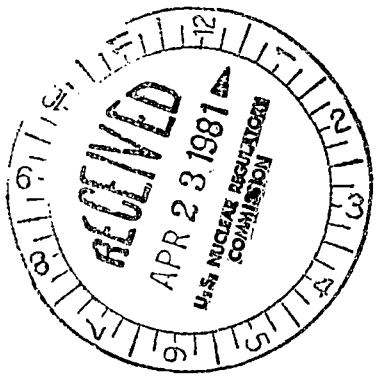
PSE&G

Public Service Electric and Gas Company 80 Park Plaza Newark, N.J. 07101 Phone 201/430-7000

April 14, 1981



Mr. Boyce H. Grier, Director
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Mr. Grier:

LICENSE NO. DPR-75
DOCKET NO. 50-311
REPORTABLE OCCURRENCE 81-03/03L

Pursuant to the requirements of Salem Generating Station Unit No. 2 Technical Specifications, Section 6.9.1, we are submitting Licensee Event Report for Reportable Occurrence 81-03/03L. This report is required within thirty (30) days of the occurrence. Although the report was scheduled for review and transmittal during the week of April 6, unusual station activities during this week and postponement of the scheduled Station Operating Review Committee meeting resulted in the late submittal of this report.

Sincerely yours,

R. A. Uderitz
General Manager -
Nuclear Production

CC: Director, Office of Inspection
and Enforcement (30 copies)
Director, Office of Management
Information and Program Control
(3 copies)

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Report Number: 81-27/03L

Report Date: April 14, 1981

Occurrence Date: 3/11/81

Facility: Salem Generating Station, Units 1 & 2
Public Service Electric & Gas Company
Hancocks Bridge, New Jersey 08038

IDENTIFICATION OF OCCURRENCE:

Airborne Containment - Unit 1 Auxiliary Building (Plant Alert)

CONDITIONS PRIOR TO OCCURRENCE:

Unit 1 - Mode 1 - Rx Power 100% - Unit Load 1130 MW
Unit 2 - Mode 5 - Rx Power 0% - Unit Load 0 MW

DESCRIPTION OF OCCURRENCE:

At approximately 1940 hours on March 10, 1981, an Equipment Operator exiting No. 1 Auxiliary Building was determined to have contamination on his clothing and hands from 1300 - 7000 dpm. The operator had been working in the area of the Waste Disposal Panel (Panel 104) on elevation 64'. Health Physics personnel initiated surveys of the area. These surveys indicated no surface contamination in the area of Panel 104. However, air samples taken at the time indicated ^{88}Rb concentrations approximately 3.37% of MPC. The Health Physics personnel expanded their survey efforts to other areas of elevation 64' where the operator had been. Further air samples taken indicated the ^{88}Rb concentration had increased to approximately 27% of MPC by 2400 hours. At approximately 0030 hours on March 11, 1981, the 64' elevation was ordered evacuated.

During the course of the Health Physics survey efforts, additional operators were dispatched to the Auxiliary Building to attempt to locate the source of the airborne contamination. At approximately 2130 hours, three additional operators were reported to be at the control point and were similarly contaminated with what appeared to be short lived activity.

Previous experience indicated that contamination problems of this type had occurred as a result of problems with the Boric Acid Evaporator, the floor drains, the Waste Gas Compressors and leaks in the Vent Header. Since the Boric Acid Evaporator had not been in service since the previous day and there was no evidence of the floor drains backing up, an operator was dispatched at approximately 2215 hours to shutdown No. 11 Waste Gas Compressor.

At approximately 2230 hours, the airborne contamination was identified to the Control Room as ^{88}Rb; and at approximately 2245 hours, additional Auxiliary Building Supply and Exhaust Fans were started in order to provide an increased turnover rate for the Auxiliary Building Atmosphere. At the same time, RMS Channel R-16 on the plant vent stack was monitored and showed no significant change.

