PSE&G

Public Service Electric and Gas Company P.O. Box E Hancocks Bridge, New Jersey 08038

Salem Generating Station

December 8, 1982

Mr. R. C. Haynes
Regional Administrator
USNRC
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Mr. Haynes:

LICENSE NO. DPR-75
DOCKET NO. 50-311
REPORTABLE OCCURRENCE 82-055/03X-1
SUPPLEMENTAL REPORT

Pursuant to the requirements of Salem Generating Station Unit No. 2 Technical Specifications, Section 6.9.1.9.b, we are submitting supplemental Licensee Event Report for Reportable Occurrence 82-055/03X-1.

Sincerely yours,

H. J. Midura

H. J. Midura
General Manager -
Salem Operations

RH:ks JJ7

CC: Distribution

Report Number: 82-055/03X-1

Report Date: 12-08-82

Occurrence Date: 06-21-82

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

IDENTIFICATION OF OCCURRENCE:

100' Elevation Containment Air Lock - Inoperable.

This report was initiated by Incident Report 82-158.

CONDITIONS PRIOR TO OCCURRENCE:

Mode 1 - Rx Power 100% - Unit Load 1120 MWe.

DESCRIPTION OF OCCURRENCE:

At 1540 hours, June 21,1982, personnel attempting to enter the 100' Elevation Containment Air Lock were unable to open the outer door. Investigation of the problem revealed that the inner door latch mechanism had failed, and the door could not be latched in the closed position. This disabled the outer door through the interlock which prevents simultaneous operation of both doors. The inner door had apparently swung open rapidly, breaking the swing chain and bending the mechanical stop. The 100' Elevation Containment Air Lock was declared inoperable, and Technical Specification Action Statement 3.6.1.3.a was entered retroactive to the time of discovery. The outer door was operable and was maintained closed to provide containment integrity. The handwheels outside the air lock were locked together to prevent operation of the door.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE:

The inner door latch bar assembly apparently did not fully engage the rollers the previous time the door was closed, due to a sheared pin on the locking plate assembly. The latch was sufficiently engaged for the door to pass Surveillance Procedure 4.6.1.3A, however. Upon the completion of the test, the air supply valve to the seal interspace was inadvertently left open. The latch bar engagement then shifted resulting in leakage past the inner seal and pressurization of the air lock itself. Pressure apparently increased until sudden disengagement of the latch caused the door to swing open rapidly.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE: (continued)

The sheared locking plate pin likely resulted from improper operation of the latch mechanism. Personnel, while closing the door, increase the speed of the handwheel during the free rotation part of operation, to gain momentum for the portion which is more difficult due to latch engagement. This results in excessive shear forces on the locking plate pin, each time the latch bar contacts the roller assembly.

ANALYSIS OF OCCURRENCE:

The containment air lock doors allow for personnel access to the Containment Building while providing a redundant barrier as part of overall containment integrity. This barrier prevents the release of radioactive contamination to the environment in the event of a design basis accident. Since the outer door was maintained closed, the containment integrity was maintained, and no risk to the health or safety of the public was involved. No damage beyond that to the air lock door itself resulted from the incident; no personnel injury occurred. The event constituted inadequacies in the implementation of procedural controls which threaten to cause a reduction of the degree of redundancy provided in an engineered safety feature system, and is reportable in accordance with Technical Specification 6.9.1.9.c.

Action Statement 3.6.1.3 requires:

> With one containment air lock door inoperable, lock the operable air lock door closed, and operation may then continue until performance of the next required overall air lock leakage test, provided that the operable air lock door is verified to be locked closed at least once per 31 days; otherwise, be in at least hot standby within the next 6 hours and in cold shutdown within the following 30 hours.

CORRECTIVE ACTION:

Air to the seal interspace was isolated, and as noted, the outer door was maintained locked closed, in compliance with the action statement. The locking plate pin was replaced, and the swing chain and mechanical stop were repaired. Surveillance Procedure SP(O)4.6.1.3A was satisfactorily completed, and the 100' Elevation Containment Air Lock was declared operable. At 1440 hours, June 24, 1982, Action Statement 3.6.1.3.a was terminated.

CORRECTIVE ACTION: (continued)

Proper operation of the air lock doors is presently addressed in the radiation worker training program. Special emphasis has been placed on the importance of engaging the latch slowly to prevent damage to the latch mechanism. The surveillance procedure presently requires that the air to the seal interspace be isolated following testing of the outer door. Personnel responsible for performance of the surveillance procedure were counseled concerning the incident and the possible results of leaving the air valve open. Finally, a DCR has been submitted to relocate the air valve to a more visible location in consideration of the human factors involved.

FAILURE DATA:

Since January 1, 1982, there have been a total of 7 occasions on which containment air locks have failed. Of these, 6 involved the 100' Elevation Air Lock, and 5 were due to problems with the inner door latch. The concentration of problems is likely due to the more frequent use of the lower elevation air lock for containment access.

Chicago Bridge and Iron Co.
Personnel Air Lock
Locking Plate Pin

Prepared By R. Heller

General Manager -
Salem Operations

SORC Meeting No. 82-109