

LICENSEE EVENT REPORT

CONTROL BLOCK: [][][][][][](1)

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0	1	N	J	S	G	S	2	2	0	0	-	0	0	0	0	0	-	0	0	3	4	1	1	1	1	4			5
7	8	9					14	15											25	26							57		58
		LICENSEE CODE						LICENSE NUMBER													LICENSE TYPE					CAT SE			

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REPORT SOURCE 1 6 0 5 0 0 0 3 1 1 7 0 5 2 4 8 3 8 0 6 0 8 8 3 9

7 8 60 61 DOCKET NUMBER 68 69 EVENT DATE 74 75 REPORT DATE 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

On May 24, 1983, No. 21 Residual Heat Removal (RHR) Pump and No. 21 Fuel Handling Building Exhaust Fan were observed to trip. De-energization of No. 21 RHR Pump resulted in no RHR loop being in operation, and Action Statement 3.4.1.4b was entered. The pump was immediately restarted and flow restored. No reduction in Reactor Coolant System boron concentration occurred with the RHR loop inoperable. The event constituted operation in a degraded mode in accordance with Technical Specification 6.9.1.9b.

09		SYSTEM CODE		CAUSE CODE		CAUSE SUBCODE		COMPONENT CODE				COMP. SUBCODE		VALVE SUBCODE			
7	8	C	F	B	A	I	N	S	T	R	U	Y	Z				
		9	10	11	12	13	14	15	16	17	18	19	20				
LER RO REPORT NUMBER		EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE		REPORT TYPE		REVISION NO.							
17		8	3		0	2	5		0	3	L	0					
		21	22	23	24	25	26	27	28	29	30	31					
ACTION TAKEN		FUTURE ACTION		EFFECT ON PLANT		SHUTDOWN METHOD		HOURS		ATTACHMENT SUBMITTED		NPRD-4 FORM SUB.		FRAME COMP. SUPPLIER		COMPONENT MANUFACTURER	
F	X	Z	Z		0	0	0	0	Y	Y	A	A	6	4	0		
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47			

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 Initial results of detailed investigation of a previous similar problem revealed the

1 1 problems were due to a floating logic line and internal circuitry noise in the Safe-

1 2 guards Equipment Control (SEC) System. A testing design change was issued to modify

1 3 the SEC circuitry. A commitment to submit a Supplemental Report upon final resolution

1 4 was made in LER 83-014/03L.

FACILITY STATUS (1) 5 (G) (28) (C) (O) (O) (29) NA (30) OTHER STATUS
 METHOD OF DISCOVERY (A) (31) Operator Observation (32) DISCOVERY DESCRIPTION
 ACTIVITY CONTENT RELEASED OF RELEASE (1) 6 (Z) (33) (Z) (34) NA (35) AMOUNT OF ACTIVITY
 LOCATION OF RELEASE (36)
 PERSONNEL EXPOSURES NUMBER (1) 7 (d) (o) (d) (37) (Z) (38) NA (39) DESCRIPTION
 PERSONNEL INJURIES NUMBER (1) H (d) (o) (d) (40) NA (41) DESCRIPTION
 LOSS OF OR DAMAGE TO FACILITY TYPE (1) 9 (Z) (42) NA (43) DESCRIPTION
 PUBLICITY ISSUED (2) 0 (44) NA (45) DESCRIPTION
 8306270188 830608
 PDR ADOCK 05000311
 S PDR
 NRC USE ONLY

NAME OF PREPARER

R. Frahm

PHONE (609) 935-6000 Ext. 4309



PSEG

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

Salem Generating Station

June 14, 1983

Mr. J. Allan
Acting Regional Administrator
USNRC
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Mr. Allan:

LICENSE NO. DPR-75
DOCKET NO. 50-311
REPORTABLE OCCURRENCE 83-025/03L

pursuant to the requirements of Salem Generating Station
Unit No. 2, Technical Specifications, Section 6.9.1.9.b,
we are submitting Licensee Event Report for Reportable
Occurrence 83-025/03L. This report is required within
thirty (30) days of the occurrence.

