PSE&G

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

Nuclear Business Unit

JUN 05 1996

LR-N96156

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

Gentlemen:

LER 272/96-005-02
SALEM GENERATING STATION - UNIT 1
FACILITY OPERATING LICENSE NO. DPR-70
DOCKET NO. 50-272

This Licensee Event Report Supplement entitled "Technical Specification Surveillance Requirement Implementation Deficiencies" is being submitted pursuant to the requirements of the Code of Federal Regulations 10CFR50.73(a)(2)(i)(B).

Sincerely,

for J. H. Laskowski

Clay Warren
General Manager -
Salem Operations

Attachment

SORC Mtg. 96-076

EHV/tcp

C Distribution
LER File 3.7

1/1

IE22

Attachment A

The following item represents commitments that Public Service Electric & Gas (PSE&G) made to the Nuclear Regulatory Commission (NRC) relative to this LER (272/96-005-02). The commitments are as follows:

1. Channel Checks of Tavg instruments will be incorporated into the operating logs for Modes 1 through 4 prior to each Unit restart.

2. Channel Checks of the Sustained Degraded Voltage instruments will be incorporated into the operating logs for Modes 1 through 4 prior to each Unit restart.

3. A Technical Specification Surveillance Improvement Project (TSSIP) has been initiated for Salem Units 1 and 2. The scope and content of the TSSIP program was described previously in LER 311/95-008-00. The TSSIP review is expected to be completed by December 31, 1997.

4. The total bypass flow and negative pressure testing for the Units 1 and 2 FHB will be demonstrated acceptable prior to fuel movement, as appropriate.

5. The total bypass flow for the Units 1 and 2 AB ventilation systems will be demonstrated acceptable prior to the respective Unit entering Mode 4.

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)
Technical Specifications Surveillance Requirement Implementation Deficiencies

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
03	25	96	96	-- 005 --	02	06	05	96	Salem, Unit 2	05000311
									FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	N	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)

In December 1995, a Technical Specification Surveillance Improvement Project (TSSIP) was initiated for Salem Units 1 and 2. The scope and content of the TSSIP program was described previously in LER 311/95-008-00. This project is expected to be completed by December 31, 1997. As a result of this effort, Technical Specifications (TS) non-compliances have been identified by the review team. Most of these non-compliances have been found in the area of surveillance requirement implementation deficiencies and will be (are being) reported as supplements to LER 272/96-005.

This supplement LER documents three non-compliances identified on May 6 and May 8, 1996.

The apparent cause of these occurrences is attributed to a lack of adequate controls and understanding of the development and maintenance of Technical Specification surveillance procedures. This weakness was previously identified in LER 311/95-008.

These events are reportable in accordance with 10 CFR 50.73(a)(2)(i)(B), any condition prohibited by the plant's Technical Specifications.

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

PLANT AND SYSTEM IDENTIFICATION

Westinghouse - Pressurized Water Reactor

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

CONDITIONS PRIOR TO OCCURRENCE

At the time of identification, Salem Units 1 and 2 were shutdown and defueled.

DESCRIPTION OF OCCURRENCE

As a Corrective Action from LER 311/95-006 a Technical Specification (TS) Surveillance Improvement Project (TSSIP) has been initiated. Additional deficiencies found during the TSSIP will be documented in supplements to this LER.

LER 272/96-005-00 described an event that occurred due to the identification of a Technical Specification (TS) surveillance test inadequacy. This supplement describes additional occurrences of a Technical Specification surveillance implementation deficiencies identified during the Technical Specification Surveillance Improvement Project (TSSIP) review.

On March 25, 1996, during a review of the implementation of Technical Specification Surveillance Requirement 4.3.2.1.1, the TSSIP team identified a potential Technical Specification violation regarding Channel Checks. Surveillance Requirement 4.3.2.1.1 requires a Channel Check on the instrument channels listed in Table 4.3-2. Items 1.f and 4.d of Table 4.3-2 list Engineered Safety Feature Actuations which occur on Steam Flow in Two Steam Lines--HIGH coincident with Tavg--LOW-LOW or Steam Line Pressure--LOW. The Channel Check requirements apply such that a comparison of the Steam Line Flow {SB/-} indications is to be made once per shift in Modes 1, 2 and 3, as are comparisons of the Tavg instruments, and the Steam Line Pressure instruments. A further review determined that Channel Checks were not being performed on the Tavg instruments since at least November 23, 1979 as required in Modes 1, 2 and 3.

