PSEG

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

Nuclear Business Unit

FEB 26 1998

LR-N980099

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

Gentlemen:

LER 311/98-001-00
SALEM GENERATING STATION - UNIT 2
FACILITY OPERATING LICENSE NO. DPR-75
DOCKET NO. 50-311

This Licensee Event Report entitled "Failure to Meet Technical Specification 3.3.3.7 Table 3.3-11 Item 19" 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

C Distribution
LER File 3.7

NRC FORM 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 04/30/98

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.

LICENSEE EVENT REPORT (LER)

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

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TITLE (4)
FAILURE TO MEET TECHNICAL SPECIFICATION 3.3.3.7 Table 3.3-11 Item 19 - RVLIS.

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	05	97	98	001	-- 00	02	26	98	Salem Generating Station Unit 1	05000272
									FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	4	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)					
POWER LEVEL (10)	0	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	TELEPHONE NUMBER (Include Area Code)
E. H. Villar, Station Licensing Engineer	(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)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	x	NO				

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

During review of the installation of the test instrumentation connected to the Unit 1 Reactor Vessel Level Instrument System (RVLIS) panel, it was determined that this instrumentation provided inadequate isolation between the Non Safety Related Data Acquisition System (DAS) and the RVLIS channels. Therefore, the RVLIS could not be considered operable with the test instrumentation connected. As a result of this review, a condition report (CR) was initiated since this equipment had been previously installed on Unit 2 RVLIS during initial operation in Mode 3. The RVLIS had been considered operable with this Data Acquisition System (DAS) installed. With the test instrumentation connected the RVLIS channel separation criteria is violated and the system can not be considered operable. The test equipment was installed on June 17, 1997 with the Salem Unit 2 in Mode 4. The apparent cause(s) of this condition was the failure to 1) identify that the initial 50.59 evaluation for the RVLIS procedure assumed that RVLIS would be considered inoperable, and 2) include in the determination of operability the effect of the test equipment. The appropriate procedures were revised, and the test equipment has been properly isolated. 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:

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

Westinghouse - Pressurized Water Reactor

Reactor Vessel Level Instrumentation System (RVLIS) {IP}
Accident Monitoring Instrumentation {IP}
* 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 3.3.3.7 Table 3.3-11 Item 19 - RVLIS.

Date of Occurrence: July 5, 1997
Date of Identification: January 27, 1998
Report Date: February 26, 1998

CONDITIONS PRIOR TO OCCURRENCE:

Salem Unit 2 - Mode 4

DESCRIPTION OF OCCURRENCE:

The purpose of the Reactor Vessel Level Instrumentation System (RVLIS) Data Testing is to verify and/or adjust the RVLIS scaling for dynamic range level indication of 100% and obtaining heat up data for generation of the new Dynamic Head Curves. The test is conducted in accordance with approved procedures [SC.IC-PT.RVL-0001(Q), "RVLIS Level Output Scaling Adjustments and Heat-Up Data Collection"]

During final system affirmation (a process put in place for the restart of the Salem Units) of the RVLIS, the system manager was requested by management to review the impact of the data acquisition system (DAS) relative to the plant equipment. The test equipment was connected to Salem Unit 1 RVLIS panel to take dynamic data during the Unit 1 heat up, and to determine the correlation constant to be input into the RVLIS data analyzer. The investigation determined that this instrumentation provided inadequate isolation between the Non Safety Related DAS and the RVLIS channels. Therefore, the RVLIS could not be considered operable with the test instrumentation connected.

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DESCRIPTION OF OCCURRENCE: (CONT'D)

With the DAS installed, the RVLIS system is not in the configuration described in the SAR. The RVLIS channel separation criteria is violated and the system can not be considered operable. The test equipment was installed on June 17, 1997 with the Salem Unit 2 in Mode 4.

