



PECO ENERGY

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November 2, 1995

Docket Nos. 50-277
50-278
License Nos. DPR-44
DPR-56

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Subject: Peach Bottom Atomic Power Station Units 2 & 3
Response to Notice of Violation (Combined Inspection Report No.
50-277/95-23 & 50-278/95-23)

Gentlemen:

In response to your letter dated September 22, 1995, which transmitted the Notice of Violation concerning the referenced inspection report, we submit the attached response. The subject report concerned a Radiological Controls Program Inspection that was conducted August 28 - 31, 1995. The required date of response to the Notice of Violation was requested to be changed from 30 days from the date of the letter transmitting the violation to 30 days after receipt of the violation. The inspection report transmitting the violation was received October 5, 1995. This extension was granted via telephone on October 10, 1995, by Randy Blough, Project Manager - Division of Reactor Safety to Ronald Smith, PBAPS Regulatory.

If you have any questions or desire additional information, do not hesitate to contact us.

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Peach Bottom Atomic Power Station

Attachment

CCN#95-14096

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PDR ADDCK 05000277
Q PDR

cc: R. A. Burricelli, Public Service Electric & Gas
R. R. Janati, Commonwealth of Pennsylvania
T. T. Martin, US NRC, Administrator, Region I
W. L. Schmidt, US NRC, Senior Resident Inspector
H. C. Schwemm, VP - Atlantic Electric
R. I. McLean, State of Maryland
A. F. Kirby III, DelMarVa Power

RESPONSE TO NOTICE OF VIOLATION

Restatement of Violation

Technical Specification (TS) 6.11 requires, in part, that procedures for personnel radiation protection be adhered to for all operations involving personnel radiation exposure.

Radiation Protection Procedure A-C-100, Revision 0, requires in Section 5.4.2 that workers obey written instructions including those on radiation work permits and requires in Section 7.7.1, that radioactive surface contamination be controlled in order to minimize possible inhalation and ingestion.

Radiation Work Permit (RWP) No. PB-0-99-0007, Revision 0, requires that workers have knowledge of work area radiological conditions.

Radiation Protection Procedure HP-C-111, Revision 0, requires in Section 5.4, that advanced radiation workers are responsible for coordination of work with health physics.

Radiation Protection Procedure HP-C-818, Revision 1, requires in Section 7.2.3, that minor clothing contamination be documented on the Minor Contamination Log.

Contrary to the above, procedures for personnel radiation protection were not adhered to as evidenced by the following examples.

1. On August 24, 1995, written instructions on RWP No. 0-99-0007, Revision 0, were not obeyed in that personnel disassembling a TIP shield did not have an understanding of the radiological conditions of their work area.
2. On August 24, 1995, significant levels of radioactive contamination of a TIP shield, and tools inserted into the shield, were not adequately controlled to minimize inhalation or ingestion of radioactive material in that contamination was dispersed and contaminated normally clean areas of the "Hot Machine Shop" complex.
3. On August 24, 1995, an advanced rad worker disassembled a TIP shield and did not coordinate the work with health physics in that the worker did not inform radiation protection personnel of the work.
4. On August 24, 1995, two individuals working in the "Hot Machine Shop" sustained minor shoe contamination, were decontaminated, and the contamination events were not documented on the Minor Contamination Log.

This is a Severity Level IV violation. (Supplement IV)

Incident Description

On August 24, 1995, at approximately 8:42 a.m., two vendor engineers (VE1 and VE2) went to the Hot Shop to investigate the design and operation of the plunger mechanism on the transversing incore probe (TIP) shield removed from the Unit 3 TIP room. VE1 introduced VE2 to an advanced radiation (decontamination) worker (ARW1) and requested that ARW1 help VE2. VE1 and VE2 left the Hot Shop to obtain rods to insert into the ends of the TIP tube which would identify if the plunger was causing a torque or pressure problem. When VE1 and VE2 returned to the Hot Shop, VE2 observed an individual conversing with ARW1. VE2 assumed that this individual was a health physics (HP) technician. VE2 stated that this person checked out the bag wrapped around the TIP shield, took smears inside the bag and surveyed it. (This individual was actually a vendor ARW radwaste foreman, ARW2). ARW1 then lifted the TIP shield, with the bag in place, into the contaminated area. A junior health physics/ decontamination technician (DT1) removed the cap on the end of the tube, and forced a rod into the tube. The rod, however, would not go completely into the tube. A second rod was then successfully inserted into the other side of the tube. VE1 questioned ARW1 if he saw the plunger move, but ARW1 found that the plunger was not in the TIP shield. ARW1 found the plunger in the bag, and removed it. VE2 performed a visual inspection of the plunger and determined that it was no longer needed. VE2 then successfully cleared the Personnel Contamination Monitor (PCM) and left the Hot Shop.

