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)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
SALEM GENERATING STATION UNIT 1	05000272	1 OF 3

TITLE (4)
Inadequate Pressurizer Relief Tank Supports

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
06	19	96	96	- 010 -	00	07	16	96	Salem, Unit 2	05000311
									FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
POWER LEVEL (10)	000		20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(viii)
			20.2203(a)(1)		20.2203(a)(3)(i)	X	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)	X	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)		Part 21

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Dennis V. Hassler, LER Coordinator	609-339-1989

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)

On June 19, 1996, an engineering review concluded that the pressurizer relief tank (PRT) supports are inadequate to preclude damage to the combined pressurizer safety valves discharge header. A reactor coolant system (RCS) over pressure event resulting in the simultaneous lift of the three pressurizer safety valves would cause the relief tank to move upward resulting in crimping the discharge header. The discharge header is the sole relief pathway for the safety valves, thus RCS overpressure protection could have reduced effectiveness.

The cause of this occurrence is that the original tank support design calculations failed to consider hydrodynamic loads on the PRT. These loads are caused by the discharge of water, bubble oscillation, and steam condensation.

This event is reportable in accordance with 10 CFR 50.73(a)(2)(ii); any event or condition that resulted in the nuclear power plant being in a condition that was outside the design basis of the plant and in accordance with 10 CFR 21.2 (c).

PLANT AND SYSTEM IDENTIFICATION

Westinghouse - Pressurized Water Reactor

Reactor Coolant System Pressurizer Relief Tank Supports {RC/SPT}*

* Energy Industry Identification System (EIIS) codes and component function identifier codes appear 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 result of an unrelated review of the adequacy of support fasteners, a review of the supports for the Pressurizer Relief Tank (PRT) for both Salem units was undertaken. The review noted that the fastener arrangement was adequate for seismic response, however, the review identified that PRT hydrodynamic loads had not previously been considered in the PRT support design. A further review concluded that substantial upward loads could be expected during a simultaneous lift of all three safety relief valves, which could result in discharge line deformation. The locked reactor coolant pump rotor and loss of turbine load accident analyses take credit for the safety relief valves operating at the same time.

CAUSE OF OCCURRENCE

The cause for the inadequate design of the PRT supports is a failure to consider hydrodynamic loads caused by water discharge, bubble oscillation and steam condensation. Consideration of hydrodynamic loads was not incorporated in the design of Salem systems at the time of construction.

PRIOR SIMILAR OCCURRENCES

A review of LERs for the past two years identified one similar occurrence. LER 96-002 addressed an occurrence in which original plant design requirements for motor operated valves were found to be inadequate based on consideration of pressure locking and thermal binding. The corrective actions were specific to motor operated valves.

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

SAFETY CONSEQUENCES AND IMPLICATIONS

There are no safety consequences for this occurrence since neither Salem unit had experienced a simultaneous lift of the three pressurizer safety valves and the units are in a defueled status.

The pressurizer sprays and the power operated relief valves (PORVs) are available to mitigate an overpressure transient. However, these pressurizer pressure control mechanisms have been conservatively excluded from the accident analyses. Thus, while the accident analyses do not credit pressure reduction through the pressurizer spray use and PORV opening, these mechanisms will reduce the challenge to the pressurizer safety valves. Therefore, the probability of simultaneous opening of the three pressurizer safety valves is reduced, minimizing the potential for deformation of the discharge header. The public health and safety were not affected.

CORRECTIVE ACTIONS

Revise each unit's PRT support design to withstand hydrodynamic loads and complete any required modifications for each unit prior to that unit's entry into mode 3.

10CFR21 REPORTING

10CFR21 reporting requirements are met by this LER.