PSEG

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

Salem Generating Station

February 14, 1992

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 92-003-00

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 to be issued within thirty (30) days of event discovery.

Sincerely yours,

C. A Vondra
General Manager -
Salem Operations

MJP:pc

Distribution

IE22

NRC FORM 366 (5-89) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

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.

LICENSEE EVENT REPORT (LER)

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

TITLE (4)

ESF Signal Actuation: Control Rm Vent. Switch Due To 1R1B RMS Channel Cable Failure

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	1 7	9 2	9 2	—	0 0 3	—	0 0	0 2	1 4	9 2		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 - 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)		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 17, 1992 at 1047 hours, during normal power operation, the Control Room Ventilation automatically switched from the normal to the accident mode of operation (100% recirculation) for both Salem Unit 1 and Salem Unit 2 (by design). This was due to a high channel spike initiating an alarm signal on the Control Room Air Intake Radiation Monitoring System (RMS) channel, 1R1B. The switching of the Control Room Ventilation system to the emergency mode of operation is an Engineered Safety Feature (ESF). The root cause of the 1R1B Channel ESF actuation is equipment failure. Investigation identified that the 1R1B channel failure was the result of a broken detector shield wire soldered connection in the multi-prong detector cable connector connected to the back of the Control Room 1R1B channel rack. The channel spiking was reproduced, by the Maintenance-I&C technician, when the cable was manipulated. This cable is disconnected to support channel calibration. The shield wire soldered connection had apparently broken due to the periodic disconnection/reconnection of the cable. The cable shield wire was repaired. This event will be reviewed by System Engineering to modify the preventive maintenance program as applicable.

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 Signal Actuation: Control Room Ventilation switch to emergency mode due to 1R1B channel failure

Event Date: 1/17/92

Report Date: 2/14/92

This report was initiated by Incident Report No. 92-039.

CONDITIONS PRIOR TO OCCURRENCE:

Mode 1 Reactor Power 100% - Unit Load 1158 MWe

DESCRIPTION OF OCCURRENCE:

On January 17, 1992 at 1047 hours, during normal power operation, the Control Room Ventilation automatically switched from the normal to the accident mode of operation (100% recirculation) for both Salem Unit 1 and Salem Unit 2 (by design). This was due to a high channel spike initiating an alarm signal on the Control Room Air Intake Radiation Monitoring System (RMS) [IL] channel, 1R1B.

The switching of the Control Room Ventilation system to the emergency mode of operation is an Engineered Safety Feature (ESF). Therefore, on January, 17, 1992 at 1310 hours, the Nuclear Regulatory Commission (NRC) was notified of the ESF actuation in accordance with the Code of Federal Regulations 10CFR 50.72(b)(2)(ii).

APPARENT CAUSE OF OCCURRENCE:

The root cause of the 1R1B Channel ESF actuation is equipment failure.

Investigation identified that the 1R1B channel failure was the result of a broken detector shield wire soldered connection in the multi-prong detector cable connector connected to the back of the Control Room 1R1B channel rack. The channel spiking was reproduced, by the Maintenance-I&C technician, when the cable was manipulated. This cable is disconnected to support channel calibration. The shield wire soldered connection had apparently broken due to the periodic disconnection/reconnection of the cable. The cable shield wire was repaired.

ANALYSIS OF OCCURRENCE:

The 1R1B channel continuously monitors the air from the HVAC intake duct into the Unit 1 control room. This monitor consists of four parallel Geiger-Mueller (GM) tubes. When any of the four GM tubes reaches the alarm setpoint the monitor actuates an alarm and initiates closure of the duct intake valve to prevent contaminated air from entering the control room.

The 1R1A channel (Control Room General Area Monitor) is used as the corroborating channel to provide indication of airborne activity in the control room. This channel has the same automatic isolation function as the 1R1B channel. This channel did not indicate any abnormal activity during this event.

As discussed above, this event was the result of an equipment failure; therefore, the health and safety of the public was not affected. However, since Control Room ventilation system switching to the accident mode of operation is an ESF actuation, this event is reportable to the Nuclear Regulatory Commission in accordance with Code of Federal Regulations 10CFR 50.73(a)(2)(iv).

CORRECTIVE ACTION:

The damaged detector cable shield wire was repaired. Following successful completion of channel testing, the 1R1B RMS channel was returned to service.

This event will be reviewed by System Engineering to modify the preventive maintenance program as applicable.

General Manager -
Salem Operations

MJP:pc

SORC Mtg. 92-018