



Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038-0236

Nuclear Business Unit

**DEC 19 1997**

LR-N970805

U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

**LER 272/97-013-00  
SALEM GENERATING STATION - UNIT 1  
FACILITY OPERATING LICENSE NO. DPR-70  
DOCKET NO. 50-272**

Gentlemen:

This Licensee Event Report entitled "Failure to Meet Technical Specification 3.8.1.1  
Action b" is being submitted pursuant to the requirements of the Code of Federal  
Regulations 10CFR50.73(a)(2)(i)(B).

Sincerely,

A. C. Bakken III  
General Manager -  
Salem Operations

Attachment

EHV/tcp

C Distribution  
LER File 3.7

9801020108 971219  
PDR ADOCK 05000272  
S PDR

*IE22/1*



The power is in your hands.

**LICENSEE EVENT REPORT (LER)**

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)  
SALEM GENERATING STATION UNIT 1

DOCKET NUMBER (2)  
05000272

PAGE (3)  
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TITLE (4)  
FAILURE TO MEET TECHNICAL SPECIFICATION 3.8.1.1 ACTION B

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 NAME	DOCKET NUMBER
07	02	97	97	013	-- 00	12	19	97	Salem Generating Station Unit 2	05000311
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9)	POWER LEVEL (10)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)				
		20.2201(b)	20.2203(a)(2)(v)	<input checked="" type="checkbox"/>	50.73(a)(2)(i)	50.73(a)(2)(viii)
		20.2203(a)(1)	20.2203(a)(3)(i)		50.73(a)(2)(ii)	50.73(a)(2)(x)
		20.2203(a)(2)(i)	20.2203(a)(3)(ii)		50.73(a)(2)(iii)	73.71
		20.2203(a)(2)(ii)	20.2203(a)(4)		50.73(a)(2)(iv)	OTHER
		20.2203(a)(2)(iii)	50.36(c)(1)		50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
		20.2203(a)(2)(iv)	50.36(c)(2)		50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME  
E. H. Villar, Station Licensing Engineer

TELEPHONE NUMBER (Include Area Code)  
(609) 339-5456

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)

YES (If yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/>	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On July 2, 1997, the 2A Emergency Diesel Generator (EDG) was tested in accordance with surveillance test procedure, S2.OP-ST.DG-0001, 2A Diesel Generator Surveillance Test. The test was completed satisfactorily, and the EDG was declared operable at 0545. However, the test equipment was intentionally left in place to support additional EDG testing scheduled for later that day. The second test did not occur for approximately 9 hours later, and during this period the 2A EDG was thought to be in an Operable status. On October, 2, 1997, an engineering evaluation determined that the EDG should have been declared inoperable with the test instrumentation connected.

The reason for this occurrence is attributed to personnel error.

Corrective actions taken included; appropriate disciplinary action was taken with involved personnel, procedures were changed, the test equipment was removed.

The failure to perform this surveillance is reportable in accordance with 10CFR50.73(a)(2)(i)(B).

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

**PLANT IDENTIFICATION:**

Salem Generating Station - Unit 2  
Public Service Electric and Gas Company  
Hancocks Bridge, New Jersey 08038

Westinghouse - Pressurized Water Reactor

2 A Emergency Diesel Generator (EDG) {EK}\*

\* Energy Industry Identification System (EIIS) codes and component function identifier codes appear in the text as {SS/CCC}.

**IDENTIFICATION OF OCCURRENCE:**

Failure to Comply with Technical Specification 3.8.1.1 Action B.

Date of Occurrence: July 2, 1997

Date of Identification: November 30, 1997

Report Date: December 19, 1997

**CONDITIONS PRIOR TO OCCURRENCE:**

Salem Unit 1 - Defueled

Salem Unit 2 - Mode 4

**DESCRIPTION OF OCCURRENCE:**

Technical Specification 3.8.1.1 states in part:

"3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

- a. Two physically independent A.C. circuits between the offsite transmission network and the onsite Class 1E distribution system (vital bus system), and
- b. Three separate and independent diesel generators with:

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DESCRIPTION OF OCCURRENCE: (CONT'D)

1. Separate day tanks containing a minimum volume of 130 gallons of fuel, and
2. A common fuel storage system consisting of two storage tanks, each containing a minimum volume of 23,000 gallons of fuel, and two fuel transfer pumps.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

b. With one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the independent A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter...."

On July 2, 1997, the 2A Emergency Diesel Generator (EDG) was tested in accordance with surveillance test procedure, S2.OP-ST.DG-0001, 2A Diesel Generator Surveillance Test. The test was completed satisfactorily, and the EDG was declared operable at 0545. However, in completing the restoration portion of the procedure, the test equipment was intentionally left in place to support additional EDG testing scheduled for later that day. The procedure step that directed removal of the test equipment was marked as not applicable. The second test did not occur for approximately 9 hours later on July 2, and during this period the 2A EDG was thought to be in an Operable status. Leaving the electrical test equipment unattended and installed in the 2A EDG control cabinet for this extended period of time was a condition that had not been previously evaluated.

