



Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038  
Salem Generating Station

July 23, 1992

U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

Dear Sir:

SALEM GENERATING STATION  
LICENSE NO. DPR-75  
DOCKET NO. 50-311  
UNIT NO. 2

SPECIAL REPORT 92-5

This report addresses the inoperability of the R45 Radiation Monitoring System channels for greater than seven (7) days. This report has been prepared in accordance with the reporting requirements of Technical Specification 3.3.3.1.b Table 3.3-6 Action 26 pursuant to Technical Specification 6.9.2.

Sincerely yours,

C. A. Vondra  
General Manager -  
Salem Operations

MJP:pc

Distribution

The Energy People  
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PLANT IDENTIFICATION:

Salem Generating Station - Unit 2  
Public Service Electric & Gas Company  
Hancock's Bridge, New Jersey 08038

IDENTIFICATION OF OCCURRENCE:

Radiation Monitoring Channels 2R45B and 2R45C inoperable for greater than seven days due to equipment failure

Event Date(s): 7/20/92

Report Date: 7/23/92

This report was initiated by Incident Report No. 92-439.

CONDITIONS PRIOR TO OCCURRENCE:

7/13/92: Mode 4 (Hot Standby)  
7/20/92: Mode 1 (Power Operation)

DESCRIPTION OF OCCURRENCE:

On July 13, 1992 at 0230 hours, Radiation Monitoring System (RMS) channels 2R45B and 2R45C were declared inoperable and were removed from service. The annunciator circuit was causing alarm actuations (i.e., deenergization of the R41 RMS channels). Since the R45 RMS channels have not been returned to service within seven days, this Special Report is required in accordance with Technical Specification 3.3.3.1.b Table 3.3-6 Action 26 which states:

"With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirements, initiate the preplanned alternate method of monitoring the appropriate parameter(s), within 72 hours, and:

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or
2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

APPARENT CAUSE OF OCCURRENCE:

The root cause of this event is attributed to equipment failure. The channels' annunciator circuit was exhibiting sensitivity to static electric charges. This failure mechanism was reproducible. Discussions with the vendor have indicated that, based on their experience, an integrated circuit chip or a transistor in the annunciator circuitry may have been failing. Upon receipt of new parts, they will be installed and the channel tested.

ANALYSIS OF OCCURRENCE:

The 2R45B and 2R45C channels monitor the Plant Vent radioactive noble gas releases via representative sampling. The 2R45B monitor is a medium range monitor and the 2R45C channel is a high range monitor. They are both required in operating modes 1 - 4 (power operation to Hot Shutdown). Their purpose is to monitor significant releases of radioactive materials in compliance with the Updated Final Safety Analysis Report (UFSAR) and federal regulation.

The monitors are manufactured by Eberline Instrument Co. They are energy compensated GM tubes model types Eberline SA14 and SA15, respectively. They have an alarm function (via a common annunciator circuit) which causes deenergization of the 2R41 channels.

CORRECTIVE ACTION:

Upon completion of channel repairs, they will be tested.

General Manager -  
Salem Operations

MJP:pc

SORC Mtg. 92-086