NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

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)

ESF Actuation - Containment Vent. Isolation Due To System Design/Equip. Concerns

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 3	0 4	8 9	8 9	0 0 4	0 0	0 3	2 9	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)			
1		20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
1 0 0		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)	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	
B	I L	D E T	V 1 0	N							

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 March 4, 1989, the Containment Purge/Pressure-Vacuum Relief System (CP/P-VRS) valves isolated as a result of the failure of the Radiation Monitoring System (RMS) Containment Particulate Radiation Monitor, 2R11A. With the failure of the 2R11A channel, Technical Specification 3.4.7.1 Action Statement was entered. The root cause of this event has been attributed to inadequate system design. The CP/P-VRS isolation was preceded by the transfer of 2A Vital Bus to the No. 21 Station Power Transformer (SPT). The No. 21 SPT is the normal power supply for the 2A Vital Bus which powers the 2R11A RMS monitor. The transfer to the No. 21 SPT utilizes a "slow" transfer scheme which will drop line voltage to 35% of nominal value. Since the 2R11A RMS monitor is directly powered from the 2A Vital Bus it will see the voltage drop too causing the channel to "fail". Conservatively, failure of the channel causes CP/P-VRS isolation. As identified in Unit 2 LER 89-002-00, PSE&G System Engineering has initiated an investigation of RMS system concerns. This investigation includes a review of power supply concerns. The 2R11A channel was reset, the setpoints were verified and a channel check was successfully completed on March 5, 1989 at which time, the channel was declared operable and the Technical Specification 3.4.7.1 Action Statement was exited.

IE22

PLANT AND SYSTEM IDENTIFICATION:

Westinghouse - Pressurized Water Reactor

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

IDENTIFICATION OF OCCURRENCE:

Engineered Safety Feature Actuation - Containment Ventilation Isolation Due To System Design/Equipment Concerns

Event Date: 3/04/89

Report Date: 3/29/89

This report was initiated by Incident Report No. 89-122.

CONDITIONS PRIOR TO OCCURRENCE:

Mode 1 Reactor Power 100% - Unit Load 1150 MWe

DESCRIPTION OF OCCURRENCE:

On March 4, 1989 at 1620 hours, the Containment Purge/Pressure-Vacuum Relief System (CP/P-VRS) valves isolated as a result of the failure of the Radiation Monitoring System (RMS) {IL} Containment Particulate Radiation Monitor, 2R11A. With the failure of the 2R11A channel, Technical Specification 3.4.7.1 Action Statement was entered.

Technical Specification 3.4.7.1 states:

"The following Reactor Coolant System leakage detection systems shall be OPERABLE:

a. The containment atmosphere particulate radioactivity monitoring system,

b. The containment pocket sump level monitoring system, and

c. Either the containment fan cooler condensate flow rate or the containment atmosphere gaseous radioactivity monitoring system."

Technical Specification 3.4.7.1 Action Statement states:

"With only two of the above required leakage detection systems OPERABLE, operation may continue for up to 30 days provided grab samples of the containment atmosphere are obtained and analyzed at least once per 24 hours when the required gaseous and/or particulate radioactivity monitoring system is inoperable; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours."

The CP/P-VRS is an Engineered Safety System (ESF).

APPARENT CAUSE OF OCCURRENCE:

The root cause of this event has been attributed to inadequate system design.

The CP/P-VRS isolation was preceded by the transfer of 2A Vital Bus to the No. 21 Station Power Transformer (SPT) {EA}. The No. 21 SPT is the normal power supply for the 2A Vital Bus which powers the 2R11A RMS monitor. The transfer to the No. 21 SPT utilizes a "slow" transfer scheme which will drop line voltage to 35% of nominal value. Since the 2R11A RMS monitor is directly powered from the 2A Vital Bus it will see the voltage drop too causing the channel to "fail". Conservatively, failure of the channel causes CP/P-VRS isolation.

The No. 21 SPT had been returned to service after completion of a 13 KV leads compartment gasket cover oil leak repair.

ANALYSIS OF OCCURRENCE:

The 2R11A Containment Particulate Monitor monitor's the air particulate gamma radioactivity in the Containment atmosphere. It is used as an aid in the identification of Reactor Coolant System {AB} leakage in conjunction with the containment sump level monitoring system and either the containment fan cooler condensate flow rate or the containment atmosphere gaseous (2R12A) radioactivity monitoring system. An alarm signal will cause the automatic isolation of the CP/P-VRS.

Air samples are pulled directly from the Containment atmosphere through a filter paper which continuously moves past the 2R11A scintillation detector. After the air sample passes through the filter paper, it passes through a charcoal cartridge (monitored by the 2R12B monitor) and is then mixed into a fixed shielded volume where it is viewed by the 2R12A noble gas monitor. The air sample is then returned to the Containment.

Several area radiation monitors, in addition to the 2R12A monitor, are used to corroborate the 2R11A channel's indications. The corroborating area radiation monitors do not have isolation capabilities. They only have alarm capability. The 1R41A Plant Vent Particulate monitor also corroborates the 2R11A channel indications. This monitor also has the capability of automatic isolation of the CP/P-VRS. It remained operable during the course of this event.

During this event, RCS leakage within Containment did not increase. Additionally, a Containment purge or pressure-vacuum relief was not performed. Therefore, this event did not affect the health or safety of the public. However, due to the automatic operation of an ESF system, this event is reportable in accordance with Code of Federal Regulations 10CFR 50.73(a)(2)(iv).

CORRECTIVE ACTION:

As identified in Unit 2 LER 89-002-00, PSE&G System Engineering has

CORRECTIVE ACTION: (cont'd)

initiated an investigation of RMS system concerns. This investigation includes a review of power supply concerns.

The 2R11A channel was reset, the setpoints were verified and a channel check was successfully completed on March 5, 1989. At 0436 hours on March 5, the channel was declared operable and Technical Specification 3.4.7.1 Action Statement was exited.

L K Miller/pw

General Manager -
Salem Operations

MJP:pc

SORC Mtg. 89-026

PSEG

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

Salem Generating Station

March 29, 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 89-004-00

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

Sincerely yours,

LK Miller/pw

L. K. Miller
General Manager -
Salem Operations

MJP:pc

Distribution

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