ARW1 and DT1 then started to disassemble the TIP shield. They removed the top plug to verify the presence of lead shot. They replaced the plug and continued to discuss the disassembly. It was decided to empty the lead shot into a bucket and the bottom plug was then removed. They took a sample of the lead in a glove and gave the glove to ARW2. ARW2 frisked a smear of the lead and informed ARW1 and DT1 that it was clean. ARW1 and DT1 then continued to fill the bucket with lead. A hoist was used to lift the TIP shield and one of the rods was removed from the tube. One 5 gallon bucket and two 2 gallon buckets were eventually filled with lead.

At approximately 11:10 a.m., VE2 and a vendor supervisor (VS1) arrived in the Hot Shop. VS1 logged in and went to the staging area to talk with ARW1 about tools to be decontaminated. VE2 asked VS1 if he would like to see the plunger and was told about the threaded cap on the end of the tube. After inspecting the plunger, VS1 and VE2 attempted to leave the Hot Shop, but both alarmed the PCM with shoe contamination alarms. VE2 and VS1 tried to decontaminate their shoes by the use of tape, but were unsuccessful. The individuals were able to decontaminate their shoes with the use of syntec cleaner. VE2 stated that he thought a HP technician (ARW2) was present throughout the event. DT1 changed the air sample, and ARW2 called HP and began recovery of the area. A PECO HP Supervisor (HPS) received a radio call about the Hot Shop contamination. He immediately went to the Hot Shop and observed personnel at the HP office area. He was told not to enter the area. HPS took a large area smear with massilin on the outside of the radioactive contamination area (RCA) boundary that upon survey was uncontaminated. HPS then put on boots and gloves, received a briefing, and entered the area. When he observed the TIP shield with ARW1 in the area, all work was suspended. HPS instructed a responding HP technician to perform a survey of the Hot Shop.

Reasons for the Incident

The job planning for this activity ended once the TIP shield was taken to the Hot Shop. There was no pre-approved plan to perform the activities and inspections that were conducted in the Hot Shop.

Administrative procedures covering activities in the Hot Shop were also determined to be less than adequate. Tasks performed in the Hot Shop were done on an as needed basis, commonly by verbal request. There was not an appropriate mechanism to ensure that Hot Shop activities were included in the work plan.

The vendor engineer (VE1) responsible for the inspection conducted in the Hot Shop did not inform Health Physics of a change in the work plan. The vendor engineer expanded the scope of the work order to include an inspection of TIP shield internals without prior communication to Health Physics to facilitate the activity.

The Hot Shop decontamination technicians (ARW1 and DT1) made several incorrect assumptions regarding the work process and potential contamination that an experienced radiation worker should not have made. They did not consider the potential for internal contamination of the object although both ends of the tube were taped closed, which is normal practice to prevent or reduce the potential for the spread of contamination. ARW1 also assumed the vendor engineer at the Hot Shop was responsible for the component. Although the decontamination technician had previously contacted the responsible engineer by telephone and requested that he come to the Hot Shop, he did not attempt to ascertain whether the engineer in the Hot Shop was the engineer he had previously contacted. Rather, he assumed this was the responsible individual.

The vendor engineer (VE1) at the Hot Shop made an inappropriate assumption concerning the individuals he was working with. He assumed that an ARW radwaste foreman at the Hot Shop was a HP technician and that he would oversee the contamination controls required for the activities performed. He was not aware that HP technicians are identified by wearing large blue tags marked with large white "HP" initials. He also made an assumption that the shield had been decontaminated since it had been a week after it was removed from the plant.

The Corrective Steps That Have Been Taken and the Results Achieved

All work activities in the Hot Shop were immediately suspended after the contamination event was initially investigated by the HP Supervisor. Activities to decontaminate and recover the Hot Shop were also promptly initiated.

A Performance Enhancement Process (PEP) investigation was initiated to determine the causes and reasons of the contamination event.

Radiation worker holds were placed on the individuals that were involved in the event. Disciplinary action was taken commensurate with the individuals' actions and responsibilities after the event investigation was completed.

A Quality Improvement Team was formed to perform an evaluation of the work process in the Hot Shop. In the interim, all work activities were required to be approved by HP Supervision prior to initiating any work in the Hot Shop. Recommendations provided to management that will improve radiological and work control in the Hot Shop included creating a specific Hot Shop Radiation Work Permit (RWP) and Radioactive Materials Receipt/ Decontamination Log. In addition, work orders that specify work activities requiring use of the Hot Shop have been implemented. Written expectations for the conduct of work in the Hot Shop have also been developed and implemented.

Clear and concise distinction between HP and ARW roles are now communicated to new vendor personnel prior to working at Peach Bottom. Additionally, different colored clothing and HP hardhat insignias are being worn in the plant to further distinguish Health Physic technicians from the plant population. Blue tags marked with large white "HP" initials continue to be worn by HPs in the field.

The Corrective Steps that Will Be Taken to Avoid Further Incidents

The corrective actions taken and completed as a result of the internal PEP investigation should prevent further events of this nature.

Date When Full Compliance Was Achieved

Full compliance was achieved on August 24, 1995, when the Hot Shop was appropriately surveyed and posted to ensure proper radiological controls were re-established.