On April 3, 1996, during a review of the implementation of Technical Specification Surveillance Requirement 4.3.2.1.1, the team identified a Technical Specification violation regarding Channel Checks. Surveillance Requirement 4.3.2.1.1 requires a Channel Check on the instrument channels listed in Table 4.3-2. Item 7.b of Table 4.3-2 lists Engineered Safety Feature Actuations which occur upon a Vital Bus Sustained Degraded Voltage. The three (3) Vital Bus Sustained Degraded Voltage instruments on each 4KV bus require Channel Checks once per shift in Modes 1, 2 and 3. The TSSIP determined that the Vital Bus Sustained Degraded Voltage instruments were not adequately Channel Checked in Modes 1, 2 and 3 as required by Technical Specification 4.3.2.1.1.

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

DESCRIPTION OF OCCURRENCE (cont'd)

The Sustained Degraded Voltage instrumentation was added to Salem Unit 1 and 2 vital 4KV buses in April of 1982 and June of 1983, respectively. The Technical Specifications for both units were revised to reflect the Sustained Degraded Voltage instrumentation effective July 23, 1982 by Amendments 45 (Unit 1) and 10 (Unit 2). A review of historical documentation concluded that the Channel Check requirements specified in the revised Technical Specifications were not implemented.

The review also identified that the Channel Check requirements for 4KV Vital Bus Undervoltage instruments were apparently not satisfied from initial plant operation of either unit until 1989. These checks were required in Modes 1, 2 and 3 by Item 7 of Table 4.3-2 in the original issue of Unit 1 and 2 Technical Specifications, which became Item 7.a when the Sustained Degraded Voltage instruments were installed. This conclusion is based on the oldest record found which was a Unit 1 log taken for Modes 1 through 4, dated November 23, 1979, and review of subsequent revisions to the same log.

In January of 1988, the Unit 1 Sustained Degraded Voltage instrumentation was changed from a 2 out of 3 bus logic to a 2 out of 3 per bus logic in response to the Salem Unit 2 event of August 26, 1986, which resulted in the Unit 2 vital buses transferring back and forth between Station Power Transformers 21 and 22 until they finally separated from offsite power. Salem Unit 2 was similarly modified in March of 1990. The Technical Specifications for both units were revised by Amendments 102 (Unit 1) and 79 (Unit 2), effective September 25, 1989, to address the modifications.

The review of available documentation concluded that the Channel Check requirements specified in the revised Technical Specifications were not implemented. As described above, a Channel Check of the 4KV Vital Buses was added to the Operating Logs for Modes 1-4 in 1989.

On May 6, 1996, the TSSIP Team identified an inadequacy in the bypass testing of the Auxiliary Building (AB) {NF} and Fuel Handling Building (FHB) {ND} ventilation systems. Salem Units 1 and 2 Technical Specification (TS) surveillances for the AB exhaust air leakage filtration systems, TS 4.7.7.1.b.1 (TS 4.7.7.b.1) for units 1 and 2 respectively, and FHB area ventilation system (TS 4.9.12.b.1) were not adequately met. Specifically, the surveillance did not demonstrate that the total bypass flow of ventilation system to the facility plant vent, including leakage through the ventilation system diverting valves, is less than or equal to 1% when the system is tested by admitting cold Dioctyl Phthalate (DOP) at the system intake.

During the FHB ventilation testing, the test gas is injected at a common point upstream of the normal and emergency filter units. The downstream sample, however, is only taken inside the emergency filter unit. While this test setup satisfied the requirement for the HEPA filter in-place efficiency test required by TS 4.7.7.1.B.3 (TS 4.7.7.1.B.2), it does not adequately measure the bypass flow leakage through the normal filtration unit as required by TS, which isolates during an accident or a high radiation signal. Similar test setup conditions existed during the AB ventilation system testing.

DESCRIPTION OF OCCURRENCE (cont'd)

On May 8, 1996, the TSSIP Team also identified a testing inadequacy with respect to maintaining a negative pressure in the spent fuel pool area. TS surveillance 4.9.12.d.4 (4.9.12.d.3) requires that a negative pressure be maintained between the spent fuel pool area and the outside atmosphere during system operations. SC.RP-TI.ZZ-1140, Fuel Handling Building Ventilation System Negative Pressure Test, which is used to perform this test, does not adequately demonstrate compliance with the TS requirement. The procedure verifies that a negative pressure is maintained using the normal operation (HEPA filter bank only) system lineup. The intent of the surveillance is to demonstrate that a negative pressure can be maintained with the system in its accident mode lineup (HEPA plus Charcoal).

On May 8, 1996, the TSSIP Team also identified a deficiency in the implementation of TS 3.3.2.1, Engineered Safety Feature Actuation Signal (ESFAS) Table 3.3-5, item 2H. Specifically, TS 3.3.2.1 Table 3.3-5, item 2H, Containment Fan Coolers {BK}, for both Salem units, requires a total instrument channel response time of less than or equal to 45 seconds in Modes 1 - 3, when the initiation signal is generated by the containment high pressure sensors. Procedure S1(2).IC-TR.ZZ-0002, Unit 1(2) Master Time Response, calculates the total instrumentation channel response time by adding the inputs from a series of implementing response time procedures. The result for each instrumentation channel is then compared to the TS Table 3.3-5 acceptance criteria. When reviewing the calculation results for Item 2H, it was noted that the response time for containment high - high was utilized instead of containment high. A review and recalculation of past completed surveillances for item 2H indicate that the TS required time response was not exceeded

CAUSE OF OCCURRENCE

The cause of these occurrences has been attributed to a lack of adequate controls and understanding of the development and maintenance of Technical Specification surveillance procedures. This weakness was previously identified in LER 311/95-008.

