

# PHILADELPHIA ELECTRIC COMPANY

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November 29, 1979

Mr. Boyce H. Grier, Director  
Office of Inspection and Enforcement  
Region I  
United States Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, PA 19406

Dear Mr. Grier:

SUBJECT: License Event Report Narrative Description

Reference:	Docket No. 50-277
Report No:	LER 2-79-48/3L
Report Date:	November 29, 1979
Occurrence Date:	October 30, 1979
Facility:	Peach Bottom Atomic Power Station RD. 1, Delta, PA 17314

## Technical Specification Reference:

This occurrence is reportable under Technical Specifications 3.8.C.7.a and 3.8.C.8. Technical Specification 3.8.C.7.a states "During release of gaseous wastes the following conditions shall be met: monitors for gross gas activity, iodine and particulate sampler shall be operable. Technical Specification 3.8.C.8 states "One reactor building exhaust vent and one plant stack monitoring system shall be operable and the off-gas radiation monitors shall be operable or operating whenever steam pressure is available to the air ejectors. If these requirements are not satisfied, a normal orderly shutdown shall be initiated within one hour, and the reactor shall be in the hot shutdown condition within 10 hours in the case of the stack monitor or 10 days in the case of the building vent monitor."

## Description of the Event:

With Unit 2 at power and Unit 3 off for refueling, at approximately 4:45 pm on 10/30/79 during relamping of the main

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off-gas stack observation lights, it was discovered that the main stack isokinetic sample line was broken. The defective sample line was removed from service and a temporary isokinetic probe and sample line was placed in service within 35 minutes after the discovery. The damaged sample line was temporarily repaired and returned to service within two hours after the event and permanent repairs were performed the next day (10/31/79). No unit power reduction was required per Tech. Spec. 3.8.c.8 because the temporary sample line was in service in less than one hour after the event.

Before returning to service, the permanent sample line was velocity cleaned using compressed air. When the system was placed in service, a significant decrease in sample vacuum was noted which indicates a partial restriction had existed. It is believed that the restriction reduced the indicated release rate of short lived particulate.

#### Consequences of Event

After permanent repairs were made to the sample line, the indicated noble gas release rate increased by a factor of approximately 2.1. Based on a review of the isotopic gamma analysis done on the holdup pipe samples during the past six months which showed normally lower readings than the calculated release rate from the noble gas radiation monitors, and based on the conservatism in the noble gas radiation monitor calculation, it is believed that a correction factor need not be applied to calculated noble gas releases during the period between the estimated failure date and the date of repair.

The iodine (I31) and particulate (half lives less than eight days) indicated release rate increased by a factor of about six after repairs were made. It is believed that a portion of the increase resulted from the cleaning of the sample line. However, since the release rates before and after the repair were so very low (about 0.00055% of Tech Spec. instantaneous limit), it is extremely difficult to determine whether the change in release rate was due to sample line problems or to fluctuations in the release rate. Using a correction factor of six, the highest instantaneous release rate during the last six months would have been only 0.02% of Tech spec limit. Applying the factor of six results in an insignificant change in the quarterly Tech Spec release limit.

#### Cause of Event

Upon inspection of the sample line failure it appeared that the line had been crimped at a "U" clamp support bracket. It is believed that the failure resulted from subsequent fatigue from expansion, contraction, and wind loading.

In retrospect, after reviewing the main stack radiation recorder traces, it appears that the failure may have occurred on

September 14, 1979, during a violent thunderstorm. After the storm, the monitor experienced low sample flow. After the correct flow was established, monitor readings dropped by a factor of two. An investigation revealed no apparent problems and the monitor continued to respond to varying plant conditions, therefore it was believed to be operating correctly. Even with a broken sample line, the monitor received a diluted but representative sample of stack gas which was contained by the insulation and heating tracing.

#### Corrective Action

Within 35 minutes of the discovery of the failure, a temporary isokinetic probe and sample line was placed into service in accordance with Special Procedure No. 298 which permitted normal operation of main stack radiation monitors with temporary iodine and particulate sampling. Temporary repairs were completed and normal operation resumed on the main stack radiation monitoring system within two hours of the event.

The next day, 10/31/79, the sample line was permanently repaired. Before returning to service, the permanent sample line was velocity cleaned using compressed air. After the system was placed into service, a significant decrease in sample vacuum was noted which indicates there had been a partial restriction in the line. An air test at 40 psig was successfully performed to prove the integrity of the sample line.

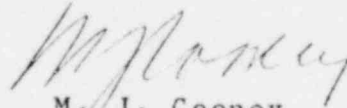
The sample line was checked at each of the support brackets for crimping and breakage and no evidence of damage was found. In addition, once a week during the normal filter change, a differential pressure test is now performed to prove the integrity of the sample line.

Philadelphia Electric Company's Engineering Department is reviewing the failure to determine if additional corrective action is required.

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The iodine and particulate release rates will be increased by a factor of six from September 14, 1979 to October 30, 1979 in the semi-annual report to conservatively account for releases during this period. Because of the conservative calculation method used for noble gas releases no correction is anticipated.

Very truly yours,



M. J. Cooney  
Superintendent  
Generation Division - Nuclear

Attachment

cc: Director, NRC - Office of Inspection and Enforcement  
Mr. Norman M. Haller, NRC - Office of Management &  
Program Analysis

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