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Nuclear LLC

MAY 2 0 2004

LRN – 04 – 0207

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

Gentlemen:

LER 272/04-002-00
SALEM - UNIT 1
FACILITY OPERATING LICENSE NO. DPR-70
DOCKET NO. 50-272

This Licensee Event Report, "Non-conservative Technical Specifications – Containment Fan Coil Units," is being submitted pursuant to the requirements of the Code of Federal Regulations 10CFR50.73(a)(2)(v).

The attached LER contains no commitments.

Sincerely,

Plant Manager - Salem

Attachment

/EHV

C Distribution
LER File 3.7

IE22

NRC FORM 366 (7-2001) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 7-31-2004

Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

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

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4. TITLE

Non Conservative Technical Specifications - Containment Fan Coil Units

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
									Salem Unit 2	05000311
09	03	2002	2004	– 002	– 00	05	20	2004	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE	1
10. POWER LEVEL	100

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)

20.2201(b)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)
20.2201(d)	20.2203(a)(4)	50.73(a)(2)(iii)	50.73(a)(2)(x)
20.2203(a)(1)	50.36(c)(1)(i)(A)	50.73(a)(2)(iv)(A)	73.71(a)(4)
20.2203(a)(2)(i)	50.36(c)(1)(ii)(A)	50.73(a)(2)(v)(A)	73.71(a)(5)
20.2203(a)(2)(ii)	50.36(c)(2)	50.73(a)(2)(v)(B)	OTHER Specify in Abstract below or in NRC Form 366A
20.2203(a)(2)(iii)	50.46(a)(3)(ii)	X 50.73(a)(2)(v)(C)	
20.2203(a)(2)(iv)	50.73(a)(2)(i)(A)	X 50.73(a)(2)(v)(D)	
20.2203(a)(2)(v)	50.73(a)(2)(i)(B)	50.73(a)(2)(vii)	
20.2203(a)(2)(vi)	50.73(a)(2)(i)(C)	50.73(a)(2)(viii)(A)	
20.2203(a)(3)(i)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(B)	

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER (Include Area Code)
E. H. Villar, Licensing Engineer	856-339-5456

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
-	-	-	-	No					

14. SUPPLEMENTAL REPORT EXPECTED			15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO				

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

On April 25, 2004, a review of the control room operator's logs was completed as a result of a discrepancy identified on February 24 between the Salem Units 1 and 2 Technical Specifications (TS) 3.6.3.2 and the current licensing basis analyses assumptions. Specifically, PSEG identified that TS 3.6.3.2 Action b (for both Salem Units) was non-conservative. TS 3.6.3.2 Action b contains an allowable outage time of 72 hours whenever three or more Containment Fan Coil Units {BK}(CFCU) are inoperable provided that two Containment Spray {BE}(CS) pumps are operable. Current design analyses do not support the plant configuration allowed by TS 3.6.3.2 Action b. The control room operator's log review identified at least two occasions (September 3, 2002 and July 3, 2003 for Salem Units 1 and 2 respectively) where T.S. 3.6.3.2 Action b had been entered.

The cause of this event was determined to be the existence of the non-conservative Technical Specification. The reason for failing to identify the condition earlier was determined to be an inadequate review for an Updated Final Safety Analysis Report (UFSAR) change related to NSAL 00-010 "Containment Safeguards Heat Removal Capability." Corrective actions taken were: (1) In accordance with Administrative Letter 98-10, Salem Operations established guidance to enter Technical Specification 3.0.3 when more than two Containment Fan Coil Units are inoperable regardless of the number of operable Containment Spray pumps until the Technical Specifications are revised, (2) A license change request to correct the Technical Specification was submitted on April 15, 2004, (3) Other similar generic technical correspondence will be reviewed for proper closure and the event will be shared with engineering personnel.

This is being reported under the requirement of 10CFR50.73(a)(2)(v)(C) and (D), as a condition that could have prevented the fulfillment of a safety function of a system needed to remove heat, or control the release of radioactive material, or mitigate the consequences of an accident.

