

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-387/88-13
50-388/88-16

Docket Nos. 50-387
50-388

License Nos. NPF-14
NPF-22

Priority --
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Category C
C

Licensee: Pennsylvania Power & Light Company
2 North Ninth Street
Allentown, Pennsylvania 18101

Facility Name: Susquehanna Steam Electric Station, Unit 1 and 2

Inspection At: Berwick, Pennsylvania

Inspection Conducted: August 1-4, 1988

Inspector: *Michael Markley*
M. T. Markley, Radiation Specialist

9-6-88
date

Approved By: *M. M. Shanbaky*
M. M. Shanbaky, Chief, Facilities
Radiation Protection Section

9/8/88
date

Inspection Summary: Routine, unannounced inspection to review NRC open items and ongoing inplant radiological controls.

Results: Within the scope of this review, no violations were identified. However, one unresolved item was identified regarding the operation and maintenance of whole body personnel friskers and tool contamination monitors. Also, continued need for improvement was observed in radiological posting.



DETAILS

1.0 Individuals Contacted

1.1 Licensee Personnel

J. Blakeslee, Jr., Assistant Plant Superintendent
J. Fritzen, Radiological Operations Supervisor
J. Hirt, Compliance Engineer
*W. Morrissey, Radiological Protection Supervisor
*H. Palmer, Supervisor of Operations
*H. Riley, Health Physics/Chemistry Supervisor
*D. Roth, Senior Compliance Engineer

1.2 NRC

J. Stair, Resident Inspector
*F. Young, Senior Resident Inspector

* Attended the exit interview on August 4, 1988. Other licensee personnel were contacted during the course of this inspection.

2.0 Purpose

The purpose of this routine, unannounced inspection was to review NRC open items and inplant radiological controls. The following areas were reviewed:

- status of previously identified items;
- organization and management;
- internal and external exposure controls; and
- control of radioactive material and contamination.

3.0 Status of Previously Identified Items

3.1 (Closed) 50-387/87-19-03 (Unresolved). License to reissue a procedure for the control of keys for locked high radiation areas.

The licensee reissued procedure HP-HI-008, "Work Instructions For Key Control" on October 26, 1987. The new revision (Rev.4) requires that a key inventory be conducted and documented daily. Inspector review of procedure implementation indicated that the daily inventory is being performed as required and that all keys were controlled. This item is closed.

3.2 (Closed) 50-387/85-07-05 (Inspector Followup). Review calibration and surveillance requirements for Refuel Floor Exhaust Monitors.

The inspector reviewed the following calibration surveillance procedures for the Refuel Floor Exhaust Monitors relative to Technical Specification requirements:

Monthly Functional Test

- SI-079-225
- SI-079-226
- SI-079-233
- SI-079-235
- SI-079-236

18 Month Calibration

- SI-079-325
- SI-079-326
- SI-079-333
- SI-079-335
- SI-079-336

Procedure provisions were found to provide adequate instructions which included required sign-offs, acceptance criteria, and notifications. Calibration and surveillance requirements were consistent with Technical Specifications for the minimum required channels. This item is closed.

- 3.3 (Closed) 50-388/85-04-01 (Inspector Followup). Investigate dosimeter design and beta algorithm.

This item was previously closed for docket 50-387. The same resolution is applicable to docket 50-388. This item is closed.

- 3.4 (Open) 50-387/84-10-01 and 50-388/84-11-01 (Inspector Followup).
(Open) 50-387/84-10-03 and 50-388/84-11-03 (Inspector Followup).
Two open items assigned to each docket. Followup on NUREG-0737, Items II.B.3 and II.F.1-2, respectively.

The inspector reviewed available documentation onsite. However, the corporate staff is preparing a comprehensive package to address these items. This item remains open.

- 3.5 (Open) 50-387/87-19-02 (Unresolved). Licensee to improve control of radioactive material released from the Radiological Controlled Zone (RCZ).

The licensee has undertaken a major initiative to improve contamination control. These enhancements include procedure upgrades, improvement in facilities and equipment, radwaste minimization, and training. At the time of inspection, the licensee's program was not yet complete. This item remains unresolved.

- 3.6 (Open) 50-388/84-15-01 (Inspector Followup). Review calibration of five remaining area radiation monitors (ARMs).