At approximately 0130 hours, the Control Room was informed that the airborne contamination levels on 64' elevation were not decreasing and that the airborne levels on elevation 84' were beginning to increase. At approximately 0200 hours, an operator was again dispatched to the Auxiliary Building and instructed to shutdown No. 12 Waste Gas Compressor and to verify 1WG73, which vents the Boric Acid Evaporator Vent Condenser to the Vent Header, was closed. The operator reported back at approximately 0315 hours that he had shutdown No. 12 Waste Gas Compressor and that he had, in fact, found 1WG73 open, which he then closed.

The Senior Shift Supervisor notified Health Physics personnel at approximately 0330 hours that it was believed the problem had been located and isolated. Shortly thereafter, the continuous air sampler on elevation 84' alarmed and increased airborne levels were noted on 100' elevation. The Senior Shift Supervisor then ordered the Auxiliary Building evacuated. Since it was believed that the problem had been located and corrected, it was decided to wait awhile and resample the Auxiliary Building atmosphere. However, at approximately 0445 hours, the continuous air monitors in the Chemistry Lab and Primary Sample Room on elevation 100' and the sampler on elevation 122' alarmed. Air samples of all these locations indicated ^{88}Rb. Samples in Unit 2 Auxiliary Building indicated only traces of ^{88}Rb.

Subsequent air samples indicated the airborne levels in the Auxiliary Building were not decreasing and were now approximately 1000 times normal. At 0820 hours, a station alert status was declared in accordance with Emergency Plan Procedure EP-2.

At approximately 0830 hours, three operators and two supervisors entered the Auxiliary Building wearing respirators and began an investigation of all areas where a possible waste gas leak could occur. An inspection of the Waste Disposal Panel (Panel 104) indicated the vent header pressure was abnormally high. The Waste Gas Compressors were then started, one at a time. When No. 11 was started, it appeared to function properly, an increase in the Gas Decay Tank pressure was noted. However, when No. 12 Compressor was started, there was no corresponding increase in the Gas Decay Tank pressure and the compressor tripped in approximately 2 - 3 minutes.

During the inspection of both Waste Gas Compressor packages, it was noted that the sight glass on the seal tank for the No. 12 Compressor indicated no level. It was felt the level may have been above the sight glass and an attempt was made to drain the seal tank. After several minutes, there was no change and it was decided the tank was, in fact, empty and not full. The level indicator for the tank was checked on Panel 104 and found to be indicating a normal 60%. This was a sufficient level to prevent the automatic makeup valve from opening.

No. 12 Waste Gas Compressor was then isolated from the vent header and No. 11 placed in service to reduce the vent header pressure. The airborne levels in the Auxiliary Building then began returning to normal and the alert status was terminated at 1114 hours.

This occurrence constituted the abnormal degradation of a system designed to contain radioactive material resulting from the fission process IAW TS 6.9.1.9.d.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE:

Equipment Failure - The lower diaphragm of valve 12WG10 had ruptured.

ANALYSIS OF OCCURRENCE:

The rupture of the lower diaphragm of the compressor inlet valve 12WG10 caused the radioactive airborne release. Gases from the vent header leaked through the lower diaphragm of 12WG10 and out the vent hole in the bonnet into the Unit 1 Auxiliary Building atmosphere.

An assessment of the gaseous activity release was made by Public Service personnel. The apparent total fission gas activity released, predominantly ^{133}Xe, was 5.05 Ci. There was no apparent Iodine, Particulate or Tritium activity released during this event. Activity assessments were made using direct sample results and indications from R-16. Onsite area TLD badges were evaluated and indicated no significant onsite exposure above background.

CORRECTIVE ACTION:

The ruptured diaphragm was replaced in kind.

FAILURE DATA:

Grinnell - Diaphragm Valve - Air to Open Spring to Close Weir Type Replacement Part - 1-1/4" - M - EPT

Prepared By W. J. Steele

SORC Meeting No. 81-26

Manager - Salem Generating Station