PSE&G

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

Salem Generating Station

December 4, 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 89-018-00

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 required within thirty (30) days of discovery.

Sincerely yours,

L. K. Miller
General Manager -
Salem Operations

MJP:pc

Distribution

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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)

Engineered Safety Feature Actuation; Cont. Vent. Isolation Due To 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)
1 1	0 3	8 9	8 9	- 0 1 8	- 0 0	1 2	0 4	8 9		0 5 0 0 0
										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)			
2	20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 0 0 2	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)	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	C O N	V 1 1 5	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 11/3/89, the 2R12A (Containment Radioactive Noble Gas Monitor) Radiation Monitoring System (RMS) [IL] channel failed low. This resulted in an Engineered Safety Feature (ESF) actuation signal for Containment Purge/Pressure-Vacuum Relief (CP/P-VR) System [BF] isolation. The channel was declared inoperable and Technical Specification Table 3.3-6 Action requirements were reviewed. No actions were required due to operability of the 2R41C Plant Vent RMS channel and the containment fan cooler condensate flow rate RMS channels. The root cause of this event has been attributed to design/equipment concerns. The type detector system used for the Salem Unit 2 RMS channels is manufactured by Victoreen. Periodic problems with this system have been experienced as indicated in prior LERs. The Victoreen equipment is scheduled to be replaced as part of an overall RMS system upgrade. The cause of the 2R12A channel failure, for this event, has been attributed to poor pin contact (intermittent) with the back plane of the detector's scalar and poor test jack contact in the front of the scalar. The 2R12A channel scalar pins were re-aligned to ensure adequate contact. Also, the test jack were replaced. Subsequent functional testing was successfully completed and the channel was declared operable on 11/13/89. As indicated in previous LERs associated with CP/P-VRS signal actuation, several system design modifications will be implemented. They include installation of an uninterrupted power supply (UPS) and subsequent replacement of the Victoreen equipment.

PLANT AND SYSTEM IDENTIFICATION:

Westinghouse - Pressurized Water Reactor

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

IDENTIFICATION OF OCCURRENCE:

Actuation of an Engineered Safety Feature, Containment Purge Pressure-Vacuum Relief isolation, due to design/equipment concerns

Event Date: 11/03/89

Report Date: 12/04/89

This report was initiated by Incident Report No. 89-683.

CONDITIONS PRIOR TO OCCURRENCE:

Mode 2 Reactor Power 2% - Unit Load 0 MWe

DESCRIPTION OF OCCURRENCE:

On November 3, 1989 at 1530 hours, the 2R12A (Containment Radioactive Noble Gas Monitor) Radiation Monitoring System (RMS) {IL} channel failed low. This resulted in an Engineered Safety Feature (ESF) actuation signal for Containment Purge/Pressure-Vacuum Relief (CP/P-VR) System {BF} isolation. The channel was declared inoperable and Technical Specification Table 3.3-6 Action requirements were reviewed. No actions were required, for the duration of inoperability of the 2R12A channel, due to operability of the containment fan cooler condensate flow rate monitors and the plant vent noble gas monitor, 2R41C.

APPARENT CAUSE OF OCCURRENCE:

The root cause of this event has been attributed to design/equipment concerns.

The type detector system used for the Salem Unit 2 RMS channels is manufactured by Victoreen. Periodic problems with this system have been experienced as indicated in prior LERs (e.g., 311/89-002-00, 311/89-009-00, and 311/89-010-00). The Victoreen equipment is scheduled to be replaced as part of an overall RMS system upgrade.

The cause of the 2R12A channel failure, for this event, has been attributed to poor pin contact (intermittent) with the back plane of

APPARENET CAUSE OF OCCURRENCE: (cont'd)

the detector's scalar and poor test jack contact in the front of the scalar.

ANALYSIS OF OCCURRENCE:

The 2R12A RMS channel monitor's the radioactive noble gas content of the Containment atmosphere. An alarm signal will cause the automatic isolation of the CP/P-VR System. The channel is used in the identification of Reactor Coolant System (AB) leakage in conjunction with the containment pocket sump level monitoring system, the containment fan cooler condensate flow rate monitors, and the containment radioactive particulate (2R11A) radiation monitoring system.

Air samples are pulled from the Containment atmosphere through a filter paper which continuously moves past the 2R11A detector. The air sample then 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 monitor. The air sample is then returned to the Containment.

Several area radiation monitors, in addition to the 2R11A monitor, are used to corroborate the 2R12A channel's indications. The corroborating area radiation monitors do not have isolation capabilities; they only have alarm capability. None of these channels indicated any abnormal activity during this event.

The 2R41C Plant Vent Radioactive Noble Gas monitor is the Technical Specification accepted alternate method of monitoring Containment activity. It corroborates the 2R12A channel indications when CP/P-VR valves are open. This monitor also has the capability of automatic isolation of the CP/P-VR System (as well as closure of the WG41 valve). It remained operable during the course of this event and did not indicate any abnormal Plant Vent activity.

During this event, RCS leakage within Containment did not increase nor was there any indication of increasing Containment activity as indicated by the corroborating RMS channels. Therefore, this event did not affect the health or safety of the public. However, due to the automatic actuation of an ESF system, this event is reportable in accordance with Code of Federal Regulations 10CFR 50.73(a)(2)(iv).

CORRECTIVE ACTION:

The 2R12A channel scalar pins were re-aligned to ensure adequate contact. Also, the test jack was replaced. Subsequent functional testing was successfully completed and the channel was declared operable on November 13, 1989.

As indicated in previous LERs associated with CP/P-VRS signal actuation, several system design modifications will be implemented. They include installation of an uninterrupted power supply (UPS) and subsequent replacement of the Victoreen equipment.

General Manager -
Salem Operations

MJP:pc

SORC Mtg. 89-116