PRIOR SIMILAR OCCURRENCES

A review of LERs for Salem Units 1 and 2 identified three LERs in the last two years related to missed Technical Specification Surveillances due to a procedural deficiency:

LER 272/96-004 "Technical Specification 4.6.1.1 Incomplete Containment Isolation Valve Position Verification Surveillance" identified an occurrence where Containment Isolation valves were omitted from monthly position verification surveillances due to inadequate implementation of Technical Specification surveillance requirements into procedures.

LER 272/94-008 "Quarterly Channel Functional Testing of Position Indication For Power Operated Relief Valves Missed On Both Units" identified an occurrence where a procedure was revised in response to Generic Letter 90-06 without a revision to Technical Specifications which resulted in missed surveillance testing of Power Operated Relief Valves while in Modes 1 and 2.

PRIOR SIMILAR OCCURRENCES (cont'd)

LER 311/95-008, "Technical Specification 4.9.9 Missed Isolation Initiation Testing" identified an occurrence where Containment Purge and Pressure-Vacuum Relief system isolation logic was not fully tested prior to and during Core Alterations due to inadequate implementation of Technical Specification surveillance requirements into procedures.

SAFETY CONSEQUENCES AND IMPLICATIONS

Tavg Channel Checks:

There were no safety consequences for this occurrence since plant operators monitor Tavg readings for each loop once every eight (8) hours in Modes 1 and 2, and every 30 minutes if the reactor is critical and Tavg is below 551°F with the Tavg-Tref in alarm. In addition, the RC Loops Tavg Deviation alarm provides a continuous monitor of the deviation between all Tavg channels - alarming at a preset value. While not a Technical Specification required function, this alarm would readily alert operators to any significant deviation between Tavg indications. The alarm response requires monitoring Tavg readings and initiating repairs to restore faulty instrumentation. Based on the above, the health and safety of the public were not affected.

Undervoltage Instrument Channel Checks:

There were no safety consequences for this occurrence since plant operators monitor the vital 4KV bus voltages and the 13KV bus voltages every shift in Modes 1, 2 and 3 with minimum and maximum acceptable values specified. Channel Functional Tests of the Sustained Degraded Voltage instruments are performed on a monthly basis in Modes 1, 2 and 3 and verify operability of the instruments. Based on the above, the health and safety of the public were not affected.

Filtration systems

The operation of the filtration systems has a direct impact on the off-site dose calculation. There were no consequences associated with the deficient implementation of the FHB and AB TS surveillances. The potential consequences of a design basis event, a LOCA with bypass flows in excess of 1% or a fuel handling accident without adequate negative pressure, could have resulted in 10CFR100 and GDC-19 limits being exceeded. However, using a more realistic source term value given the present extended shutdown condition of the Salem units, similar potential events would yield acceptable results even without filtration. Therefore, delaying the performance of the surveillances has no impact on the health and safety of the public.

Containment Fan Coolers

As demonstrated by the satisfactory results of the recalculation of the TS surveillances, the ability of the CFCUs to perform their intended safety function was maintained. Therefore, the health and safety of the public was not affected.

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

CORRECTIVE ACTIONS

Channel Checks of Tavg instruments will be incorporated into the operating logs for Modes 1 through 4 prior to each Unit restart.

Channel Checks of the Sustained Degraded Voltage instruments will be incorporated into the operating logs for Modes 1 through 4 prior to each Unit restart.

A Technical Specification Surveillance Improvement Project (TSSIP) has been initiated for Salem Units 1 and 2. The scope and content of the TSSIP program was described previously in LER 311/95-008-00. The TSSIP review is expected to be completed by December 31, 1997.

The appropriate procedures were reviewed and the FHB testing procedure was revised to incorporate additional guidance to ensure adequate bypass flow and negative pressure testing.

An in-depth review of the Technical Specifications regarding ventilation system testing was performed by Radiation Protection personnel with no additional deficiencies identified.

The total bypass flow and negative pressure testing for the Units 1 and 2 FHB will be demonstrated acceptable prior to fuel movement, as appropriate.

The total bypass flow for the Units 1 and 2 AB ventilation systems will be demonstrated acceptable prior to the respective Unit entering Mode 4.

The CFCU time responses for Units 1 and 2 were recalculated using the appropriate inputs from containment pressure high, with satisfactory results.