

PHILADELPHIA ELECTRIC COMPANY

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JOSEPH W. GALLAGHER
VICE PRESIDENT
NUCLEAR SERVICES

February 17, 1988

Docket Nos. 50-277
50-278

Mr. William F. Kane, Director
Division of Reactor Projects
Region I
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

SUBJECT: Peach Bottom Atomic Power Station Units 2 and 3
Response to Combined Inspection Report Nos.
50-277/87-24 and 50-278/87-24

Dear Mr. Kane:

Your letter dated January 11, 1988 transmitted Combined Inspection Report Nos. 50-277/87-24 and 50-278/87-24 concerning the routine resident safety inspection conducted from October 17 to November 27, 1987. Appendix A of the letter identified two activities which appeared to have not been conducted in full compliance with NRC requirements.

Attachment A of this letter provides a restatement of these items, followed by the Philadelphia Electric Company's responses. On February 9, 1988, Mr. W. M. Alden (Philadelphia Electric Company) and Mr. J. Linville (Nuclear Regulatory Commission, Region I) discussed the need for an extension in response to these Inspection Reports. This extension was found to be acceptable.

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

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Very truly yours,

Joe Gallagher

Attachments

cc: Addressee
W. T. Russell, Administrator, Region I, USNRC
T. P. Johnson, Resident Site Inspector

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Violation:

10 CFR 50, Appendix B, Criterion VI, "Document Control," requires that measures be established to control the issuance of documents, such as instructions, procedures, and drawings, including changes thereto, which prescribe all activities affecting quality.

Section 3, Paragraph 3.1.6 of the PECO Quality Assurance Plan, Volume 1, requires the following:

"Design changes to modifications, including field originated changes, shall be subject to design control measures commensurate with those applied to the original design of the modification and shall be approved by the organization approving the original modification design unless PECO documents or procedures specify otherwise. The independent design review of design changes shall include the changed information and an evaluation of the effects of the changes on the overall design."

Contrary to the above, on October 5, 1987, a field initiated change to the PORC approved repair procedure for emergency cooling water system pipe support 48HB-H58 was made without document approval.

Admission or Denial of the Violation:

Philadelphia Electric Company acknowledges the violation as stated.

Reason for the Violation:

This violation was the result of a personnel error since Philadelphia Electric Company personnel failed to adhere to the requirements of the Engineering and Research Department Procedures. A field initiated change to an issued design was implemented without documentation of the required prior approvals for Emergency Cooling Water System pipe support 48HB-H58.

At the time of the violation, repair work was being performed on pipe support No. 48HB-H58 of the Emergency Cooling Water System. The pipe support was to be repaired in accordance with the disposition of Nonconformance Report CD-P-903 which directed that the support's base plate be removed prior to

replacing damaged grout and anchor bolts. This Philadelphia Electric Company Construction Division Nonconformance Report (CD-P-903) was generated based on repair work described by the repair request (R-087). The Mechanical Construction Engineer (MCE) responsible for the repair determined in the field that this repair could be effectively performed without removal of the base plate. Discussions between the MCE and the Responsible Engineer who developed the repair criteria included in the approved Nonconformance Report incorrectly concluded that the prescribed direction was merely an aid to facilitate the replacement of the damaged items.

Based on this discussion, the MCE did not have the support's base plate removed prior to commencing the repair activities. The MCE did not recognize that this action constituted a change to the approved repair request and was not in conformance with Engineering and Research Department Procedures.

Extent of Significance of the Violation:

The significance of this event is minimal. Although this event does represent a deviation from approved procedures, discussion between the Responsible Engineer and the MCE concerning the repair criteria did occur prior to the incident. The failure to document the results of this discussion resulted in the violation. The evaluation of the change to the repair criteria was subsequently documented as delineated in the "Corrective Actions" section and found to be acceptable. Therefore, the safety significance of this event is minimal.

Corrective Actions Taken and Results Achieved:

Nonconformance Report CD-P-937 was issued on November 5, 1987 and dispositioned to permit the repair activities to be accomplished with the base plate in place. The review and approval of the disposition was completed on January 12, 1988.

Action to Prevent Recurrence:

A Finding Report (SS87-16-1) was issued by the site Quality Assurance organization to require documented action to prevent recurrence of this problem. On December 28, 1987 a memorandum was issued to all Mechanical Construction Engineers identifying the deficiency and reminding them of the procedural

requirements that must be adhered to when a change to a Nonconformance Report disposition is necessary.