Engineering evaluated this condition relative to three concerns; 1) the seismic adequacy of the affected cabinet with its door open (the cabinet door contains protective door mounted relays), 2) seismic adequacy of test equipment and cart, and 3) the actual test equipment electrical connection.

1. Relative to the seismic adequacy of the door mounted relays, the evaluation determined these relays would not be actuated during a seismic event with the door in the open position. Although, these relays were seismically qualified with the doors in the closed position, based on engineering judgment and the limited motion of the door in any direction, the relays would not actuate during a seismic event with the door open. This evaluation was completed on August 29, 1997.

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DESCRIPTION OF OCCURRENCE: (CONT'D)

2. Relative to the seismic adequacy of the test equipment and cart, the seismic evaluation determined that the test equipment would remain on the cart during a seismic event and the cart would remain upright and not move more than six inches.

3. Relative to the actual test instrumentation connection, a 10CFR50.59 evaluated the connection of portable electrical test equipment to the EDG's potential transformer circuit (used for EDG control - governor speed reference and KWS turbo boost controller), and the Engine Start/Turbo Boost ON contact in the 125VDC circuit (used for triggering the recorder on an EDG start). This evaluation, which was completed on October 2, 1997, indicated that without proper isolation of the electrical contacts, the EDG should have been declared inoperable.

Therefore, the 2A EDG should have been declared inoperable on July 2, 1997, and in accordance with Technical Specifications 3.8.1.1 Action b, surveillance requirement 4.8.1.1.1.a should have been performed within one hour. The failure to perform this surveillance is reportable in accordance with 10CFR50.73(a)(2)(i)(B). Less than adequate communication between Licensing, Operations, and Engineering resulted in the information timeline presented above not being known until November 30, 1997, when the reportability determination was made.

CAUSE OF OCCURRENCE:

The reason for this occurrence is attributed to personnel error.

In completing the restoration portion of the procedure, the test equipment was intentionally left in place to support additional EDG testing scheduled for later that day. The procedure step that directed removal of the test equipment was marked as not applicable. Leaving the electrical test equipment unattended and installed (and considering the EDG operable) for this extended period of time was a condition that had not been previously evaluated and changed the intent of the procedure and violated the Technical Specifications.

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**PRIOR SIMILAR OCCURRENCES:**

A review of the LER database did not show any previous similar occurrence associated with test equipment. A number of LER relative to failure to comply with Technical Specifications were identified for the past two years. A review of LERs for Salem Units 1 and 2 issued in the last two years identified twenty-one LERs (272/94-008, 272/95-004, 272/95-019, 272/95-013, 272/95-024, 272/95-028, 272/96-003, 272/96-004, 272/96-006, 272/96-008, 272/96-016, 272/96-023, 272/96-024, 311/94-012, 311/95-006, 311/95-008, 311/96-003, 311/96-005, 311/96-007, 311/96-010 and 311/96-011) that were a result of missed surveillances due to inadequate implementation of Technical Specification requirements. The identification of these programmatic issues resulted in the initiation of the Technical Specification Surveillance Improvement Program (TSSIP) described in LER 311/95-008.

**SAFETY CONSEQUENCES AND IMPLICATIONS**

The safety consequences and implications of this event were minimal. The Operability of the AC (including the EDGs) ensures that sufficient power is available to supply the safety related equipment required for safe shutdown of the facility, and to mitigate accidents within the facility. Although, the 2A EDG should have been considered inoperable, in accordance with the Technical Specifications requirements, the 2A EDG was available and capable of performing its function. At the time of the event Salem Unit 2 was in Mode 4 with reactor coolant system temperature and pressure at a fraction of their normal operating values, such that the contained energy within the system was low. Additionally, procedures exist (and operators are trained) that provide the necessary guidance to mitigate accidents with less than the minimum required AC distribution; therefore, the safety consequences and implications of this event were minimal.

**CORRECTIVE ACTIONS TAKEN AND PROPOSED:**

1. On July 2, 1997, the follow-up test was performed satisfactorily, the test equipment was removed, and the surveillance procedure was signed off.
2. Appropriate personnel have been held accountable for their actions in accordance with PSE&G disciplinary policy.
3. A memorandum has been issued to clarify Operations management's expectations regarding non-performance of procedure steps that require test equipment removal.

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**CORRECTIVE ACTIONS TAKEN AND PROPOSED:(cont'd**

4. A Temporary Standing Order (TSO) was issued which requires that all declarations that a procedure section or step, determined to be not applicable shall require the concurrence of two operators, at least one of whom shall be a supervisor, preferably SRO licensed.
5. The Operations Department Procedure on Procedure Use has been revised to incorporate the above stated TSO.
6. The electrical connection between the test equipment and the EDG cabinet is being modified by the addition of fuses to properly separate these electrical connections. Until all the modifications are completed, the unmodified diesel will be considered inoperable with the test instrumentation connected.
7. A condition report (CR) has been issued to address the untimeliness of this report, as well as the poor communications amongst departments. The evaluation of this CR will be presented to the Corrective Action Review Board.
8. Generic guidance is being developed to provide appropriate direction for the installation of temporary test instrumentation into Operable plant equipment. This action will be completed by January 30, 1998.