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December 5, 1995

Mr. D. M. Smith
Senior Vice President-Nuclear
PECO Energy
Nuclear Group Headquarters
Correspondence Control Desk
P. O. Box 195
Wayne, Pennsylvania 19087-0195

SUBJECT: COMBINED INSPECTION REPORT NOS. 50-277/95-23; 50-278/95 23 AND
NOTICE OF VIOLATION - REPLY

Dear Mr. Smith:

This letter is in response to PECO Energy's correspondence, dated November 2, 1995, from Mr. Gerald Rainey, in response to the subject inspection report and Notice of Violation involving failure to adhere to radiation protection procedures. In your response, you requested clarification as to why we did not exercise discretion relative to this matter. Accordingly, we have provided the basis for our determination in the enclosure to this letter.

We have examined your concern that the inspector did not characterize your disagreement with his assessment that led to the violation, and that your own perspective on this matter may not have been clearly communicated to NRC regional management. Our inspector indicates that he communicated the details of his findings to your staff on a daily basis, that the exit meeting was a summary of the inspection effort, and that your staff did not voice any objection to, or take issue with, his assessment of this matter during that meeting on August 31, 1995. Consistent with NRC policy, the inspector indicated that he considered the matter unresolved pending review by NRC management and indicated a number of options that could be considered. Subsequently, on September 21, 1995, Dr. R. Bores, Chief-Facilities Radiation Protection Section informed Mr. D. DiCello, Radiation Protection Manager, that NRC management reviewed the matter, determined that a Notice of Violation should be issued, and discussed the basis for the decision. Mr. DiCello provided no new information or concern with the decision at that time.

The inspection report and Notice of Violation were issued on September 22, 1995. Subsequently, on October 6, 1995, in a telephone conference with Messrs. W. Schmidt and R. Nimitz of our office, Messrs. G. Rainey and G. Edwards, of your staff, expressed concern about the decision to cite the violation in view of their perception that the licensee's assessment of the matter may not have been adequately considered or understood by the inspector, and that the inspector's intention and rationale was not adequately communicated or understood during the exit meeting. During that meeting, Mr. Nimitz again discussed the basis for the decision. While we understood that your staff was not pleased with our decision to cite the violation, no additional clarifications or facts were communicated that would

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cause us to reconsider our determination in this matter. Notwithstanding, we apologize for any lack of clarity or specificity relative to the communication of inspection findings at the exit meeting or in the inspection report, and will seriously endeavor to improve the communication of inspection results and our characterization of your viewpoint in the future. We would be pleased to further discuss any of these matters with you in a management meeting in NRC Region I. If you desire such a meeting, please contact Mr. John R. White, Chief, Radiation Safety Branch, at 610-337-5114.

Your letter also provided minor technical correction or clarification of information that we reported relative to your staffing plans and occupational exposure goals; and provided your perceptions relative to the inspector's characterization that your radiation protection program audit activities were focused on compliance aspects, and his assessment of the adequacy of the air sampling arrangement used to evaluate personnel intake of radioactive materials. Relative to these latter issues, we have examined the inspection report and reviewed the concerns with the inspector. Subsequently, we find that the report adequately reflects the inspector's independent assessment and specific observations relative to radiation protection audits and air sampling arrangements. The inspection indicated that your audit and self-assessment programs were very good. The recommendations were offered for your consideration and were not an issue in this inspection. The comments on the adequacy of air sampling arrangement, relative to effectively monitoring the breathing zone of the workers involved in the TIP shield work, reflects the inspectors independent assessment and evaluation. The inspector also noted that no intakes of radioactive materials were apparent based on your analysis. Again, the matter was not an issue in this inspection.

We have evaluated your response to the violation and find that you have not completely responded as required by the Notice of Violation. While your response identifies immediate actions that were taken, it does not adequately address generic and long-term actions to prevent recurrence. For example, you indicate that a Performance Enhancement Process (PEP) investigation was initiated to determine the causes and reasons for the contamination event, and that the actions taken as a result of that effort are expected to prevent recurrence. However, you have not indicated what the findings of that effort revealed (i.e., what were the causes and reasons), and what consequent corrective actions were implemented to address those factors. Further, you indicated that a Quality Improvement Team (QIT) performed an evaluation of the work process, and that their recommendations will improve radiological and work control. However, you did not provide any discussion of what recommendations were implemented and how improved performance will be achieved. Additionally, you indicated that written expectations for the conduct of work in the Hot Shop were developed and implemented, but provided no information on what those expectations are, and the expected impact on performance.

