

PHILADELPHIA ELECTRIC COMPANY

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June 11, 1982

Mr. R. C. Haynes, Administrator
Region I
US Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

SUBJECT: Licensee Event Report Narrative Description

Dear Mr. Haynes:

The following occurrence was reported to Mr. Nimitz, Region I, Office of Inspection and Enforcement on May 13, 1982.

Reference:	Docket No. 50-277
Report No.:	2-82-11/1T
Report Date.:	June 11, 1982
Occurrence Date:	May 13, 1982
Facility:	Peach Bottom Atomic Power Station RD#1, Delta, PA 17314

Technical Specification Reference:

This LER is reported under the requirements of 10 CFR 20.403 (b) which requires notification of the NRC regional office of any incident which may have caused or threatens to cause:

- 1) Exposure of the whole body of any individual to 5 rems or more of radiation; exposure of the skin of the whole body of any individual to 30 rems or more of radiation; or exposure of the feet, ankles, hands, or forearm to 75 rems or more of radiation;"

IE 22

Description of Event:

In preparation for maintenance on a Unit 2 reactor water cleanup non-regenerative heat exchanger, chemical decontamination of the system was performed. Following chemical decontamination, the heat exchanger tube sheets were exposed, and eddy current testing of individual tubes was initiated in order to determine the condition of the heat exchanger tubes as well as to identify the source of leakage. Based on the smearable contamination on the heat exchanger tube sheet, protective clothing was specified. This included a fresh air respirator, as well as anti-contamination clothing.

Eddy current testing of the upper heat exchanger was performed on 5/13/82. Unanticipated high levels of contamination within the tubes was transported, via the eddy current probe, from the tube internals to the room, including the outside of the protective clothing worn by the individuals moving the detector in and out of the heat exchanger. Upon exiting the heat exchanger area, the individuals removed their protective clothing in accordance with procedures. However, because of the high levels of contamination on the outside of the clothing, some skin contamination to three individuals occurred. This was detected by these individuals while frisking immediately after removal of their protective clothing. The maximum skin contamination levels identified were 72 mrad/hr. beta, and 2 mrem/hr. gamma in the area of one individual's shoulders. Two other individuals experienced contamination of lower values. All three individuals were decontaminated to less than 100 counts per minute. A fourth individual involved in doing this work had insignificant (<100 cpm) skin contamination.

All four individuals were whole body counted on 5/13/82 through 5/17/82. The wholebody count summary is attached as Appendix A. The individual with the highest levels of external contamination showed whole body readings of 57%* of the investigatory level (as defined by ICRP publication 10) or 3% of the maximum permissible body burden. The maximum whole body counter values of 154%* of the investigatory level or 8% of the maximum permissible body burden was identified on another individual. A third individual showed whole body readings of 59%* of the investigatory level or 3% of the maximum permissible body burden. The fourth individual showed negligible contamination (<24% of investigating level).

* The values shown reflect residual contamination after the showers.

Exposure data was gathered from the individual's radiation badges and used to assess a radiation dose and assign an exposure to each individual. The badge readings are summarized in Appendix B, while the calculated assessed dose to each individual is summarized in Appendix C of this report.

Investigation of the Occurrence

An investigation revealed that the health physics technician failed to properly monitor the work area per 10 CFR 20.201(b). The Radiation Work Permit (RWP) associated with the work did not anticipate the contamination levels within the system because of the decontamination process previously completed.

The heat exchanger had been decontaminated to approximately 300 mrad/hr smearable. A visual inspection was performed and the tubes appeared clean. Later investigation revealed that the contaminating material causing the problem had been trapped, due to a displaced baffle, in an area of the heat exchanger that could not be checked by the HP.

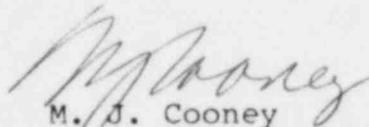
The eddy current probe was inserted into this area and withdrawn transmitting the contamination to the clothes of the workers performing the test.

Corrective Action

The Health Physics technician who failed to perform a survey has been counseled and reassigned to less hazardous operations. The Health Physics technical staff is more closely monitoring high risk areas. Health Physics training will be reviewed to ensure emphasis is placed on the technicians responsibility to the work area to which he is assigned. The procedure outlining the method used to obtain an RWP will be reviewed and if necessary, revised for clarity. The format of the RWP will be evaluated in order to determine if any inconsistencies or inadequacies exist.

The four individuals involved in this occurrence have been granted clearances to return to their normal work areas based upon the results of the investigation and their exposure assessments.

Very truly yours,



M. J. Cooney
Superintendent
Generation Division - Nuclear

cc: Director, NRC - Office of Inspection & Enforcement
Mr. Norman M. Haller, NRC - Office of Management &
Program Analysis
C. J. Cowgill, Site Inspector