Violation (four events):

10 CFR 20.201, "Surveys", paragraph (a), states that "survey" means an evaluation of the radiation hazards incident to the use, release, disposal, or presence of radioactive material or other sources of radiation under a specific set of conditions, and where appropriate, may be a physical measurement of levels of radiation or concentrations of radioactive material present; paragraph (b), requires the licensee to make or cause to be made such surveys as (1) to comply with the regulations in this part, and (2) are reasonable under the circumstances to evaluate the extent of radiation hazards that may be present.

10 CFR 20.203, "Caution signs, labels, signals and controls," paragraph (c)(1), requires that high radiation areas shall be conspicuously posted with a sign or signs with the radiation caution symbol and the words "CAUTION HIGH RADIATION AREA".

A. Event 1:

Contrary to the above, on October 7, 1987, radiation levels in the vicinity of the Unit 2 regenerative heat exchanger room door were 300 mr/hr, constituting a high radiation area, for a period of 14 hours, and the area was not surveyed or posted.

Admission or Denial of the Event:

Philadelphia Electric Company acknowledges this event as stated.

Reason for the Event:

The cause for this event was the failure of the Health Physics Technician to comply with Health Physics Procedure HP-210 ("Radiation Survey Techniques").

Failure to comply with this procedure resulted in an inadequate survey of a bag of contaminated trash which was placed in a radwaste drum and moved to a location outside the

regenerative heat exchanger room door. This location was posted as a "Contaminated Area"; however, the radiation levels were 300 mR/hr at 18 inches from the drum which constituted a "High Radiation Area". Failure to perform an adequate survey as required by the appropriate health physics procedure resulted in the bag of contaminated trash being located in an area which was not appropriately posted for the radiation level.

Immediate Corrective Actions Taken and Results Achieved:

Immediate corrective measures included:

- a. Removal of the trash bag and placing it in a locked High Radiation Area.
- b. A Health Physics Deficiency Report (No. 87-1209) was initiated to investigate the incident.
- c. Because the source was removed upon detection no corrective measures for an inadequate posting were necessary.

The above corrective actions were completed by October 7, 1987. The Health Physics Deficiency Report was completed on November 19, 1987.

B. Event 2:

Contrary to the above, on October 19, 1987, inadequate surveys to evaluate changing radiation hazards were conducted in the 2A residual heat removal room resulting in unplanned radioactive material intake of 42 maximum permissible concentration-hours for one individual.

Admission or Denial of the Event:

Philadelphia Electric Company acknowledges this event as stated.

Reason for the Event:

The cause for the unauthorized exposure in the Unit 2 Residual Heat Removal (RHR) 'A' pump room was the result of the Health Physics Technician failing to adequately establish and monitor changing radiological conditions in the work area as required by Health Physics Procedure HP-210 ("Radiation Survey Techniques").

Immediate Corrective Actions Taken and Results Achieved:

Immediate corrective actions included:

- a) A Health Physics Deficiency Report (No. 87-1221) was initiated to investigate the incident.
- b) Disciplinary measures were taken for the technician involved.
- c) The incident and the contributing factors were reviewed with the other technicians in the Applied Health Physics group in order to prevent recurrence of the event.
- d) A poor work practice of squeezing air from a bag of contaminated material was discussed with the individual who received the exposure.

The above corrective actions were completed by December 12, 1987. The above Health Physics Deficiency Report was completed as of November 19, 1987.

C. Event 3:

Contrary to the above, from August 10, 1987 to October 26, 1987, a radwaste drum manipulator was stored without being surveyed in an unrestricted area near the North Substation with radiation levels of 12,000 counts per minute fixed and 1,800 disintegrations per minute per 100 square centimeters smearable.

Admission or Denial of the Event:

Philadelphia Electric Company acknowledges this event as stated.

Reason for the Event:

The cause for the subject radwaste drum manipulator to be stored without being surveyed in an unrestricted area was the result of the Health Physics Technician's failure to comply with Health Physics Procedure HP-211 ("Contamination Survey Techniques") in that an inadequate contamination survey of the manipulator was performed prior to its release from the restricted area.

Immediate Corrective Actions and Results Achieved:

The following immediate corrective actions were taken:

- a. A Health Physics Deficiency Report (No. 87-1224) was initiated to investigate this incident.
- b. The contaminated component was returned to the plant restricted area.
- c. Release logs were reviewed and the individual who performed the inadequate survey was identified. Disciplinary action was taken against this individual.
- d. The incident and its contributing factors were reviewed with the other technicians in the Applied Health Physics group in order to prevent recurrence.

