

PHILADELPHIA ELECTRIC COMPANY

2301 MARKET STREET

P.O. BOX 8699

PHILADELPHIA, PA. 19101

(215) 841-4000

January 11, 1988

Docket No. 50-277  
50-278

Mr. William T. Russell, Administrator  
Region I  
U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

SUBJECT: Special Report - Discharge of Liquid  
Waste Without Required Treatment

Reference: Peach Bottom Atomic Power Station  
Units 2 and 3 Technical Specifications  
3.8.B.4 and 6.9.2

Dear Mr. Russell:

This Special Report is submitted pursuant to the requirements of Peach Bottom Atomic Power Station Technical Specifications 3.8.B.4 and 6.9.2. Limiting Condition for Operation (LCO) 3.8.B.4 states:

All liquid effluent releases at and beyond the SITE BOUNDARY shall be processed through one of the Radwaste subsystems or combinations of these subsystems listed below, prior to release...

...Whenever the release(s) would cause the projected dose, when it is averaged over one month to exceed 0.12 mrem to the total body or 0.4 mrem to any organ (combined total from the two reactors at the site).

With the liquid waste being discharged without treatment as required above, prepare and submit to the Commission within 21 working days pursuant to Specification 6.9.2, a Special Report which includes the following information:

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- a. Explanation of why liquid radwaste was being discharged without treatment, identification of any inoperable equipment or subsystems and the reason for the inoperability.
- b. Action taken to restore the inoperable equipment to operable status.
- c. Action taken to prevent a recurrence. Reactor shutdown is not required.

Specification 6.9.2 states:

Special reports shall be submitted to the Director of the appropriate Regional Office within the time period specified for each report.

Description of the Event:

On December 16, 1987, with both units shut down, a planned release of liquid radioactive waste from the "B" laundry drain tank (LDT) was made. The discharged water was not treated as described in LCO 3.8.B.4. LCO 3.8.B.4 restricts the release of liquid waste that is not treated by a radwaste system, whenever the projected monthly whole body dose from that release exceeds 0.12 mrem. The projected average monthly whole body dose at the time of release was 0.174 mrem. The events leading to and following the release are described below.

On December 15, in preparation for a planned release from the "B" LDT, the chemistry technician performed the calculation required by procedure HPO/CO-18, "Processing Liquid Radioactive Waste". According to the calculation, the average monthly whole-body dose would be 0.174 mrem. He observed that this value was above the limit stated by the procedure, 0.12 mrem, which corresponds to the LCO. The technician noted on the release form that a variance was required to allow the release. (A variance is permission, from someone in authority, to exceed an administrative limit.) However, the technician, shift supervisor and plant chemist on call, each failed to recognize that the variance would violate an LCO, and they approved the variance at 0015 hours on December 16. At 0040 hours, the release began and was completed at 0120 hours. At 1330 hours, the senior chemist recognized the Technical Specification implications and notified the control room. A shift permit was applied to the laundry drain system to prevent further releases via this pathway until actions could be taken to prevent recurrence. The equipment used

to process laundry waste is described in Section 9.2.4 of the Updated Final Safety Analysis Report (UFSAR), was operable, and the liquid was filtered prior to discharge.

The EIIS code for the components in this report are: FLT-filter demineralizer; DRN-drain and TK-tank. The EIIS code for the system in this report is: WG-Sanitary Waste Disposal System.

#### Consequences of the Event:

The consequences of this event are judged to be minimal because the actual activity released was well below the maximum permissible concentration (MPC) limits set forth in 10CFR20 Appendix B, Table II. The actual body and bone doses released were also below LCO 3.8.B.2 limits. The specific activities released from the LDT and the 10CFR20 limits are shown below.

Isotope	Specific Activity in the LDT( $\mu\text{Ci/ml}$ )	Specific Activity Released ( $\mu\text{Ci/ml}$ )	MPC ( $\mu\text{Ci/ml}$ )	% MPC
Co-60	2.55E-6	2.52E-10	3E-5	8.4E-4
Zn-65	2.05E-6	2.03E-10	1E-4	2.0E-4
Cs-134	8.80E-7	8.70E-11	9E-6	9.7E-4
Cs-137	2.0E-6	1.98E-10	2E-5	9.9E-4
Total	7.48E-6	7.40E-10	1.59E-4	*4.7E-4

\* 4.7E-4% of the total MPC for the four isotopes was released.

The actual body and bone doses for the LDT were calculated to be  $2.17\text{E-}4$  mrem and  $1.85\text{E-}4$  mrem, respectively. This corresponds to 0.007% of the quarterly body dose and 0.002% of the quarterly bone dose limits set forth in LCO 3.8.B.2. The estimated beta dose released is 0.004% of the MPC.

#### Cause of Event:

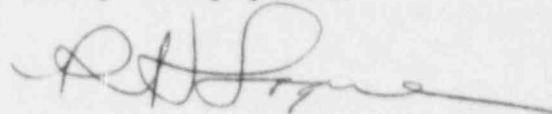
The cause of this event is a procedural deficiency, perhaps compounded by a personnel error. The chemistry technician, shift supervisor and plant chemist each failed to realize that the procedural limit corresponds to the Technical Specification limit. Although the References section of the procedure includes LCO 3.8.B.4, it does not specifically show that the procedural limit is the Technical Specification limit.

Action Taken to Prevent Recurrence:

All Chemistry personnel were informed of the release, and the event was discussed in detail with all personnel on call. The Chemistry Section is revising the procedure (HPO/CO-18) to show what regulations and limits are tied to the various release procedural limits. This reference will flag the technician performing the procedure, as well as supervisors reviewing it, to the origin of the limit and the acceptability of a variance from that limit. The revision is scheduled to be implemented by February 15, 1988. No release of liquid waste from the laundry drain system will be conducted before implementation of the revision.

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

Very truly yours,



cc: Addressee  
T. P. Johnson, NRC Resident Site Inspector