on the above reviews and discussions with the licensee, the inspector determined that the licensee had very good QA and QC programs.

#### 7.0 Meteorological Monitoring Program (MMP)

The inspector examined the licensee's MMP to determine whether the instrumentation and equipment were operable, calibrated, and maintained. The meteorological tower is equipped with wind speed and wind direction sensors at the 30, 175, and 270-foot elevations. Temperature sensors are at the 26, 171, and 266-foot elevations. The inspector verified the licensee's capability to obtain real-time meteorological conditions and observed the sensors and outputs in the equipment house at the primary tower and control room. All the sensors and the analog strip chart recorders at the tower were operating at the time of the inspection and data was available at the control room using strip chart recorders and the computer.

At the beginning of the inspection, the inspector requested the 1993 semi-annual calibration results. The licensee took approximately two weeks after the request to produce the results for the first half of the year. The inspector received the results April 6, 1994, and then completed the inspection in the Region I office. The inspector reviewed the calibration procedures and the most recent results. The calibrations were performed semi-annually by Instrument and Controls using the Surveillance Test (ST) procedures. The inspector noted that the results were within the licensee's defined acceptance criteria, however the length of time between calibrations was seven months. The licensee stated, during a phone call on April 11, 1994, that the calibrations were performed within the maximum allowable extension (not to exceed 25% of the surveillance interval) permitted by TS 4.0.2 and Section 2.6.6 of the ODCM. This issue had been discussed during the last inspection. (See Section 5.0 of Inspection Report 50-352/93-13 and 50-353/93-13 for details.) The licensee stated that future calibrations will be performed during April and October. This will be reviewed during a subsequent inspection.

The licensee stated that they will replace the strip chart recorders in the equipment house at the primary and backup towers with patch panels into which the licensee will have the capability to plug in a portable recorder and retrieve data. The control room



recorders will be replaced with a multi-point recorder by summer 1994. The new equipment will be reviewed during a subsequent inspection.

Based on the above observations, record review and discussions with the licensee representatives, the inspector determined that the licensee continued to implement an effective MMP.

#### 8.0 Exit Interview

The inspector met with the licensee representatives denoted in Section 1.1 of this inspection report at the conclusion of the inspection on March 11, 1994. The inspector summarized the purpose, scope, and findings of the inspection. The licensee acknowledged the inspection findings.