



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

Nuclear Business Unit

SEP 21 1998

LR-N980454

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

Gentlemen:

LER 311/98-013-00
SALEM GENERATING STATION - UNIT 2
FACILITY OPERATING LICENSE NO. DPR-75
DOCKET NO. 50-311

This Licensee Event Report "Missed Surveillance of Containment Penetration
Overcurrent Protection Devices" 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

200014

C Distribution
LER File 3.7

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PDR ADOCK 05000311
S PDR

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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 2

DOCKET NUMBER (2)

05000311

PAGE (3)

1 OF 5

TITLE (4)

Missed Surveillance of Containment Penetration Overcurrent Protection Devices

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
08	20	98	98	013	00	09	21	98	Salem Unit 1	05000272
										05000
OPERATING MODE (9)		1		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)						
POWER LEVEL (10)		100		20.2201(b)		20.2203(a)(2)(v)		X	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 Senior 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.) NO

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On August 20, 1998, a condition adverse to quality (CAQ) was identified relative to Technical Specifications (TS) 3.8.3.1 for Salem Unit 2. The CAQ identified that a group of low voltage conductor overcurrent protective devices (circuit breakers) had not been demonstrated operable per the requirements of Salem Unit 2 TS surveillance requirement 4.8.3.1.a2. This TS requires that all containment penetration conductor overcurrent protective devices be operable. Specifically, surveillance 4.8.3.1 a2 requires that at least 10% of each breaker type be tested every 18 months. None of the breakers in this type had been tested within the 18 months plus 25% frequency required by TS. One additional breaker, of a different type, was identified as not having been tested during the investigation. The apparent cause of this report is attributed to human error. Appropriate breakers were satisfactorily tested, and a level one-root cause investigation team was established.

Therefore, this event is reportable per 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:

Westinghouse - Pressurized Water Reactor

Reactor Containment Building Penetrations/Circuit Breakers {SAC/52}*

DC Power {EJ/ }

Low Voltage Power System - Class 1E {EB/ }

* Energy Industry Identification System (EIIS) codes and component function identifier codes appear as (SS/CCC)

IDENTIFICATION OF OCCURRENCE:

Date of Occurrence: August 20, 1998

Date of Identification: August 20, 1998

Report Date: September 21, 1998

CONDITIONS PRIOR TO OCCURRENCE:

At the time of identification, Salem Unit 2 was in Mode 1 at 100% power.

DESCRIPTION OF OCCURRENCE:

From August 10 through August 21, 1998, the Quality Assessment (QA) department performed a detailed review of the surveillance requirements of Technical Specifications (TS) 3.8.3.1. This review assessed the effectiveness of the controls and programs to ensure compliance with TS 3.8.3.1 "Containment Penetration Conductor Overcurrent Protection Devices."

TS 3.8.3.1 requires that the containment penetration conductor overcurrent protection devices be operable. TS surveillance requirement 4.8.3.1 a2 requires, in part, that at least once per 18 months 10% of each breaker type be tested to ensure that the breaker works as designed. Additionally, TS surveillance requirement 4.8.3.1.b requires, in part, that once per 60 months the circuit breakers be subjected to an inspection and preventive maintenance as recommended by the breaker manufacturer. Technical Specifications requires that with one or more of these protection devices inoperable, the device be restored to operable or have the circuit de-energized by tripping either the primary or secondary protective device within 72 hours.

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DESCRIPTION OF OCCURRENCE: (cont'd)

The QA assessment determined that a type of low voltage breakers (TEC type) had exceeded the requirement of TS 4.8.3.1.a2 (10% being tested every 18 months). Specifically, the TEC type breakers (6 breakers are contained in this type) were identified as not having met the surveillance requirement of having been properly tested within the 18 months frequency (plus the 25% grace period) required by TS surveillance 4.8.3.1.a2. The overloads on these breakers had most recently been tested in the timeframe of September 1996. Upon identification by QA, Operations entered Technical Specification Action Statement (TSAS) 3.8.3.1 at 0940 on August 20, 1998, and exited the TSAS at 1528 on the same day, following completion of the TS surveillance.

Because of the identified missed TS surveillance by QA, a level 1 root cause team was established to determine the root cause(s) of the missed TS surveillance. As a result of the team's investigation, one additional breaker (from a different breaker type, CF) was identified as not having been properly tested. This breaker was tested on September 3, and the results of the test were accepted by Engineering on September 4, 1998. This engineering evaluation was required in order to compensate for the difference in ambient temperature conditions of the trip device. The TSAS 3.8.3.1 was exited on September 11, 1998, following the revision of the test procedure. Therefore, Salem Unit 2 was operated in Modes 1 through 4, contrary to the requirements of TS 3.8.3.1, and this condition is reportable under 10CFR50.73(a)(2)(i)(B).