The procedure was being performed as part of the Unit 2 Restart testing. The testing requires the monitoring of the RVLIS system response during Modes 5, 4 and 3. During the data gathering in Mode 4 at less than 340 degrees F, it was determined that the data points were within the 4% of the expected values and therefore the RVLIS system was declared operable when Mode 3 was entered on July 5, 1997. The data collection continued in Mode 3 for another 30 days with the DAS installed, and the Unit 2 RVLIS considered operable. The data collection was completed on August 5, 1997. The new data coefficients were calculated by Westinghouse and entered into the RVLIS system microprocessor on August 6, 1997, and the DAS was removed.

Salem Unit 1 and 2 Technical Specification 3.3.3.7 Table 3.3-11 item 19 requires both channels of Reactor Vessel Level Instrumentation System (RVLIS) to be operable in Modes 1, 2, and 3. Action 9 requires that with both RVLIS channels inoperable, one channel must be returned to operable or submit a special report in accordance with specification 6.9.4. Therefore, as determined by the evaluation completed on January 27, 1998, the requirements of the Salem Unit 2 Technical Specifications 3.3.3.7 Table 3.3-11 were violated with the test instrumentation connected to both channels of RVLIS.

CAUSE OF OCCURRENCE:

The apparent cause(s) of this condition was the failure to 1) identify that the initial 50.59 evaluation for the RVLIS procedure installation assumed that during the performance of procedure SC.IC-PT.RVL-0001(Q) RVLIS would be considered inoperable, and 2) include in the determination of operability that the test equipment had not been evaluated for affect on system operability. The determination focused on the RVLIS system response.

The basis for operability focused on the RVLIS system data response. Therefore the system manager considered the channels to be operable with the initial correlation constants input by Westinghouse but did not consider the affect of the DAS on system separation criteria. This basis for operability was documented in a Contingency Plan that was included in the work order package for this testing.

PRIOR SIMILAR OCCURRENCES:

A review of the LER database showed a previous similar occurrence associated with test equipment. LER 272/97-013 issued on December 19, 1997, described a similar occurrence, where test equipment was intentionally left in place to support additional Emergency Diesel Generator (EDG){EK} testing scheduled for later that day. The EDG was considered Operable. However later on, an engineering evaluation determined that the EDG should have been declared inoperable with the test instrumentation connected. The event reported in this LER preceded the LER 272/97-013 corrective actions.

SAFETY CONSEQUENCES AND IMPLICATIONS

The safety consequences and implications of this event were minimal.

The Reactor Vessel Level instrumentation System is part of the Accident Monitoring Instrumentation. The Operability of the Accident Monitoring Instrumentation ensures that sufficient instrumentation is available on selected plant parameters to monitor and access these variables following an accident. The RVLIS provides the control room operator with indication of water level in the reactor vessel. The RVLIS provides the operators with indication of core inventory and thus assists in detecting the onset of inadequate core cooling. However, RVLIS is not the only system available to the control room operators to determine core cooling. Other systems and parameters are available such as, Core Exit Thermocouples {IM}, reactor coolant outlet temperature (T_{HOT} and T_{COLD} wide ranges){IM}, and Subcooling Margin Monitors, all of which are Technical Specification required. In addition Emergency operating procedures provide direction for restoration of core cooling with and with out RVLIS.

CORRECTIVE ACTIONS:

The RVLIS testing has been completed on Unit 2. The following corrective actions have been completed and address Unit 1 and prevent reoccurrence during future performance of this procedure.

1. Engineering has evaluated the DAS connections and determined the type and location of the isolators necessary to ensure channel separation with DAS installed. (Completed 2/12/98)

2. In addition, a seismic evaluation was performed to ensure that test equipment installation, isolator mounts, etc were adequate. (Completed 2/20/98)

3. Installation of the isolators has been included in Revision 5 to SC.IC-PT.RVL-0001(Q). The Revision was issued on February 20, 1998.

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CORRECTIVE ACTIONS (CONT'D):

4. Procedure SC.SE-AP.ZZ-0002 "Conduct of Testing" was revised on February 14, 1998 to incorporate a new Attachment 7. Attachment 7 requires that M&TE instrumentation be evaluated for separation, circuit loading and failure modes.