Sincerely yours,

J. M. Zupko, Jr.
General Manager -
Salem Operations

RF:kls

CC: Distribution

Report Number: 83-025/03L
Report Date: 06-08-83
Occurrence Date: 05-24-83
Facility: Salem Generating Station Unit 2
Public Service Electric & Gas Company
Hancock's Bridge, New Jersey 08038

IDENTIFICATION OF OCCURRENCE:

Reactor Coolant System -- Residual Heat Removal Loops -
Loss of Operating Loop.

This report was initiated by Incident Report 83-099.

CONDITIONS PRIOR TO OCCURRENCE:

Mode 5 - Rx Power 0 % - Unit Load 0 MWe.

DESCRIPTION OF OCCURRENCE:

At 0717 hours, May 24, 1983, No. 21 Residual Heat Removal (RHR) Pump and No. 21 Fuel Handling Building Exhaust Fan were observed to trip. No other running equipment on No. 2A Vital Bus was de-energized; the bus infeed breaker remained closed. The deenergization of No. 21 RHR Pump resulted in no RHR loop being in operation. Due to no loop in operation, Technical Specification Action Statement 3.4.1.4b was entered. Similar events had recently been observed (see LER 83-014/03L) and were associated with spurious Safeguards Equipment Control (SEC) System actuations. The RHR Pump was therefore immediately started and the loop returned to operation; no reduction in Reactor Coolant System (RCS) boron concentration occurred with the RHR loop out of service.

APPARENT CAUSE OF OCCURRENCE:

Investigation revealed that this occurrence was also evidently due to spurious operation of the SEC System. Previous spurious actuations related to control circuitry noise (see LER 82-132/03L) had been addressed by installation of noise suppression devices per Design Change Request 2EC1387; due to the different symptoms, however, the recent problems are of a somewhat different nature. A contract was written for further investigation of the problems. Initial results of the investigation indicate that the recent problems were the result of a floating logic line and internal circuitry noise in the SEC System.

ANALYSIS OF OCCURRENCE:

Operability of the RHR loops is required to provide heat removal capability for removing decay heat. A single loop provides sufficient capability; single failure considerations require that two loops be operable. A single RHR pump also provides adequate flow to ensure mixing, prevent stratification and produce gradual reactivity changes during RCS boron concentration reductions.

ANALYSIS OF OCCURRENCE: (cont'd)

As noted, RHR flow was immediately restored, and no reduction in boron concentration occurred. The event therefore involved no risk to the health or safety of the public. The occurrence constituted operation in a degraded mode permitted by a limiting condition for operation and is reportable in accordance with Technical Specification 6.9.1.9b.

Action Statement 3.4.1.4b requires:

With no RHR loop in operation, suspend all operations involving a reduction in boron concentration of the RCS and immediately initiate corrective action to return the required RHR loop to operation.

CORRECTIVE ACTION:

As mentioned, after a survey of the control board showed no other abnormalities, the Control Room Operator restarted the de-energized equipment. No. 21 RHR Pump was restarted to restore an RHR loop to operation, and Action Statement 3.4.1.4b was terminated at 0718 hours, May 24, 1983.

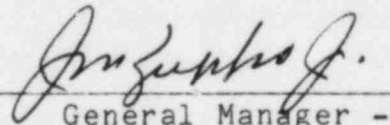
As noted, investigation into the cause of the occurrence has been performed; appropriate corrective action was outlined in testing Design Change Request 2ET-1651. The change will install an additional pull-up resistor and transient suppression capacitors in the Channel 2A SEC circuitry. Operation of the channel with the components installed will be monitored; upon completion of the testing, final corrective action will be implemented as necessary. A commitment to submit a Supplemental Report upon resolution of the problems was made in LER 83-014/03L.

FAILURE DATA:

Automation Industries, Inc.
Safequards Equipment Control System

Prepared By R. Frahm

SORC Meeting No. 83-077


General Manager -
Salem Operations