PSE&G

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

November 10, 1979

Mr. Boyce H. Grier
Director of USNRC
Office of Inspection and Enforcement
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Mr. Grier:

LICENSE NO. DPR-70
DOCKET NO. 50-272
REPORTABLE OCCURRENCE 79-55/01T
SUPPLEMENTAL REPORT

Pursuant to the requirements of Salem Generating Station Unit No. 1 Technical Specifications, Section 6.9.1, we are submitting supplemental Licensee Event Report 79-55/01X-1.

Sincerely yours,

F. P. Librizzi
General Manager -
Electric Production

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

1903-1978 75 YEARS OF SERVICE

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Report Number: 79-55/01X-1

Report Date: 11/10/79

Occurrence Date: 8/30/79

Facility: Salem Generating Station
Public Service Electric & Gas Company
Hancock's Bridge, New Jersey 08038

IDENTIFICATION OF OCCURRENCE:

Possible Malfunction of Containment Ventilation Isolation Valves

CONDITIONS PRIOR TO OCCURRENCE:

Operational Mode 5

DESCRIPTION OF OCCURRENCE:

In response to a NRC question concerning torque values required for closing the containment ventilation isolation valves under incident conditions, the vendor determined that the actuator torque values were not sufficient to move the valves from the fully open (90°) position to the closed (0°) position with a design differential pressure of 60 psi. With a differential pressure of between 18 to 24 psi, which is the calculated actual differential, the actuator torque values were marginal.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE:

The apparent cause of this occurrence was that a calculated post incident containment pressure was used during the design of the valve operators while a more conservative design differential pressure was used in the later evaluation of valve closing torques.

ANALYSIS OF OCCURRENCE:

Four 36" butterfly valves are used in the containment ventilation system to purge the containment. Two redundant valves in series (one inside and one outside the containment) are used in the purge inlet line and similarly two redundant valves are used in the purge exhaust line. In addition, the system used during normal operation for pressure-vacuum relief contains two redundant 10" butterfly valves (one inside and one outside containment). The design allowed for these valves to be opened to perform their designed functions when the plant was in any operational mode. They were also required to close, if in an open position, during an incident (LOCA or steam line break) against the resulting containment pressure. If the valves were open at the time of the incident and did not close, the containment would not be fully isolated.

CORRECTIVE ACTION:

For the 36" purge valves, administrative controls will be implemented to keep the valves closed in all operating modes except Modes 5 and 6 (cold shutdown and refueling).

The 10" valves have been modified by the vendor. The modification consists of reworking the actuator and a realignment of the actuator and valve shaft such that the full open position corresponds to 60° open instead of the original 90° open. This will significantly reduce the required closing torque with a 60 psi differential to a value well below the available actuator torque. The new required closing torque with a 60 psi differential will be 4,572 in-lbs., whereas the actuator torque available will be 9,100 in-lbs., (spring force only, with no air assist).

Based on the above evaluation, we believe that operation of the 10" valves is justified in all modes. Upon return of the unit to service, it is our intention to open and close these valves without restriction on an as-needed basis.

FAILURE DATA:

Not Applicable

Prepared By A. W. Kapple

SORC Meeting No. 82-79

H. J. Midura

Manager - Salem Generating Station