



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

Salem Generating Station

September 3, 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 82-085/03L

Pursuant to the requirements of Salem Generating Station Unit No. 2, Technical Specifications, Section 6.9.1.9.b, we are submitting Licensee Event Report for Reportable Occurrence 82-085/03L. This report is required within thirty (30) days of the occurrence.

Sincerely yours,

H. J. Midura
General Manager -
Salem Operations

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CC: Distribution

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PDR ADQCK 05000311
S PDR

The Energy People

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Report Number: 82-085/03L

Report Date: 09-03-82

Occurrence Date: 08-16-82

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

IDENTIFICATION OF OCCURRENCE:

Reactor Coolant Loop Channel II Flow Indication -
Inoperable.

This report was initiated by Incident Reports 82-235 and 82-237.

CONDITIONS PRIOR TO OCCURRENCE:

Mode 1 - Rx Power 82% - Unit Load 890 MWe.

DESCRIPTION OF OCCURRENCE:

At 1240 hours, August 16, 1982, during routine operation, the Control Room Operator observed that No. 24 Reactor Coolant Loop Channel II indicated flow was reading high. The channel was declared inoperable and the associated bistables were placed in a tripped condition. Limiting Condition for Operation Action Statement 3.3.1 Action 7 was entered at 1245 hours, August 16, 1982. The signal isolation amplifier was replaced and a channel calibration was satisfactorily performed. At 1407 hours, August 16, 1982, No. 24 Reactor Coolant Loop Channel II Flow Indication was declared operable, and Limiting Condition for Operation Action Statement 3.3.1 Action 7 was terminated. Later that day, at 2330 hours, the Control Room Operator again received indication of a malfunction of No. 24 Reactor Coolant Loop Channel II Flow Indication. In this case, the channel was reading low. The channel was declared inoperable and the associated bistables were placed in a tripped condition. Limiting Condition for Operation Action Statement 3.3.1 Action 7 was entered at 2330 hours, August 16, 1982. The signal isolation amplifier was replaced and a channel calibration check was satisfactorily performed. At 0005 hours, August 17, 1982, No. 24 Reactor Coolant Loop Channel II Flow Indication was declared operable, and Limiting Condition for Operation Action Statement 3.3.1 Action 7 was terminated.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE:

The cause of both occurrences was determined to be failure of the signal isolation amplifiers. This caused an inaccurate signal to be sent to the channel flow meter. Although both occurrences were on the same indication channel, investigation disclosed no common cause for the signal isolation amplifier failures. The signal isolation amplifier currently installed, shows no indication of malfunction.

ANALYSIS OF OCCURRENCE:

The operability of the protective and Engineered Safety Feature (ESF) Instrumentation Systems and interlocks ensure that; 1) the associated ESF action and or reactor trip will be initiated when the parameter monitored by each channel or combination thereof, reaches its setpoint, 2) the specified coincidence logic is maintained, 3) sufficient redundancy is maintained to permit a channel to be out of service for testing or maintenance, and 4) sufficient system functional capability is available for protective and ESF purposes from diverse parameters.

The operability of these systems is required to provide the overall reliability, redundancy and diversity assumed available in the facility design for the protection and mitigation of accident and transient conditions. The integrated operation of each of these systems is consistent with the assumptions used in the accident analysis. Redundant Reactor Coolant Loop Flow Indication and trip capability is provided by two other independent channels per loop. Therefore, this occurrence involved no risk to the health and safety of the general public.

Action Statement 3.3.1 Action 7 requires:

With the number of operable channels one less than the total number of channels, startup and/or power operation may proceed until performance of the next required channel functional test, provided that the inoperable channel is placed in the tripped condition within one hour.

Inoperability of one reactor coolant loop flow channel, therefore, constitutes operation in a degraded mode permitted by a limiting condition for operation, and is reportable in accordance with Technical Specification 6.9.1.9.b.

CORRECTIVE ACTION:

As noted, the signal isolation amplifiers were replaced and channel calibrations were satisfactorily performed. An investigation was conducted, however, no common cause of the amplifier failures was discovered.

FAILURE DATA:

Hagan Corporation
Signal Isolation Amplifier
Model 110

Prepared By R. Heller

A. J. Michum
General Manager -
Salem Operations

SORC Meeting No. 82-80