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

PLANT AND SYSTEM IDENTIFICATION

Westinghouse – Pressurized Water Reactor (PWR/4)
Containment Fan Coil Unit Ventilation System (CFCU) {BK} *
* Energy Industry Identification System {EIIS} codes and component function identifier codes appear as {SS/CCC}

IDENTIFICATION OF OCCURRENCE

Event Date: September 3, 2002 (Salem Unit 1)
July 3, 2003 (Salem Unit 2)

Discovery Date: April 25, 2004

CONDITIONS PRIOR TO OCCURRENCE

Salem Units 1 and 2 were in Mode 1 (POWER OPERATION) at the time of the event.

DESCRIPTION OF OCCURRENCE

On April 17, 2002, a Salem Final Safety Analysis Report (FSAR) Change Notice SCN 02-016 was issued to revise the Salem Updated Final Safety Analysis Report (UFSAR) section 6.2.2, "Containment Heat Removal Systems." Specifically, the revision stated that three Containment Fan Coil Units {BK} (CFCU) and one Containment Spray {BE}(CS) train is the only analyzed acceptable combination of Containment Spray trains and Containment Fan Coil Units to meet containment heat removal requirements. The UFSAR revision was consistent with the Westinghouse NSAL 00-010 "Containment Safeguards Heat Removal Capability," issued on June 15, 2000.

On February 24, 2004, during the review and preparation of a license amendment request to revise the Containment Fan Coil Units Technical Specification, PSEG Nuclear identified a discrepancy between the Salem Units 1 and 2 Technical Specification (TS) and the current licensing basis analyses assumptions as described in the Salem UFSAR. Specifically TS 3.6.3.2 Action b (for both Salem Units) was identified as being non-conservative. T.S. 3.6.3.2 Action b contains an allowable outage time of 72 hours whenever three or more Containment Fan Coil Units are inoperable provided that two Containment Spray pumps are operable. Current design analyses do not support the potential plant configuration allowed by Action b of the limiting condition for operation 3.6.3.2. Based on current analyses, the minimum acceptable combination is one Containment Spray pump and three Containment Fan Coil Units. The ability of two Containment Spray pumps to provide the post design basis accident heat removal requirements without any Containment Fan Coil Units has not been analyzed. Additionally, the current dose analysis assumes the equivalent airflow of three Containment Fan Coil Units operating to provide the proper mixing of the containment atmosphere for iodine removal.

On April 25, 2004, a review of the control room operator's log was completed that identified at least two occasions where T.S. 3.6.3.2 Action b had been entered. These two occasions were September 3, 2002, and July 3, 2003, for Salem Units 1 and 2 respectively.

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DESCRIPTION OF OCCURRENCE (contd.)

Therefore, on April 25, 2004, PSEG determined that the facility had been operated in a condition where a system function to remove heat, control the release of radioactive material, and/or mitigate the consequences of an accident may not have been fulfilled following a loss of coolant accident (LOCA).

This event is being reported under the requirement of 10CFR50.73(a)(2)(v)(C) and (D), a condition that could have prevented the fulfillment of a safety function of a system needed to remove heat, or control the release of radioactive material, or mitigate the consequences of an accident.

CAUSE OF OCCURRENCE

The cause of occurrence for the issuance of this LER is (was) the existence of a non-conservative Technical Specification. This Technical Specification was part of the original design and licensing basis and based upon the Licensee's general misunderstanding relative to the heat removal capabilities of the containment safeguard systems. This was the topic of the Westinghouse' s NSAL 00-010 "Containment Safeguards Heat Removal Capability," issued on June 15, 2000.

The reason for not identifying the condition earlier was determined to be personnel error pertaining to an inadequate review for an UFSAR change related to NSAL 00-010.

