

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Salem Generatinf Station - Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 2 7 2	PAGE (3) 1 OF 0 5
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TITLE (4)

Two Trains of an Eng. Safety System Made Inoperable By Common Mode

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	1	7	8	8	8	8	0	2	0	0	0	0	0	0
1	1	1	7	8	8	8	8	0	2	0	0	0	0	0	0

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)										
POWER LEVEL (10) 110 b	20.402(b)	20.405(e)	50.73(a)(2)(iv)	73.71(b)							
	20.405(a)(1)(i)	50.38(e)(1)	50.73(a)(2)(v)	73.71(c)							
	20.405(a)(1)(ii)	50.38(e)(2)	50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 368A)							
	20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(vii)(A)								
	20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(vii)(B)								
	20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(n)								

LICENSEE CONTACT FOR THIS LER (12)

NAME M. J. Pollack - LER Coordinator	TELEPHONE NUMBER AREA CODE 6 0 9 3 3 9 - 4 0 2 2
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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

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	X				

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

On 11/17/88 at 0655 hours, the Containment "Air Particulate Detector Trouble" alarm annunciated. Investigation revealed that the sample flow was high. After adjustment of the flow, it began indicating erratically between 0 and 5 scfm. Subsequently, Radiation Monitoring System (RMS) [IL] channels 1R11A, 1R12A and 1R12B were declared inoperable and Technical Specification Action Statements 3.4.6.1 and 3.9.9 were entered as per Technical Specification Table 3.3-6 Actions 20 (i.e., 1R12A inoperable) and 22 (i.e., 1R11A inoperable). The 1R11A and 1R12A channels provide the Engineered Safety Feature (ESF) for the automatic isolation of the Containment Purge/Pressure - Vacuum Relief System. The root cause of this event has been attributed to an equipment problem. It has been surmised that the bypass line had become partially clogged resulting in increased flow through the main line. When the throttle valve was adjusted, the clog cleared and caused partial flow blockage in the main line. The main line clog cleared within a couple of hours and flow was able to be adjusted to within the required limits. On 11/17/88 at 1300 hours, the 1R11A and 1R12A monitors were declared operable and the appropriate Technical Specifications were exited, upon adjustment of the sample flow. The 1R11A/1R12A sample flow lines and equipment will be cleaned during the next outage of sufficient duration. This event will be reviewed by the Nuclear Training Center for incorporation into applicable training programs.

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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:

Two trains of an Engineered Safety Feature System Made Inoperable By Common Mode

Event Date: 11/17/88

Report Date: 12/16/88

This report was initiated by Incident Report No. 88-491.

CONDITIONS PRIOR TO OCCURRENCE:

Mode 1 Reactor Power 100% - Unit Load 1157 MWe

DESCRIPTION OF OCCURRENCE:

On November 17, 1988 at 0655 hours, the Containment "Air Particulate Detector Trouble" alarm annunciated. Investigation revealed that the sample flow was high. After adjustment of the flow, it began indicating erratically between 0 and 5 scfm. Subsequently, Radiation Monitoring System (RMS) {IL} channels 1R11A, 1R12A and 1R12B were declared inoperable and Technical Specification Action Statements 3.4.6.1 and 3.9.9 were entered as per Technical Specification Table 3.3-6 Actions 20 (i.e., 1R12A inoperable) and 22 (i.e., 1R11A inoperable).

The 1R11A and 1R12A channels provide the Engineered Safety Feature (ESF) for the automatic isolation of the Containment Purge/Pressure - Vacuum Relief System.

Technical Specification Table 3.3-6 Action 20 states:

"With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.4.6.1."

Technical Specification Table 3.3-6 Action 22 states:

"With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.9.9."

Technical Specification 3.4.6.1 states:

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

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DESCRIPTION OF OCCURRENCE: (cont'd)

- a. The containment atmosphere particulate radioactivity monitoring system,
- b. The containment sump level monitoring system, and
- c. Either the containment fan cooler condensate flow rate or the containment atmosphere gaseous radioactivity monitoring system.

Technical Specification Action Statement 3.4.6.1 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."

Technical Specification 3.9.9 states:

"The Containment Purge and Pressure-Vacuum Relief isolation system shall be OPERABLE."

Technical Specification Action Statement 3.9.9 states:

"With the Containment Purge and Pressure-Vacuum Relief isolation system inoperable, close each of the Purge and Pressure-Vacuum Relief penetrations providing direct access from the containment atmosphere to the outside atmosphere. The provision of Specification 3.0.3 are not applicable."

