

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Salem Generating Station - Unit 1										DOCKET NUMBER (2) 0 5 0 0 0 2 7 1 2				PAGE (3) 1 OF 0 5											
TITLE (4) 12MS28 Closed Signal to SSPS Train "B" Inoperable																									
EVENT DATE (5)			LER NUMBER (6)				REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)															
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES				DOCKET NUMBER(S)												
0	2	1	4	8	5	8	5	0	0	3	0	0	0	3	1	5	8	5	0	5	0	0	0	0	0
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																							
1		20.402(b)				20.406(e)				50.73(a)(2)(iv)				73.71(b)											
POWER LEVEL (10)		0 9 5				20.406(a)(1)(i)				50.73(a)(2)(v)				73.71(e)											
		20.406(a)(1)(ii)				50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 308A)															
		20.406(a)(1)(iii)				50.73(a)(2)(vii)																			
		20.406(a)(1)(iv)				50.73(a)(2)(viii)(A)																			
		20.406(a)(1)(v)				50.73(a)(2)(viii)(B)																			
		20.406(a)(1)(vi)				50.73(a)(2)(ix)																			
LICENSEE CONTACT FOR THIS LER (12)																									
NAME J. L. Rupp										TELEPHONE NUMBER															
										AREA CODE 6 0 9 3 3 9 - 4 3 0 9															
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																									
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS															
B	J C	3 3	X 9 9 9	Y																					
SUPPLEMENTAL REPORT EXPECTED (14)																EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR					
YES (If yes, complete EXPECTED SUBMISSION DATE)																X NO									

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On February 13, 1985, while performing weekly turbine valve testing, it was discovered that No. 12 Turbine Stop Valve (12MS28) instrument channel was possibly inoperable. Technical Specifications require an inoperable channel to be placed in a tripped condition or, if the action cannot be complied with, a Unit shutdown is required to be initiated within one hour. The operating shift planned to initiate a Unit shutdown if investigation revealed that the channel was actually inoperable. It was subsequently discovered that one of the two closed limit switches on 12MS28 was malfunctioning, resulting in a stop valve closed signal being sent to only one train of the Solid State Protection System (SSPS). By the time the operating shift was informed of the actual condition of the channel and its affect on the SSPS, the inoperable channel had been repaired and restored to an operable status; consequently, the one hour time limit for initiation of the shutdown was exceeded. As a result of this event, operators were directed to take a more conservative approach and immediately declare a Reactor Protection System instrument channel inoperable if there is any question at all regarding its operability. This policy is being reinforced with procedural changes and with the implementation of a new Technical Specification interpretation guide.

8504040026 850315
PDR ADOCK 05000272
S PDRIE 22
11

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Salem Generating Station	DOCKET NUMBER	LER NUMBER	PAGE
Unit 1	05000272	85-003-00	2 OF 5

PLANT AND SYSTEM IDENTIFICATION:

Westinghouse - Pressurized Water Reactor

Energy Industry Identification System (EIIS) codes are identified in the text as [XX].

IDENTIFICATION OF OCCURRENCE:

Reactor Trip System Instrumentation - Turbine Stop Valve 12MS28 Closed Signal to SSPS Train "B" - Inoperable

Event Date: 02/14/85

Report Date: 03/15/85

This report was initiated by Incident Report No. 85-039

CONDITIONS PRIOR TO OCCURRENCE:

Mode 1 - Rx Power 095 % - Unit Load 1100 MWe

DESCRIPTION OF OCCURRENCE:

On February 13, 1985, during normal power operation, weekly turbine valve testing was in progress. At 0521 hours, No. 12 Turbine Stop Valve (12MS28) was closed. However, valve indication on overhead annunciator G-9 and on LRP-4 Panel was flashing, indicating a disagreement between Solid State Protection System (SSPS) Train "A" and Train "B" signals. The valve test was repeated and 12MS28 was verified locally to open and to close during the test; however, the indications were still flashing. 12MS28 was maintained closed, a technician was called to investigate the problem and the Technical Specifications were consulted. Since the Reactor Protection System [JC] receives signals from the turbine stop valves to indicate a turbine trip, it was determined that Technical Specification LCO 3.3.1.1 Action No. 6 would be applicable if it was subsequently determined that the 12MS28 instrument channel was inoperable.

Action No. 6 states:

With the number of operable channels one less than the total number of channels (in this particular case there are four channels; one from each turbine stop valve), startup and/or power operation may proceed provided that the inoperable channel is placed in a tripped condition within one (1) hour.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Salem Generating Station	DOCKET NUMBER	LER NUMBER	PAGE
Unit 1	05000272	85-003-00	3 OF 5

DESCRIPTION OF OCCURRENCE: (cont'd)

It was not known whether the channel was malfunctioning, or if it was just an indication problem involving a chattering relay. The operating shift relied on the technician to make this determination and, in anticipation of declaring the channel inoperable, investigated the means of placing the channel in a tripped condition in accordance with the action requirements. However, it was discovered that there were no bistables associated with these reactor trip system instrumentation channels; consequently, there was no means of placing the channel in a tripped condition. The technician subsequently determined that one (1) of the two (2) closed limit switches on 12MS28 had failed to make contact. The limit switch was lubricated, 12MS28 was stroke tested, the limit switch functioned satisfactorily, and testing was completed at 0813 hours. Review of this event revealed that the limit switch malfunction resulted in a stop valve closed signal being supplied to SSPS Train "A" and not to Train "B"; therefore, rendering the instrument channel inoperable.

