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Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038
Salem Generating Station

September 6, 1991

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 91-026-00

This Licensee Event Report is being submitted pursuant to the requirements of the Code of Federal Regulations 10CFR 50.73(a)(2)(ii)(A) and 50.73(a)(2)(i)(B). This report is required to be issued within thirty (30) days of event discovery.

Sincerely yours,

C. A Vondra
General Manager -
Salem Operations

MJP:pc

Distribution

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PDR ADCK 05000272
S PDR

The Energy People

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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Salem Generating Station - Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 2 7 2	PAGE (3) 1 OF 0 4
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TITLE (4)
S/G Pressure Protection Ch. Inop. Due To Lead & Lag Switch Incorrect Setting

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	7	1	9	1	0	2	6	0	0	0
0	5	0	0	0	0	8	0	6		0

OPERATING MODE (9) 1

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
20.405(a)(1)(i)	50.38(c)(1)	50.73(a)(2)(v)	73.71(c)
20.405(a)(1)(ii)	50.38(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

POWER LEVEL (10) 1,00

LICENSEE CONTACT FOR THIS LER (12)

NAME M. J. Pollack - LER Coordinator	TELEPHONE NUMBER	
	AREA CODE 6 0 9	 3 3 9 - 2 0 2 2

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

On 8/7/91, at 0657 hours, a technician found the lead and lag controller switches in the test position for the No. 13 Steam Generator (S/G) Pressure Channel III. With these switches in this position, the channel is inoperable since safeguard signal initiation from this channel will not occur until 47.7 seconds after the time accredited for by the plant safety analysis. The channel safeguard signals include input to Main Steamline Isolation and Safety Injection. The root cause of this event is personnel error. The technician had inadvertently left these switches in this position since the previous functional surveillance due to inadequate self verification. The prior surveillance was completed on 7/12/91 at 0210 hours. Work had not been performed in the No. 13 S/G Pressure Channel III cabinet, since the last functional surveillance. Appropriate corrective disciplinary action will be taken with the technician involved. The S/G Pressure Protection Channel functional procedures will be revised to include independent verification of lead switch and lag switch position restoration. Engineering is continuing to review the safety significant concerns associated with the incorrect positioning of the lead and lag switches.

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PLANT AND SYSTEM IDENTIFICATION:

Westinghouse - Pressurized Water Reactor

Energy Industry Identification System (EIIS) codes are identified in the text as {xx}

IDENTIFICATION OF OCCURRENCE:

No. 13 S/G Pressure Channel lead and lag switches left in the functional surveillance test condition between consecutive surveillances

Discovery Date: 8/7/91

Event Date: 7/12/91

Report Date: 9/6/91

This report was initiated by Incident Report No. 91-547.

CONDITIONS PRIOR TO OCCURRENCE:

Mode 1 Reactor Power 100% - Unit Load 1120 MWe

DESCRIPTION OF OCCURRENCE:

On August 7, 1991, at 0657 hours, during normal plant operation, the functional surveillance for the No. 13 Steam Generator (S/G) Pressure Channel III {JC} was initiated. The technician found the lead and lag controller switches (1PM-536B) in their test position. With these switches in this position, the channel is inoperable since safeguard signal initiation from this channel will not occur until 47.7 seconds (maximum) after the time accredited for by the plant safety analysis.

The channel safeguard signals include input to Main Steamline Isolation and Safety Injection.

APPARENT CAUSE OF OCCURRENCE:

The root cause of this event is personnel error. The technician (same one who discovered the switches in the wrong position) had inadvertently left these switches in this position since the previous functional surveillance due to inadequate self verification. The prior surveillance was completed on July 12, 1991 at 0210 hours. Work had not been performed on this channel or the other channel, also located in the No. 13 S/G Pressure Channel III cabinet, since the last functional surveillance.

The No. 12 S/G Pressure Channel III is located in the same cabinet as the No. 13 S/G Pressure Channel III. The No. 12 and No. 13 S/G Pressure Channel controller modules (1PM-526B and 1PM-536B respectively) are next to each other. The No. 12 S/G Pressure

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APPARENT CAUSE OF OCCURRENCE: (cont'd)

Channel III surveillance had been completed minutes before the start of the No. 13 S/G Pressure Channel III surveillance (by the same technician) on July 12, 1991. Upon reaching the step in the No. 13 S/G Pressure Channel III functional surveillance procedure to restore the lead and lag switches to their respective operating positions, it is believed the technician looked at the 1PM-526B module instead of the 1PM-536B module. The technician then documented (incorrectly) in the procedure that the switches were appropriately restored to their correct position.

ANALYSIS OF OCCURRENCE:

Pressure in each of the four (4) S/G main steamlines is monitored. The associated pressure transmitters provide input to circuitry for: low steamline pressure; steamline isolation; safety injection; steamline differential pressure and steam dump.

The two (2) steamline pressure related signals which initiate steamline isolation and safety injection are: high differential pressure between steamlines and high steam flow coincident with either low-low T_{avg} or low steamline pressure.

The logic required to initiate the high differential pressure between steamlines signal is one (1) out of (4) channels. The logic required to initiate high steam flow coincident with low steamline pressure is two (2) out of four (4) channels.

Each steamline pressure channel, for the low steamline pressure signal, is associated with a different S/G steamline. These four (4) channels are divided into two (2) Protection Sets, where each Set encompasses two (2) S/G steamlines. The Nos. 12 and 13 S/G Pressure Channels are in Protection Set III and the Nos. 11 and 14 S/G Pressure Channels are in Protection Set IV.

The correct positioning of these switches yields an anticipatory safeguard actuation signal thereby causing initiation of the safeguard actuation before the actual pressure reaches the trip setpoint value. WCAP 12103, "Westinghouse Setpoint Methodology For Protection Systems", includes a reference which states that the low steamline pressure setpoint, is "not noted in Table 15.1-3 of the Final Safety Analysis Report but used in the safety analysis". It is taken credit for in the steamline break accident analysis. A possibility exists that the mispositioned switches placed the plant in an unanalyzed condition. If Protection Set IV failed to provide safeguard actuation signals during a small steamline break accident, Protection Set III would be relied upon to provide the two (2) out of four (4) S/G loop transmitter signals; however, the required safety injection or main steamline isolation would be delayed due to the incorrect positioning of the 1PM-536B lead and lag switches. This concern is being further reviewed to determine its safety significance.

Since the Technical Specification requirement for operability of the

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ANALYSIS OF OCCURRENCE: (cont'd)

No. 13 S/G Pressure Channel III was not met between July 12, 1991 and August 7, 1991, this event is reportable to the Nuclear Regulatory Commission in accordance with Code of Federal Regulations 10CFR 50.73(a)(2)(i)(B).

This event has been reported as per 10CFR 50.72(b)(ii)(A) and is therefore also reportable as an LER in accordance with 10CFR 50.73(a)(2)(ii)(A).

CORRECTIVE ACTION:

This event has been reviewed by Maintenance Department management and appropriate corrective disciplinary action will be taken with the technician involved. The need to maintain attention to detail will be self-verifying was stressed.

This event will be reviewed with applicable Maintenance Department personnel.

Engineering is continuing to review the safety significant concerns associated with the incorrect positioning of the lead and lag switches.

The S/G Pressure Channel III procedures will be revised to include independent verification of lead switch and lag switch position restoration.



General Manager -
Salem Operations

MJP:pc
SORC Mtg. 91-092