Calibration records were not available for inspector review. The licensee stated that nuisance alarms have become a problem for the transverse incore probe (TIP) room ARM. Currently, proposed alarm range changes are pending technical review and approval. The licensee anticipates this item being ready for NRC review September 30, 1988. This item remains open.

4.0 Management and Organization

Discussion with licensee management and observation of work activities indicates that the facility is adequately staffed to support routine operations. Recently, the licensee added two new Health Physics Specialist positions to the organization. One position was filled by a Level II technician promoted to support the respiratory protection program. The other position is currently filled by a contractor pending the hiring of a new staff member.

5.0 External Exposure Controls

Evaluation of licensee performance in this area was based on:

- observation of inplant radiological controls;
- performance of independent surveys and measurements;
- discussion with licensee personnel; and
- review of station procedures.

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

5.1 Whole Body Personnel Friskers and Tool Contamination Monitors

The inspector source check tested whole body personnel friskers and tool contamination monitors at the Radiological Control Zone (RCZ) accesses. All monitors accurately located the NRC radioactive check source and alarmed appropriately. However, the inspector noted that the licensee was using plastic tape to repair damaged mylar windows. Discussion with licensee personnel indicated that the damaged windows, repaired with plastic tape, may not change the instrument sensitivity. The licensee informed the inspector that the vendor's technical manual provides provisions for the use of transparent tape until such time as repairs can be made. The inspector found this maintenance practice to be widespread in that whole body friskers at all RCZ accesses were repaired with plastic tape. Some individual windows had multiple plastic tape repairs while other windows had damage repairs which were observably not minor. The large number of damaged windows indicated that the licensee was not timely in replacing damaged mylar. The licensee is conducting an evaluation to determine the appropriateness of using plastic tape to perform window repair and the maximum repair using this method. This item is unresolved (50-387/88-13-01 and 50-388/88-16-01).

5.2 Radiation Protection Survey Instrumentation

All portable radiation protection survey instruments examined were found to have valid calibration stickers. Instrument issue records were observed to be complete. One apparent training weakness was identified in that a radiation protection (RP) technician issued the inspector a survey instrument which did not clearly meet the source check acceptance criteria. Specifically, the dose rate instrument (RO-2; serial no. 910) failed the 0-5 mR/h range test. When the instrument passed the 0-50 mR/h range test, the technician considered the instrument acceptable and issued it to the inspector. The inspector questioned the technician who was unable to explain the 0-5 mR/h response. Subsequent discussion with licensee management indicated that the RP technician had incorrectly source check tested the instrument. First, the technician did not use the correct source check configuration. Second, the technician issued the instrument without it meeting the acceptance criteria. The licensee counseled the RP technician regarding the correct action to have been taken. Also, the licensee is evaluating the training program as it relates to this incident. Licensee evaluation of the survey instrument indicated that it would have passed the source check test if it had been performed correctly. The inspector considered licensee response to be adequate and appropriate.

5.3 Posting and Labeling

The inspector noted several examples of weak radiological posting. The following anomalies were identified:

- On the Unit 818 ft. elevation of the reactor building, the shield storage area was missing the appropriate posting sign on one side such that the radiological controls demarked by the barrier were not obvious when approaching from all directions.
- On the Unit 1 719 ft. elevation of the reactor building, the radiological posting and barrier were found lying on the floor. This condition was clearly identifiable upon entering the area.
- The barricaded access to the 676 ft. elevation turbine building (I-113) condenser gallery lacked the radiological posting sign necessary to inform workers approaching the area from the truckbay.

When identified by the inspector, the licensee implemented immediate corrective action. However, these examples indicate a continuing need to improve program implementation in this area.

6.0 Internal Exposure Controls

A limited review of this area was performed during this inspection. The licensee's program for internal exposure control was evaluated by the following methods:

- review of air sampling records;
- review of instrument quality control (QC) charts;
- review of Whole Body Count (WBC) results;
- discussion with licensee personnel; and
- review of station procedures.

Within the scope of this review, no violations were identified. Adequate air sampling was being performed to support work activities. No anomalous air activities or WBC results were identified. Daily QC charts for background and source checks for laboratory counting instruments were well maintained and complete.

7.0 Exit Meeting

The inspector met with licensee management, denoted in Section 1 of this report on August 4, 1988, at the conclusion of the inspection. The findings of the inspection were discussed at that time.