

Report Number: 79-21/03L

Report Date: 4/02/79

Occurrence Date: 3/02/79

Facility: Salem Generating Station
Public Service Electric & Gas Company
Hancock's Bridge, New Jersey 08038

IDENTIFICATION OF OCCURRENCE:

Nuclear Instrumentation Channel N41 Inoperable

CONDITIONS PRIOR TO OCCURRENCE:

Operational Mode 1
Reactor Power 100%

DESCRIPTION OF OCCURRENCE:

At 1220 hours, overhead annunciators in the Control Room alarmed, indicating a power range nuclear instrumentation channel failure. Investigation showed a loss of high voltage to N41 channel detectors. Technical Specification 3.3.1.1, Action 2, was implemented and performance personnel were notified. At 1245 hours, the channel was declared inoperable and the bistables were tripped. The channel was repaired and returned to service at 1528 hours and the Technical Specification action was terminated.

DESIGNATION OF APPARENT CAUSE OCCURRENCE:

The cause of this occurrence was a failed N41 channel high voltage power supply.

ANALYSIS OF OCCURRENCE:

Technical Specification 3.3.1.1, Table 3.3-1, Action 2, requires that with the number of operable channels one less than the total number of channels, startup and/or power operation may proceed provided the following conditions are satisfied:

- a. The inoperable channel is placed in the tripped condition within one hour.
- b. The minimum channels operable requirement is met; however, one additional channel may be bypassed for up to two hours for surveillance testing per Specification 4.3.1.1.
- c. Either, thermal power is restricted to $\leq 75\%$ of rated thermal and the power range, neutron flux trip setpoint is reduced to $\leq 85\%$ of rated thermal power within four hours, or the quadrant power tilt ratio is monitored at least once per 12 hours.

The inoperable N41 channel bistables were tripped within 25 minutes. Power range channels N42, N43 and N44 were operable throughout this occurrence. Power range channel N41 was returned to service within 3 hours.

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CORRECTIVE ACTION:

The failed power supply was replaced with an on-hand spare. The high voltage output was adjusted and the loss of detector voltage bistable trip and reset points were checked. Resistance test of high voltage and signal cables verified insulation resistance greater than ten mega-ohm. The failed power supply will be returned to the vendor for repair.

FAILURE DATA:

Not Applicable

Prepared by A. W. Kapple

SORC Meeting No. 17-79

N. J. Residua
Manager - Salem Generating Station

LICENSEE EVENT REPORT

CONTROL BLOCK: _____ (1)

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0	1	N	J	S	G	S	1	2	0	0	-	0	0	0	0	-	0	0	3	4	1	1	1	1	4				5
7	8	LICENSEE CODE						14	15	LICENSEE NUMBER						25	26	LICENSEE TYPE				30	57	CAT	58	59			

CON'T

0	1	L	6	0	5	0	0	0	2	7	2	7	0	3	0	2	7	9	3	0	4	0	2	7	9	9
7	8	REPORT SOURCE		60	61	DOCKET NUMBER						68	69	EVENT DATE				74	75	REPORT DATE				80		

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 | During normal operation, overhead alarms indicated a failure of a power range

0 3 | nuclear instrumentation channel. T/S 3.3.1.1 Action 2 was initiated. At 1245 hours,

0 4 | the N41 channel was declared inoperable and channel bistables were tripped. The

0 5 | channel was repaired and returned to service at 1528 hours and the T/S action was

0 6 | terminated. This is the first occurrence of this type.

0 7 | _____

0 8 | _____

0	9	I	A	11	E	12	A	13	I	N	S	T	R	U	14	P	15	Z	16						
7	8	SYSTEM CODE		9	10	CAUSE CODE		11	12	CAUSE SUBCODE				13	COMPONENT CODE				18	COMP. SUBCODE		19	20	VALVE SUBCODE	

17	7	9	21	22	23	0	2	1	24	26	27	0	28	29	L	30	31	0	32										
LER-RO REPORT NUMBER		EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE		REPORT TYPE		REVISION NC.		ACTION TAKEN		FUTURE ACTION		EFFECT ON PLANT		SHUTDOWN METHOD		HOURS		ATTACHMENT SUBMITTED		NPRD-4 FORM SUB.		PRIME COMP. SUPPLIER		COMPONENT MANUFACTURER	

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 | Cause of this occurrence was a failed high voltage power supply. The power supply

1 1 | was replaced and the output adjusted. The loss of detector voltage bistable trip

1 2 | and reset points were checked. High voltage and signal cable insulation resistance

1 3 | was checked satisfactory. The failed power supply will be returned to the vendor for

1 4 | repair.

1	5	E	28	1	0	0	29	N/A	30	A	31	Alarms in Control Room	32		
7	8	FACILITY STATUS		% POWER			OTHER STATUS			METHOD OF DISCOVERY				DISCOVERY DESCRIPTION	

1	6	Z	33	Z	34	N/A	35	N/A	36	N/A	36
7	8	ACTIVITY RELEASED		CONTENT OF RELEASE		AMOUNT OF ACTIVITY			LOCATION OF RELEASE		

1	7	0	0	0	37	Z	38	N/A	39
7	8	PERSONNEL EXPOSURES NUMBER		TYPE		DESCRIPTION			

1	8	0	0	0	40	N/A	41
7	8	PERSONNEL INJURIES NUMBER		DESCRIPTION			

1	9	Z	42	N/A	43	
7	8	LOSS OF OR DAMAGE TO FACILITY TYPE		DESCRIPTION		

2	0	Z	44	N/A	45	
7	8	PUBLICITY ISSUED		DESCRIPTION		

NAME OF PREPARER A. W. Kapple

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