In retrospect, since it was determined that the Technical Specification action requirements could not be complied with even if it was subsequently determined that the channel was inoperable, a conservative course of action would have been to comply with Technical Specification LCO 3.0.3, and initiate a Unit shutdown prior to exceeding the one (1) hour time limit.

LCO 3.0.3 states:

When a Limiting Condition for Operation is not met, except as provided in the associated action requirements, within one hour action shall be initiated to place the Unit in a mode in which the specification does not apply; i.e., in this case, by placing the Unit in hot standby (Mode 3) within the next six (6) hours.

Although the channel was only inoperable for a period of two hours and fifty-two minutes, and LCO 3.0.3 does not require the Unit to be in Mode 3 for six (6) hours, no "action" was initiated to place the Unit in hot standby within the one hour specified by the LCO.

APPARENT CAUSE OF OCCURRENCE:

The operating shift personnel involved in this occurrence knew the Technical Specifications involved. They knew and planned what action to take in the event that the RPS instrument channel was determined to be inoperable. When they discovered that this particular instrument channel could not be placed in a tripped condition in accordance with the action requirements, they also planned to initiate a unit shutdown in accordance with the action requirements of LCO 3.0.3.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Salem Generating Station	DOCKET NUMBER	LER NUMBER	PAGE
Unit 1	05000272	85-003-00	4 OF 5

APPARENT CAUSE OF OCCURRENCE: (cont'd)

However, they did not plan to initiate the shutdown until it was determined that the channel was really inoperable. By the time they were informed of the actual condition of the channel and its affect on the SSPS, the channel had been repaired and restored to an operable status. Therefore, the cause of this incident was an error in judgement on the part of the operating shift personnel, with the root cause being attributed to inadequate procedural/operator guidance in this area of plant operation.

ANALYSIS OF OCCURRENCE:

A turbine trip is sensed by two (2) out of three (3) signals from low autostop oil pressure or by closed signals from all turbine stop valves. A turbine trip causes a direct reactor trip above approximately ten percent (10%) power level, and results in a controlled short term release of steam to the condenser which removes sensible heat from the Reactor Coolant System [AB], thereby avoiding steam generator safety valve actuation. This reactor trip is anticipatory and included as part of good engineering practice and prudent design. No credit is taken in any of the safety analyses for this trip. Each turbine stop valve contains two (2) closed limit switches, each providing an independent input to each train of the Reactor Protection System [RPS] to indicate that the turbine is tripped. As previously stated, the failure of one (1) of the two (2) limit switches for 12MS28 rendered one (1) of those inputs to one (1) train of the RPS (Train "B") inoperable. However, the 12MS28 input to the redundant RPS train (Train "A"), and the inputs from the low autostop oil pressure to both RPS trains were not affected by this failure. Had a turbine trip occurred, a reactor trip would have been initiated by both RPS trains from the low oil pressure signals, and by Train "A" from the turbine stop valve position signals. Therefore, this event involved no undue risk to the health or safety of the public. Because the action requirements of Technical Specification 3.0.3 were not complied with, this event is reportable in accordance with the Code of Federal Regulations, 10CFR 50.73(a)(2)(i)(B).

CORRECTIVE ACTION:

This event was brought to the attention of the operators via the Operations Department newsletter. The event was thoroughly discussed, with emphasis being placed on operations involving the Solid State Protection System. Operators were directed to take a more conservative approach and declare a Reactor Protection System instrument or channel inoperable if there is any question at all regarding its operability, rather than waiting until troubleshooting verifies that the instrument was, in fact, inoperable.

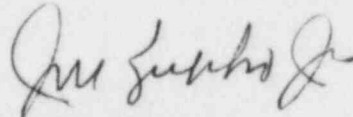
LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Salem Generating Station	DOCKET NUMBER	LER NUMBER	PAGE
Unit 1	05000272	85-003-00	5 OF 5

CORRECTIVE ACTION: (cont'd)

In addition, a new Technical Specifications Interpretation Guide (OD-12) will be written. The guide will re-emphasize the policy as stated in the newsletter, and will provide additional operator guidance concerning plant operations associated with RPS instrumentation.

OI-IV-10.3.1 provides instructions for removing and returning to service a RPS channel, and for operation of the plant with the loss of a RPS channel. This procedure will be revised to include those RPS channels which cannot be placed in a tripped condition, and will provide instructions to the operators as to the proper course of action to be taken.



General Manager-
Salem Operations

JLR:tns

SORC Mtg 85-048



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

Salem Generating Station

March 15, 1985

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Dear Sir:

SALEM GENERATING STATION
LICENSE NO. DPR-70
DOCKET NO. 50-272
UNIT NO. 1
LICENSEE EVENT REPORT 85-003-00

This Licensee Event Report is being submitted pursuant to the requirements of 10CFR 50.73(a)(2)(i)(B). This report is required within thirty (30) days of discovery.

Sincerely yours,

J. M. Zupko, Jr.
General Manager -
Salem Operations

JR:tcs

C Distribution

IE22
1/1