The above corrective actions were completed by October 26, 1987. The Health Physics Deficiency Report was completed as of November 18, 1987.

D. Event 4:

Contrary to the above, on October 30, 1987, fixed contamination levels of 60,000 counts per minute was found in an unrestricted area near the decontamination trailer at the

southeast side of the protected area. It was determined that the area was not properly surveyed after a spill in 1985.

Admission or Denial of Event:

Philadelphia Electric Company acknowledges this event as stated.

Reason for the Event:

The cause for the identified area not being properly surveyed and correctly posted as a "Contaminated Area" following the radiation spill in 1985 was the result of a failure of the Health Physics organization to conform to the appropriate survey procedures in effect at that time.

Immediate Corrective Actions and Results Achieved:

Upon discovery of the nonconforming condition, the following immediate corrective actions were taken:

- a. All routine work in the affected area was stopped.
- b. All personnel in the area at the time of discovery of the event were monitored and found free of detectable contamination.
- c. A Health Physics Deficiency Report (No. 87-1261) was initiated to investigate the incident.
- d. Affected areas were surveyed and subsequently posted in compliance with site procedures and regulations.
- e. Detectable activity located in the affected area was spray painted with white and magenta paint to identify specific locations.

- f. Plans were initiated to arrange for the removal of contaminated asphalt and relocation of the decontamination trailer by March 15, 1988.

The above corrective actions will be completed by March 15, 1988.

Extent or Significance of the Violation
Event 1, 2, 3 and 4 Cited Above

Philadelphia Electric Company acknowledges that the events cited represent a failure to conform to health physics procedures. Since the continuation of such failures would represent a safety concern to plant personnel, Philadelphia Electric Company has instituted significant changes in the Health Physics Program with the objective of preventing further breakdowns. Several of these changes address Health Physics management as well as significant procedural and Health Physics personnel upgrades. Many of these changes were delineated in our response to Combined Inspection Report 50-277/87-07 and 50-278/87-07. The changes represented in our "Corrective Actions" and "Actions to Prevent Recurrence" section of this report represent ongoing refinement to these upgrades. We expect that further improvements will be occurring during the implementation of these corrective actions.

Actions Taken to Prevent Recurrence
Events 1, 2, 3 and 4 Cited Above

An evaluation of the above four events which identified a failure to perform adequate surveys was conducted to determine corrective actions which should be taken to avoid further noncompliances. This evaluation indicates a programmatic weakness in the implementation of survey requirements. Other root causes common to the four cited events originate from personnel errors fostered by inattentiveness to detail, lack of understanding of Radiation Work Permit requirements, and other procedural inadequacies. To correct these weaknesses the following actions have been or will be taken:

1. An effort has been initiated to maintain contractor Senior Health Physics Technicians at or above ANS/ANSI 3.1 experience requirements. The target date for accomplishing this goal has been set at March 1, 1988.

2. Philadelphia Electric Company and contractor technician performance evaluation programs were put in place in December 1987.
3. Weekly meetings of the Applied Health Physics group were instituted in December 1987 to promote the dissemination of industry and station information, and encourage discussion and review of current station practices and events.
4. The Administrative Procedure (No. A-33) governing the handling of radioactive material is currently undergoing a major revision to upgrade the control, survey, and release of material from radiologically controlled areas. This procedure will be approved by April 1, 1988.
5. The seriousness of the recurrent failure to perform adequate surveys supported by discussion of root causes of the four events was discussed by the Senior Health Physicist in a meeting of the Applied Health Physics Group on February 4, 1988.
6. The Notice of Violation and the supporting narrative contained in Inspection Report 50-277/87-24 and 50-278/87-24 were placed in Health Physics Required Reading on February 4, 1988.

Philadelphia Electric Company agrees that the Health Physics Deficiency Report (HPDR) investigative technique needed improvement. In early December, 1987 a new procedure ("Radiological Occurrence Reports") was drafted to involve the Applied Health Physics Supervisor more heavily in immediate corrective measures and the documentation of methods to prevent recurrence. In addition, the procedure requires the prompt reporting of specified occurrences to plant management to assure timely management involvement in problem resolution. This procedure is in final review, and will be approved in March, 1988.