NRC FORM 366
(7-77)

LICENSEE EVENT REPORT

CONTROL BLOCK: | | | | | | | (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

Line	Field	Value
01	Licensee Code (2)	N J S G S 2
01	License Number (3)	0 0 - 0 0 0 0 0 - 0 0
01	License Type (4)	4 1 1 1 1
01	CAT (5)	
01 CON'T	Report Source (6)	L
01 CON'T	Docket Number (7)	0 5 0 0 0 3 1 1
01 CON'T	Event Date (8)	0 8 2 7 8 3
01 CON'T	Report Date (9)	0 9 2 6 8 3

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

On August 27, 1983, following a line voltage transient on Salem Unit 2 No. 2B Vital Bus, No. 12 and 22 Hydrogen Analyzer channels failed to restart. No. 12 Channel was required to be operable due to Salem Unit 1 being in Mode 1. The channel was declared inoperable and Action Statement 3.6.4.1 was entered. The redundant Unit 1 Hydrogen Analyzer channel was operable and indicated normal hydrogen level in containment. The event constituted operation in a degraded mode in accordance with Technical Specification 6.9.1.9b.

System Code (11)	Cause Code (12)	Cause Subcode (13)	Component Code (14)	Comp. Subcode (15)	Valve Subcode (16)
S E	B	A	I N S T R U	Y	Z

LER/RO REPORT NUMBER (17)

Event Year		Sequential Report No.		Occurrence Code	Report Type		Revision No.
8 3	—	0 3 8	/	0 3	L	—	0

Action Taken (18)	Future Action (19)	Effect on Plant (20)	Shutdown Method (21)	Hours (22)	Attachment Submitted (23)	NPRD-4 Form Sub. (24)	Prime Comp. Supplier (25)	Component Manufacturer (26)
A	F	Z	Z	0 0 0 0	Y	Y	L	I 2 0 5

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

The channels failed to restart due to the voltage transient. The susceptibility of the channel integrated circuits to such malfunctions could be expected. The channel PROM integrated circuits were replaced, the channels restarted, and the action statement was terminated. Investigation into providing an uninterruptable power supply is underway.

Facility Status (28)	% Power (29)	Other Status (30)	Method of Discovery (31)	Discovery Description (32)
C	0 0 0	NA	A	Operational Event

Activity Released (33)	Content of Release (34)	Amount of Activity (35)	Location of Release (36)
Z	Z	NA	NA

PERSONNEL EXPOSURES

Number (37)	Type (38)	Description (39)
0 0 0	Z	NA

PERSONNEL INJURIES

Number (40)	Description (41)
0 0 0	NA

LOSS OF OR DAMAGE TO FACILITY (43)

Type (42)	Description
Z	NA

PUBLICITY

Issued (44)	Description (45)
N	NA

NRC USE ONLY

NAME OF PREPARER R. Frahm PHONE (609)935-6000 Ext. 4309

PSE&G

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

Salem Generating Station

September 26, 1983

Dr. Thomas E. Murley
Regional Administrator
USNRC
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Dr. Murley:

LICENSE NO. DPR-70
DOCKET NO. 50-272
REPORTABLE OCCURRENCE 83-038/03L

Pursuant to the requirements of Salem Generating Station Unit No. 1, Technical Specifications, Section 6.9.1.9.b, we are submitting Licensee Event Report for Reportable Occurrence 83-038/03L. This report is required within thirty (30) days of the occurrence.

Sincerely yours,

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

RF:kll

CC: Distribution

IE22
1/1

Report Number: 83-038/03L

Report Date: 09-26-83

Occurrence Date: 08-27-83

Facility: Salem Generating Station Units 1 and 2
Public Service Electric & Gas Company
Hancock's Bridge, New Jersey 08038

IDENTIFICATION OF OCCURRENCE:

Containment Systems - No. 12 Hydrogen Analyzer Channel - Inoperable.

This report was initiated by Incident Reports 83-159 and 83-160.

CONDITIONS PRIOR TO OCCURRENCE:

Unit 1 - Mode 1 - Rx Power 100 % - Unit Load 1110 MWe.
Unit 2 - Mode 4 - Rx Power 0 % - Unit Load 0 MWe.

DESCRIPTION OF OCCURRENCE:

At 1139 hours, August 27, 1983, a line voltage transient occurred on the Salem Unit 2 No. 2B Vital Bus. Numerous alarms associated with instruments supplied by the bus were received. The transient resulted in letdown isolation, de-energization of pressurizer heaters, and the automatic starting of No. 21 Component Cooling Pump. Following the transient, No. 12 and 22 Hydrogen Analyzer Channels failed to restart (both channels receive power off of No. 2B Vital Bus).

No. 12 Hydrogen Analyzer Channel was declared inoperable and Unit 1 Action Statement 3.6.4.1 was entered (operability of the Unit 2 channels was not required due to the unit being in Mode 4). Unit 2 letdown flow, pressurizer heaters and affected equipment were restored to normal. The redundant Unit 1 hydrogen analyzer channel was operable and indicated that the hydrogen level in the Unit 1 Containment Building was normal at all times.

APPARENT CAUSE OF OCCURRENCE:

The channels failed to restart due to the voltage transient; similar, previous problems had been observed (see LERs 83-027/03L and 83-036/03L) and the susceptibility of the channel integrated circuits to malfunctions of this type could be expected. The voltage transient resulted when a lead from No. 22 Reactor Coolant System Wide Range Temperature recorder was inadvertentlty grounded.

The temperature recorder was being disconnected for the implementation of Design Change Request 2EC-1620A. The modification was being performed with the channel current loop energized to maintain the availability of instrument channels supplied by the same circuit. To prevent inadvertantly tripping the reactor, the work was scheduled for implementation while the plant was shutdown. The I&C Technician performing the work removed the terminal screw with a screw-holding

APPARENT CAUSE OF OCCURRENCE: (cont'd)

screwdriver, but the terminal connector slipped off the screw and the lead was temporarily grounded. The incident was viewed as an isolated problem in implementation of the design change.

ANALYSIS OF OCCURRENCE:

The operability of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within the containment below its flammable limit during post-LOCA conditions. As noted, the redundant hydrogen analyzer channels were operable and no hydrogen-producing event occurred. The occurrence therefore did not involve any undue risk to the the health or safety of the public. Due to the loss of redundancy involved, the event constituted operation in a degraded mode permitted by a limiting condition for operation. The occurrence is reportable in accordance with Technical Specification 6.9.1.9b.

Action Statement 3.6.4.1 requires:

> With one hydrogen analyzer inoperable, restore the inoperable analyzer to operable status within 30 days or be in at least hot standby within the next 6 hours.

CORRECTIVE ACTION:

The PROM integrated circuits in No. 12 and 22 Hydrogen Analyzer channels were replaced, and the channels restarted. The system constants were re-entered, and the channels were tested satisfactorily. They were declared operable and Action Statement 3.6.4.1 was terminated at 1630 hours, August 29, 1983. No further immediate corrective action was deemed necessary in view of the nature of the occurrence. Engineering investigation of the possibility of providing an uninterruptable power supply for the hydrogen analyzers is in progress, and appropriate action will be taken upon completion of the investigation.

FAILURE DATA:

Not Applicable

Prepared By R. Frahm

General Manager -
Salem Operations

SORC Meeting No. 83-121