A contributing factor to this event was the Westinghouse NSAL 00-010. This NSAL cited discrepancies between the Final Safety Analysis Report of some plants and the Containment Response Safety Analysis performed by Westinghouse. The NSAL identified that for those facilties whose Final Safety Analysis Report had been issued prior to NRC issuing the General Design Criteria (GDC) in 10 CFR 50 App. A, some statements may have been made that were not explicitly addressed by the safety analyses. Some of these statements related to containment heat removal capability were derived from the draft General Design Criteria. The NSAL was applicable to Salem station. The NSAL, however, did not indicate that Technical Specifications might also be affected.

Salem Final Safety Analysis Report Change Notice SCN 02-016 issued in April 17, 2002, revised the Salem Updated Final Safety Analysis Report section 6.2.2, "Containment Heat Removal Systems," to state that the only analyzed acceptable combination of Containment Spray trains and Containment Fan Coil Units to meet containment heat removal requirements is three Containment Fan Coil Units one Containment Spray train. This change was consistent with the Westinghouse NSAL 00-010.

As part of the Updated Final Safety Analysis Report change process an assessment of the change to other regulatory requirements such as 50.59, 50.92, and 50.54 is performed. However, personnel performing this assessment for SCN 02-016 did not recognize that the changes to the UFSAR affecting the acceptable combination of Containment Fan Coil Units and Containment Spray pumps were also the basis for Technical Specification 3.6.2.3 Action b. Therefore, the assessment to determine other licensing basis changes should have identified that a license amendment request was needed, and one should have been initiated at that time.

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PREVIOUS OCCURRENCES

A review of LERs at Salem and Hope Creek Generating Stations for the years 2002 and 2003 did not identify any previous similar events

SAFETY CONSEQUENCES AND IMPLICATIONS

There were no safety consequences associated with this event.

The Salem design consists of five Containment Fan Coil Units and two Containment Spray trains per unit, and as stated above, the design basis requires at least three Containment Fan Coil units and one Containment Spray train for post accident mitigation. The Containment Fan Coil Units are credited in conjunction with the Containment Spray system to (1) provide heat removal from containment (limit containment peak pressure and temperature), and (2) minimize doses by maintaining the iodine in solution.

Although PSEG is reporting this event because it found a few occasions were TS Action Statement 3.6.3.2 Action b was entered, the time duration of these events was minimal, and in most cases the Containment Fan Coil Units were functionally available. The review identified that at no time were there more than three Containment Fan Coil Units unavailable, and in most cases two of the three Containment Fan Coil Units were considered inoperable because of the emergency power being unavailable.

However, if a design basis LOCA concurrent with a loss of power had occurred while under the conditions allowed by TS 3.6.3.2 Action b, the worst possible combination would have resulted in a minimum of two Containment Fan Coil Units and one Containment Spray train available to mitigate the consequences of the accident. Although this combination of fan coil units and Containment Spray trains is different than assumed in the analyses, based on engineering judgment it is expected that the consequences of this event would have been minimal and within the bounds of the present limits.

This judgment is based on the many known conservatisms included in the design and licensing basis calculations. Although service water temperature may be elevated during summer operations, the inherent safety margin for containment heat removal is maintained by complying with the Technical Specification limits for the initial temperature and pressure of the containment atmosphere. These Technical Specifications were satisfied during the time in question. Additional conservatisms are also included in the analytical assumption that there is forced air mixing of the containment atmosphere as well as the nature of the source term.

This event constitutes a Safety System Functional Failure (SSFF) as defined in Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Performance Indicator Guideline.

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

CORRECTIVE ACTIONS

1. In accordance with Administrative Letter 98-10, Salem Operations has established guidance to enter Technical Specification 3.0.3 when more than 2 Containment Fan Coil Units are inoperable regardless of the number of operable Containment Spray pumps. (As committed in LCR S03-07, dated April 15, 2004)

2. A Technical Specification change to TS 3.6.2.3 Action b was submitted on April 15, 2004.

3. This event will be reviewed by the Engineering Training Review Group for inclusion in the Engineering Continuing Training Program.

4. Other generic technical correspondence similar to NSALs will be reviewed for appropriate disposition.

COMMITMENTS

Except as stated in corrective action 1 above, the remaining corrective actions cited in this LER are voluntary enhancements and do not constitute commitments.