CAUSE OF OCCURRENCE:

The apparent cause for these occurrences is attributed to human error.

Inattention to detail caused the missed surveillance of the TEC type breaker. The initial creation of the recurring tasks (RTs) in the 1988-1991 timeframe should have created two separate RTs. A separate RT should have been created to track the 10% sampling. As the system was created and modified in the 1988-1991 timeframe, the system depended on human intervention (since no 18 month RT was created) to ensure the 10% sampling was performed. The human error associated with the CF type breaker is related to the failure of Planning and Engineering personnel to follow procedures. This breaker was identified as not having been included in the testing program, while the unit was in Mode 5 (a non applicable Mode). Failure to follow procedures resulted in the inappropriate deferral and failure to test the identified breaker, when the unit entered the applicable Mode (Mode 4).

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CAUSE OF OCCURRENCE: (contn'd)

The following apparent contributing factors played an instrumental role in the human errors; 1) an ineffective implementation of the requirements of technical Specification 4.8.3.1.a2 (scheduling of a 10% sampling of each type of low voltage breaker every 18 months), 2) inadequate training and lack of knowledge of personnel associated with the surveillance program, and 3) ineffective corrective actions from prior events.

PRIOR SIMILAR OCCURRENCES:

A review of LERs for the past two years identified:

- a) Two LERs relative to missed Technical Specification Surveillances specifically associated with Containment Penetration Overcurrent Protection Devices.
 - 1. LER 311/96-007 and its supplements dealt with Containment Penetration Overcurrent Protection Devices not being tested as required due to inadequate configuration controls, as well as human error. Corrective actions taken included procedure changes, and drawing updates.
 - 2. LER 272/97-004 "Inadequate Surveillance Testing of Molded Case Circuit Breakers" identified that the instantaneous element of the protective devices was not adequately tested due to an inadequate acceptance criterion in the procedure. Corrective actions taken included procedure changes.
- b) Sixteen LERs related to missed Technical Specification Surveillances where the root cause was attributed to either to personnel error, procedure deficiencies, and/or management/QA deficiencies. These LERs are: for Unit 1 LER 272/96-041, 272/96-023, 272/96-017, 272/96-016, 272/96-006, 272/96-005-00, 01, 04, 05, 06, and 09, 272/96-004, 272/97-012, and for Unit 2 LER 311/96-013, 311/96-011, 311/96-010, 311/96-005 311/96-003, 311/97-011, 311/97-007, and 311/97-001.

These LERs will be included in the level 1 root cause investigation.

SAFETY CONSEQUENCES AND IMPLICATIONS:

The failure to test molded case circuit breakers that are credited with primary or backup protection of electrical penetrations jeopardizes containment integrity in the event of an overcurrent situation.

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SAFETY CONSEQUENCES AND IMPLICATIONS: (contn'd)

For a failure to trip coupled with a failure of the alternate protection device and high currents, heat damage and possibly fire at the containment penetration could result. Loss of penetration integrity is assumed in this instance resulting in reduced containment integrity and the potential for release of radioactive material during normal operations or accident conditions. However, since none of the affected penetrations were damaged as a result of the failure to test the circuit breakers, and both breakers were successfully tested, there was no compromise of containment integrity. Therefore, this occurrence did not affect the health and safety of the public.

CORRECTIVE ACTIONS

1. A level 1 root cause team was established to investigate this event, as well as other missed Technical Specification surveillances, for common issues (see Prior Similar Occurrences section). Upon completion of this investigation, this LER report may be supplemented in accordance with the requirements of NUREG 1022.
2. One of the identified TEC type low voltage breakers was satisfactorily tested. Satisfactorily testing this breaker type provided compliance with TS 4.8.3.1.a2 (10% being tested every 18 months).
3. The breaker identified by the root cause team (CF type) was tested on September 3, 1998, and the results of the testing were accepted in September 4, 1998 by Engineering. Satisfactorily testing this breaker type provided compliance with TS 4.8.3.1.a2 (10% being tested every 18 months).
4. A comparison of the MMIS database to the design engineering calculation was performed to ensure that the MMIS database contained all the required overcurrent protection devices. The comparison showed that the breakers in the design calculation were included in the MMIS database.
5. Personnel involved in this event have been disciplined, as appropriate, in accordance with PSE&G policies.
6. The RTs will be revised to ensure the performance of the 10% sampling requirements.
7. A training and qualification program will be established for individuals involved in Technical Specification surveillance administration.