Accordingly, your response is not sufficient for us to understand and evaluate the adequacy or effectiveness of your corrective measures, particularly relative to actions that will be taken to avoid further incidents. Accordingly, you are required to resubmit your response in accordance with 10 CFR 2.201 within 30 days of the date of this letter in the matter prescribed in the Notice of Violation. If you have any questions relative to this matter, please contact Mr. John R. White of this office.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR).

The responses directed by this letter are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96.511.

Your cooperation with us is appreciated.

Sincerely,

(original signed by)
A. o. Blough for

James T. Wiggins, Director
Division of Reactor Safety

Docket Nos. 50-277; 50-278

Enclosure: NRC Bases for Citing Violation

cc w/encl:

G. A. Hunger, Jr., Chairman, Nuclear Review Board and Director, Licensing
G. Rainey, Vice President, Peach Bottom Atomic Power Station
D. B. Feters, Vice President, Nuclear Station Support
J. Cotton, Director, Nuclear Engineering Division
C. D. Schaefer, External Operations - Delmarva Power & Light Co.
G. Edwards, Plant Manager, Peach Bottom Atomic Power Station
A. J. Wasong, Manager, Experience Assessment
J. W. Durham, Sr., Senior Vice President and General Counsel
P. MacFarland Goelz, Manager, Joint Generation, Atlantic Electric
B. W. Gorman, Manager, External Affairs
R. McLean, Power Plant Siting, Nuclear Evaluations
D. Poulsen, Secretary of Harford County Council
R. Ochs, Maryland Safe Energy Coalition
J. H. Walter, Chief Engineer, Public Service Commission of Maryland
L. Jacobson, Peach Bottom Alliance
Commonwealth of Pennsylvania
TMI - Alert (TMIA)

Mr. D. M. Smith

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Distribution w/encl:
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OFFICE	RI/DRS	E	RI/DRS	RI/DRS	RI/DRS	RI/DRS
NAME	RNimitz RW		RBores RB	JWhite	JWiggins	RWiggin
DATE	11/20/95		11/21/95	11/20/95	11/21/95	12/5/95

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ENCLOSURE

NRC BASES FOR CITING VIOLATION IDENTIFIED IN
NRC COMBINED-INSPECTION REPORT NOS. 50-277(278)/95-23

Our assessment of the event and determination to issue a Notice of Violation was based on the following:

- A. The incorrect assumption by a contractor that the work activity was adequately evaluated and controlled by a health physics (HP) technician is similar in nature to a previous occurrence described in our Inspection Report 50-277(278)/95-05, which resulted in personnel improperly entering a high radiation area on October 31, 1994. Your corrective action, in that case, was to clearly designate HP technicians by a special tag in order to prevent recurrence. Notwithstanding, it is apparent to us that information relative to properly identifying or recognizing a HP technician was either not adequately conveyed or comprehended, or it was ignored by the involved individuals, all of whom were contractor employees. In either case, the corrective action was ineffective, and management's expectations were not met.
- B. The multiple performance and judgment errors exhibited by the contractor personnel involved in this event indicate that the causal factors may be more than just deficiencies in individual performance. The failure to adhere to appropriate work control procedures and the radiation work permit, adequately communicate the nature of the work to the health physics department, perform radiological surveys and evaluations sufficient to correctly identify and control the radiological hazard, and provide adequate supervisory oversight are deficiencies that may be programmatic in nature.
- C. Though this event occurred on August 24, 1995, no generic or long-term corrective actions that addressed the programmatic deficiencies were identified to our inspector by the end of our inspection on August 31, 1995. Our concern in this area continues to be justified in that your response to the violation, issue on November 2, 1995, still does not provide specific information relative to the corrective actions taken to address the deficiencies involved, including steps to prevent recurrence.

Based on the above, we concluded that the violation was appropriately cited in accordance with the revised "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy) (60 FR 34381; June 30, 1995).

Vice President
Peach Bottom Atomic Power Station



PECO ENERGY

*Fax to Walt P.
from Wayne S.
5 sheets.*

PECO Energy Company
RD 1, Box 208
Delta, PA 17314-9739
717 456 7014

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.

Gerald R. Rainey for GRR

Gerald R. Rainey
Vice President
Peach Bottom Atomic Power Station

Attachment

CCN#95-14096

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cc: R. A. Burricelli, Public Service Electric & Gas
R. R. Janati, Commonwealth of Pennsylvania
T. T. Martin, US NRC, Administrator, Region I
~~W. J. ... 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.

Immediate

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

What were causes and reasons?

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.

Immediate

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.

What are recommendations were implemented? List exp. expectations

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.

What were the actions?

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.

Immediate

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.

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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.

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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.

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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.

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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.