



**PSEG**

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

Salem Generating Station

September 6, 1989

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 88-8-1

This revision to Special Report 88-3 clarifies information in the Analysis of Occurrence section associated with the POPS channel which did not lift. Additionally, the Corrective Action section was updated to address corrective action completion and the Description of Occurrence section was editorialized.

Sincerely yours,

L. K. Miller  
General Manager-  
Salem Operations

MJP:pc

Distribution

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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:

Pressurizer Overpressure Protection System Channel II Actuation Due To An Equipment Problem

Event Date(s): 10/31/88

Report Date: 9/06/89

This report was initiated by Incident Report No. 88-465

CONDITIONS PRIOR TO OCCURRENCE:

Mode 5 - Reactor Power Level 0% - Unit Load 0 MWe

DESCRIPTION OF OCCURRENCE:

This Special Report addresses a Pressurizer Overpressure Protection System (POPS) actuation. The actuation occurred on October 31, 1988 at 0833 hours. This report is submitted for information in accordance with the requirements of Technical Specification Action Statement 3.4.10.3.c. which states:

In the event that either the POPS's or the RCS vents are used to mitigate an RCS pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within thirty (30) days. The report shall describe the circumstances initiating the transient, the effect of the POPS's or vents on the transient and any corrective action necessary to prevent recurrence.

On October 31, 1988, with the Unit in Mode 5 (Cold Shutdown), while the board Nuclear Control Operator (NCO) was performing Reactor Coolant System (RCS) "Fill and Vent" operations, indicated plant pressure increased to approximately 360 psig as indicated on a chart recorder. When this occurred, Pressurizer Overpressure Protection Channel II (Power Operated Relief Valve 2PR2) actuated. The POPS valve closed within a few seconds following actuation and the RCS pressure returned to approximately 325 psig. The chart recorder is used for trending purposes. It is not accurate enough to use for pressure control purposes and is therefore considered an approximation of actual system pressure. The Operators use bezel gage indications for actual pressure determination and control.

APPARENT CAUSE OF OCCURRENCE:

The root cause of this event has been attributed to an equipment

APPARENT CAUSE OF OCCURRENCE: (cont'd)

problem. Investigation of this event revealed that the Control Room Console pressure indication for Channel II was reading approximately 20 psig low. Channel II was the channel being used by the NCO to monitor RCS pressure.

When No. 23 Reactor Coolant Pump (RCP) was started per Operations procedure II 1.3.4, "Filling and Venting the RCS", the resultant pressure spike was sufficient to actuate POPS. During RCS fill and vent operations, RCPs are run for short durations (bumped) to remove entrained gas in the RCS.

The Channel II setpoint for POPS was set at approximately 370 psig (must be less than 375 psig as per Technical Specification Action Statement 3.4.10.3.a).

ANALYSIS OF OCCURRENCE:

The Fill and Vent operations were performed in accordance with the respective procedures. Valve 2PR2 remained open for a few seconds. Had the 2PR2 valve failed to close, the operator would have responded by closing blocking valve 2PR7. All systems and indications functioned as designed. There was no undue risk to the health or safety of the public due to this event. In accordance with Technical Specification Action Statement 3.4.10.3.c, because the POPS was actuated to mitigate a RCS pressure transient, this Special Report is being submitted pursuant to the requirements of Technical Specification 6.9.2.

Valve 2PR1 did not open (Channel I). This is not uncommon. A past POPS actuation (July 9, 1987), at indicated pressures (chart recorder) of approximately 360 psig, also had only one channel actuate. Channel calibration of the channel associated with the valve, which did not lift, was verified for this previous event and demonstrated that the channel was in calibration. On November 4, 1988, the 2PR1 channel was noticed to be operating erratically. Investigation revealed that the actuation setpoint was out of calibration "high" by approximately 20 psig. This is not considered to have contributed to the event discussed in this report as there was no erratic indication at the time of the event.

CORRECTIVE ACTION:

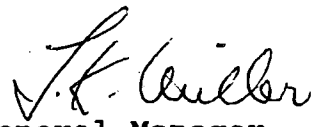
Operations Department procedure II 1.3.4 has been reviewed. No procedure modifications are required.

The signal summator (2PN405A) and the dual signal comparator (2PC405C/D) were found defective and replaced in POPS Channel I. Both components are part of the Hagan Protection & Process Control System. Upon completion of repairs, POPS channel I was re-calibrated and returned to service on November 4, 1988

POPS channel II was re-calibrated and returned to service on October 31, 1989.

CORRECTIVE ACTION: (cont'd)

This event has been reviewed by the Nuclear Training Department. Existing training programs include sufficient detail in addressing the narrow pressure band that exists between the minimum pressure for RCP operation and the POPS operation.

  
General Manager -  
Salem Operations

MJP:pc

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