PSEG Nuclear LLC
P.O. Box 236, Hancocks Bridge, New Jersey 08038-0236

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

Gentlemen:

LER 311/00-004-00
SALEM GENERATING STATION - UNIT 2
FACILITY OPERATING LICENSE NO. DPR-75
DOCKET NO. 50-311

This Licensee Event Report "Main Steam Safety Valves Failed Set Test" is being submitted pursuant to the requirements of the Code of Federal Regulations 10CFR50.73(a)(2)(i). The attached LER contains no commitments.

Sincerely,

D. F. Garchow
Vice President -
Operations

Attachment

/EHV

C Distribution
LER File 3.7

IE22

NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION
(6-1998)

LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
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TITLE (4)
Main Steam Safety Valves Failed Lift Set Test

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: Salem 1	DOCKET NUMBER: 05000272
10	31	00	00	-004	- 00	11	30	00	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	6
POWER LEVEL (10)	0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR : (Check one or more) (11)

	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, Licensing Engineer	(856) 339-5456

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

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 the 2R11 refueling outage at Salem Unit 2, three Main Steam Safety Valves {SB/RV} (MSSV) were tested in accordance with the requirements of Technical Specifications and the ASME Operational and Maintenance Code. Valves 23MS11, 21MS13 and 23MS14 were tested during 2R11 outage.

Two out of the three valves tested (23MS11 and 23MS14) failed to meet the Technical Specification required acceptance criteria, as established in Technical Specification Table 3.7-4. The apparent cause of the valves failing to meet the acceptance criteria was attributed to excessive seat leakage, as indicated by steam cutting of valve disc and nozzle. From a process point of view, there were no processes or program deviations that contributed to this event. A set point variance of greater than ± 1.0% but less than ± 3.0% is not unusual for these valves, as described in AEOD/S92-20. Corrective actions taken were; (1) The valves were disassembled, refurbished, adjusted and retested to ensure compliance with the ± 1% Technical Specification, and (2) A license change request to increase the set point tolerance from ± 1% to ± 3% was submitted to the NRC. This event is reportable in accordance with 10 CFR 50.73 (a) (2) (i).

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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 as (SS/CCC)

CONDITIONS PRIOR TO OCCURRENCE

Unit 2 was in Mode 6 – Refueling.
Reactor power was 0 % RTP

DESCRIPTION OF OCCURRENCE

On October 31, 2000, Salem Unit 2 Main Steam Safety Valves {SB/RV} (MSSV) 23MS11, 21MS13 and 23MS14 were tested in accordance with the requirements of Salem Technical Specifications and the ASME Operational and Maintenance Code (ASME O&M Code) during the 2R11 outage. NWS Technologies conducted this testing.

Two out of the three valves tested (23MS13 and 23MS14) failed to meet the Technical Specification required acceptance criteria. Technical Specification Table 3.7-4 establishes acceptance criteria of

Valve identification	TS Set point (psig)	Acceptable band (psig)
23 MS 11	1125	1113.8 - 1136.3
23 MS 14	1100	1089.0 - 1111.0

The actual tests results for the failed valves were:

Valve identification	TS Set point (psig)	As Found set point (psig)	Acceptable band (psig)	% Difference
23 MS 11	1125	1110	1113.8 - 1136.3	-1.3%
23 MS 14	1100	1086	1089.0 - 1111.0	-1.3%

The 21MS13 valve tested at set point.

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Because the actual lift set-point of the 23MS11 and 23MS14 valves were within 3% of set point, no expanded testing scope was necessary as stated in the ASME O&M Code. A review of this event determined that a Safety System Functional Failure (SSFF) as defined in NEI 99-02 did not occur. No structures, systems or components were inoperable at the time of this event that contributed to this event.

CAUSE OF OCCURRENCE

The apparent cause of the valves failing to meet the Technical Specifications acceptance criteria was attributed to excessive seat leakage, as indicated by steam cutting of valve disc and nozzle.

From a process point of view, there were no processes or program deviations that contributed to this event. As described in AEOD/S92-20, a set point variance (drift) of greater than ± 1.0% but less than ± 3.0% is not unusual for these valves

PRIOR SIMILAR OCCURRENCES

A review of 1998 and 1999 LERs for both Salem and Hope Creek identified two similar occurrences.

LER 311/99-001-00 issued April 23, 1999, identified several valve failures. The apparent cause of this event was attributed to set point variance (drift). Setpoint variance, as discussed in the AEOD/S92-20, is a result of aging. Aging is the effect seen by a component that remained unexercised for an extended period of time at extreme temperatures. Lubrication dries out due to high temperature, and due to component design, there is no lubricity provided by system fluid. Therefore, a ± 1.0% tolerance may be too restrictive for this application. These failures were also within the ± 3.0% tolerance.

LER 354/00-003 issued on June 6, 2000, identified one safety relief valve that exceeded its TS acceptance criteria by 3.1%. The apparent cause of this event was attributed to friction on the sliding surfaces resulting from poorly controlled vendor's maintenance. These practices were addressed via a NUPIC audit.

Corrective actions associated with the Salem LER would have not precluded this event, since they did not involve the failure of a process or program. The safety relief valve associated with the Hope Creek LER was a two-stage power operated valve, therefore the corrective actions would not have been appropriate for this event.

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

SAFETY CONSEQUENCES AND IMPLICATIONS

There were no safety consequences associated with this event. The Salem licensing basis UFSAR Chapter 15 accident analyses were re-analyzed in support of a Fuel Upgrade/Margin Recovery Program (FUMRP), the Unit 1 Steam Generators Replacement Project, and NSAL 98-007 "Analysis of Pressurlzer heaters." These analyses support a ± 3% tolerance that bounds the as found condition of the valves and provides the justification for a license change request submitted on September 26, 2000.

Based on the above, the valves would have performed their intended safety function although the setpoints were found to be outside the ± 1% Technical Specification tolerances and the health and safety of the public and plant personnel were not affected.

CORRECTIVE ACTIONS

1. The valves were disassembled, refurbished, adjusted and retested to ensure compliance with the ± 1% Technical Specification.

2. A license change request to increase the Technical Specification set point tolerance from ± 1% to ± 3% was submitted to the NRC on September 26, 2000.

3. A common cause analysis for the excessive seat leakage will be initiated in accordance with the PSEG corrective action program.

COMMITMENTS

The corrective actions cited in this LER are voluntary enhancements and do not constitute commitments.