Points of Contention

The PECO Energy Company seeks clarification for why this incident was a cited violation. After analysis of this event, we consider the criteria of 10 CFR 2, Appendix C, Section VII B.2. to have been satisfied for enforcement discretion. As stated in the reference inspection report, the event was self-identified, immediate short-term corrective actions were taken to address the concerns identified, and the event had minor radiological significance. We disagree with statements in the inspection report that programmatic weaknesses associated with supervisory oversight, control of contractor work activities and the advanced radiation worker program provide a valid basis to cite the violation. As discussed at the inspection exit meeting and as a result of our investigation, these areas were not identified as the primary causes of this event. Three of the four procedural violations cited were the result of two individuals who exceeded their authority and areas of responsibility. This appears to be the result of specific human performance weaknesses and not programmatic weaknesses of the ARW program or the control of contractors. This is based on hundreds of jobs and work evolutions involving ARW's and contractors with no adverse consequences or events of this nature.

Additionally, the last example concerning the failure to document the contaminations on the Minor Contamination Log was a result of personnel error where individuals performed self-decontamination without contacting Health Physics as required by procedure. Health Physics personnel complete these reports after individuals are decontaminated, but in this example the individuals performed self decontamination which was unknown to Health Physics until the investigation of the event was performed. Minor contamination log sheets have since been completed.

The PECO Energy Company is concerned that the report states in Section 9.0, Exit Meeting, "the licensee acknowledged the findings and had no substantive comments at that time regarding them". We feel our comments were substantive since we did not agree with the inspector's conclusions of this event. Our conclusions and stated disagreement with the inspector's interpretation of the event were not documented in the inspection report. Additionally, this item was left unresolved at the exit meeting. Although we realize that an item may be escalated to the violation status after NRC regional review, we are concerned that PECO Energy's analysis of the event may not have been clearly communicated to and understood by NRC regional management. We feel that our conclusions, based on an investigation of this event and presented during the inspection and the exit meeting, need to be addressed.

Inspection Report Items for Clarification.

The inspection report states in Section 3.0, Planning and Preparation for the Unit 3 Outage and ALARA Program Performance, that "the licensee plans to augment the staff with about 62 experienced additional radiological controls personnel." The actual plans were to augment the staff with 70 additional experienced radiological controls personnel. In addition, the report stated the Unit 3 outage occupational goal was 310 person-rem, when the goal was actually 300 person-rem. The report also stated a total annual exposure goal for Units 2 and 3 of 499 man-rem. The initial total annual exposure goal for Units 2 and 3 was 555 person-rem, which had been re-forecasted to 499 person-rem.

The inspection report states in Section 4.0, Organization and Staffing, that "the licensee's radiation protection group also lost five technicians who transferred to the operations and maintenance groups." The radiation protection group actually re-assigned a total of 10 technicians to the operations and maintenance groups.

The inspection report states in Section 5.0, Oversight of Program Activities and General Performance, that "Current audits appeared heavily focused on compliance aspects of the current program. There appeared to be limited quality assurance evaluation of program adequacy". The Health Physics audit completed on August 8, 1995, which was given to the inspector, utilized a strong performance based approach to verify the adequacy of the entire Health Physics program. An auditor from Nuclear Quality Assurance met with the inspector during the inspection period and the inspector mentioned the audit had good performance based information. During the exit meeting, there was no mention of the audit being "heavily focused on compliance aspects" or an appearance of a "limited quality assurance evaluation of program adequacy". The use of national and international radiation protection standards was stated at the exit as an enhancement to the current program. A follow-up phone call to the inspector was made on September 15, 1995, after it was learned that during the inspector's daily debrief he mentioned that audits were compliance based. During this call to the inspector, we think the inspector agreed that there were good performance based activities performed during the audit.

The inspection report states in Section 6.0, General Radiological Controls (External and Internal Exposure Controls), that "it was not apparent that, due to air flows in the "Hot Machine Shop" and the location of the air samplers, airborne radioactivity samples collected during handling of the contaminated TIP shield were representative of the worker's breathing zones. However, the licensee whole body counted the individuals and no intake of airborne radioactive material was identified." A HP Supervisor discussed the location of personnel, materials and equipment in the Hot Shop at the time of the event with the inspector and drew a diagram to depict the configuration of the room for the inspector. The inspector was also informed of the results of a test where smoke tubes were used to recreate the flow pattern of personnel breathing zones with the Hot Shop ventilation air flow, air samplers and equipment in the same configuration as at the time of the incident. The results of the test, actual air sampler results and whole body counts support the location of the air samplers and air flows in the Hot Shop as appropriate and representative of the workers' breathing zones at the time of the event.

The inspection report states in Section 8.0, General Plant Tour Observations, that "during the tours, the inspector observed three rusting 55-gallon drums at the south side of Unit 2." It should be noted that the rust was only on the top of the drums outside of the plant as a result of rain water settling on the lids.