NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Salem Generating Station - Unit 2	0 5 0 0 0 3 1 1	1 OF 0 4

TITLE (4)
Tech. Spec. 3.0.3 Entry - 2 SW Headers Inoperable Due To Equipment Problems

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 5 0 0 0
0 1	0 3	8 9	8 9	0 0 1	0 0	0 2	0 1	8 9		0 5 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)			
4	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 0 0 0	20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
	20.405(a)(1)(ii)	50.36(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)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
M. J. Pollack - LER Coordinator	6 0 9 3 3 9 - 4 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)		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 January 3, 1989 at 1123 hours, No. 2C SEC was declared inoperable due to an Auto Test Fault. This SEC will start Nos. 25 and 26 SW pumps during a station blackout. Nos. 22 and 23 SW Pumps were inoperable due to: No. 22 SW Pump was cleared and tagged to facilitate the replacement of the diaphragm for the SW Strainer Blowdown Control Valve, 22SW24; this work was scheduled as preventive maintenance and No. 23 SW Pump had failed its 4.0.5-P surveillance due to low SW flow. Technical Specification Action Statement 3.0.3 was entered due to four inoperable Service Water (SW) Pumps {BI}. Operations procedure OD-12, "Tech Spec Interpretations", addresses the interpretation of Technical Specification 3.7.4, which requires two operable Service Water (SW) {BI} loops in Modes 1, 2, 3, and 4. OD-12 specifies which combination of SW Pumps, when inoperable, define a SW loop as inoperable. With four (4) SW Pumps inoperable credit for an operable SW Loop cannot be taken. The root cause of this event is attributed to equipment problems. The 2C SEC chassis was replaced and tested successfully. Technical Specification Action Statement 3.0.3 was subsequently exited at 1535 hours on January 3, 1989. Investigation of the No. 23 SW Pump low SW flow has been completed. The pump wearing ring clearance has been adjusted. The pump was subsequently tested successfully.

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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:

Technical Specification 3.0.3 Entry - Two Service Water Headers Inoperable Due To Equipment Problems

Event Date: 01/03/89

Report Date: 02/01/89

This report was initiated by Incident Report No. 89-013.

CONDITIONS PRIOR TO OCCURRENCE:

Mode 4 Reactor Power 0% - Unit Load 0 MWe

DESCRIPTION OF OCCURRENCE:

On January 3, 1989 at 1123 hours, Technical Specification Action Statement 3.0.3 was entered due to four inoperable Service Water (SW) Pumps {BI}. Operations procedure OD-12, "Tech Spec Interpretations", addresses the interpretation of Technical Specification 3.7.4, which requires two operable Service Water (SW) {BI} loops in Modes 1, 2, 3, and 4. OD-12 specifies which combination of SW Pumps, when inoperable, define a SW loop as inoperable. With four (4) SW Pumps inoperable credit for an operable SW Loop cannot be taken.

Technical Specification 3.7.4 states:

> "At least two independent Service Water loops shall be OPERABLE.
>
> APPLICABILITY: MODES 1, 2, 3, and 4
>
> ACTION:
>
> With only one service water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours."

On January 3, 1989 at 1123 hours, No. 2C SEC was declared inoperable due to an Auto Test Fault. This SEC will start Nos. 25 and 26 SW pumps during a station blackout. With the Unit already entered in Technical Specification Action Statement 3.7.4 due to inoperability of Nos. 22 and 23 SW Pumps, Technical Specification Action Statement 3.0.3 was entered as per OD-12 at 1123 hours that day.

Nos. 22 and 23 SW Pumps were inoperable due to:

DESCRIPTION OF OCCURRENCE: (cont'd)

No. 22 SW Pump - This pump was cleared and tagged to facilitate the replacement of the diaphragm for the SW Strainer Blowdown Control Valve, 22SW24; this work was scheduled as preventive maintenance

No. 23 SW Pump - This pump had failed its 4.0.5-P surveillance due to low SW flow (reference Incident Report 88-521)

Technical Specification Action Statement 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 by placing it, as applicable, in:

1. At least HOT STANDBY within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the ACTION may be taken in accordance with the specified time limits as measured from the time of failure to meet the Limiting Condition of Operation. Exceptions to these requirements are stated in the individual specifications."

APPARENT CAUSE OF OCCURRENCE:

The root cause of this event has been attributed to equipment problems. 2C SEC had been declared inoperable due to an "Auto Test Fault" alarm condition. The alarm would not clear. Investigation revealed that an SEC logic circuit card had failed.

ANALYSIS OF OCCURRENCE:

The operability of the SW System ensures sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The system consists of two (2) cross connected headers (3 pumps per header) which provide redundant cooling capacity consistent with the assumptions used in the Updated Final Safety Analysis Report (UFSAR) analyzed accident conditions.

The SW System UFSAR design analysis addresses the requirement to have three SW Pumps operable to support the recirculation phase, under blackout conditions, in the mitigation of a postulated Loss-Of-Coolant Accident (LOCA). This criteria ensures two SW loops are available to meet the system redundancy criteria. Additionally, the UFSAR states that a minimum of two (2) operable SW Pumps are required to provide sufficient flow to vital equipment to support the recirculation phase under blackout conditions. A minimum of three pumps must be operable to support "single failure" criteria.

ANALYSIS OF OCCURRENCE: (cont'd)

The SEC System {JE} is comprised of three trains (A, B, and C). The system determines the need for accident and/or blackout safety equipment and loads this equipment onto the corresponding Vital Bus.

The SEC Auto Test Feature provides continual surveillance of the SEC operation from the logic input signals through the logic and counter stages and up to and including the relay driver outputs. The continual surveillance does not interfere with system requirements, nor cause any output relay actuation during normal system operation. Although the SEC Auto Test Feature is identified in the Updated Final Safety Analysis Report (UFSAR), it is not taken credit for; it is an enhancement for ensuring continued operability of the SEC. Also, it is not identified as part of the Technical Specification surveillance requirements.

When the SEC Auto Test Feature indicates a fault, it can mean a problem with the SEC logic. In the case addressed by this LER, investigation revealed that a circuit card had failed. Failure of this card could affect the load sequencing of various equipment under accident and/or blackout conditions.

With the possibility that only Nos. 21 and 24 SW Pumps operable under blackout conditions, a single active failure could render one pump inoperable. Therefore, this event is reportable in accordance with Nuclear Regulatory Commission 10CFR 50.73(a)(2)(i)(B).

CORRECTIVE ACTION:

The 2C SEC chassis was replaced and tested successfully. Technical Specification Action Statement 3.0.3 was subsequently exited at 1535 hours on January 3, 1989.

Investigation of the No. 23 SW Pump low SW flow has been completed. The pump wearing ring clearance has been adjusted. The pump was subsequently tested successfully.

J. K. Mills
General Manager -
Salem Operations

MJP:pc

SORC Mtg. 89-005

PSE&G

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

Salem Generating Station

February 1, 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
LICENSEE EVENT REPORT 89-001-00

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

Sincerely yours,

L. K. Miller
General Manager -
Salem Operations

MJP:pc

Distribution

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