APPARENT CAUSE OF OCCURRENCE:

The root cause of this event has been attributed to an equipment problem.

System flow is adjusted by manipulation of a bypass pump throttle valve. It has been surmised that the bypass line had become partially clogged resulting in increased flow through the main line. When the Equipment Operator (EO) adjusted the throttle valve, upon receipt of the high flow alarm, the clog cleared and caused partial flow blockage in the main line. The clog cleared within a couple of hours and flow was able to be adjusted to within the required limits.

ANALYSIS OF OCCURRENCE:

The 1R11A Containment Particulate Monitor monitors 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

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ANALYSIS OF OCCURRENCE:

the containment atmosphere gaseous (2R12A) radioactivity monitoring system (as per Technical Specification 3.4.6.1). An alarm signal will cause the automatic isolation of the Containment Pressure/Purge - Vacuum Relief System.

The 1R12A Containment Noble Gas Monitor monitors the noble gas activity in the Containment atmosphere to ensure the gaseous releases through the plant vent or from containment purges do not exceed Technical Specification 3.11.2.1 limits. An alarm signal will cause the automatic isolation of the Containment Pressure/Purge - Vacuum Relief System and closure of the WG41 valve (Waste Gas Decay Tank Vent Control Valve). In Mode 6 (Refueling), this monitor's setpoint is reset to 2 times background in order to provide early isolation and indication of a fuel handling accident.

Air samples are pulled directly from the Containment atmosphere (130' Elevation) through a moving filter paper. The filter paper continuously moves past the 1R11A detector, a scintillation type detector. After the air sample passes through the moving filter paper, it passes through a charcoal cartridge and is then mixed into a fixed shielded volume where it is viewed by the 1R12A monitor, a geiger-mueller detector. The air sample is then returned to the Containment.

The 1R12B Containment Iodine Monitor monitors the charcoal cartridge for increases in Containment iodine activity. The 1R12B monitor does not have any safety interlock functions.

Several area radiation monitors, in addition to the 1R12A monitor, are used to corroborate the 1R11A 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 1R11A channel indications. This monitor also has the capability of automatic isolation of the Containment Pressure/Purge - Vacuum Relief System and closure of the WG41 valve. It remained operable during the course of this event.

The 1R41C Plant Vent Noble Gas Monitor corroborates the 1R12A monitor indications. It also provides automatic isolation of the Containment Pressure/Purge - Vacuum Relief System and closure of the WG41 valve. However, as discussed in Salem Unit 2 LER 311/88-023-00, this RMS monitor was discovered to be inoperable at 1730 hours on November 17, 1988 (same day as when 1R11A and 1R12A were declared inoperable but at a later time) due to low calibration of the monitor.

The 1R41A Plant Vent Particulate Monitor corroborates the 1R11A monitor indications. It also provides automatic isolation of the Containment Pressure/Purge - Vacuum Relief System and closure of the WG41 valve. It remained operable and in service while the 1R11A was inoperable.

The requirements of the applicable Technical Specifications for

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ANALYSIS OF OCCURRENCE: (cont'd)

inoperability of the 1R11A and 1R12A monitors were complied with. No Containment release occurred during the time when the 1R11A, 1R12A and 1R41C monitors were inoperable. The 1R16 monitor, which corroborates the 1R41C monitor, and the 1R41A monitor remained operable during the subject time period. They did not indicate any significant uncontrolled release of radioactive effluents. Therefore, this event did not affect the health or safety of the public, however, since a single event (erratic sample air flow) caused the 1R11A and 1R12A monitors, which provide an ESF system actuation signal, to become inoperable this event is reportable in accordance with 10CFR 50.73 (a)(2)(v)(C).

CORRECTIVE ACTION:

On November 17, 1988 at 1300 hours, the 1R11A and 1R12A monitors were declared operable and the appropriate Technical Specifications were exited, upon adjustment of the sample flow.

The 1R41C monitor was successfully re-calibrated on November 18, 1988.

The 1R11A/1R12A sample flow lines and equipment will be cleaned during the next outage of sufficient duration.

This event will be reviewed by the Nuclear Training Center for incorporation into applicable training programs.



General Manager -
Salem Operations

MJP:pc

SORC Mtg. 88-110



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

Salem Generating Station

December 16, 1988

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 88-020-00

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

Sincerely yours,

L. K. Miller
General Manager-
Salem Operations

MJP:pc
Distribution

The Energy People

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