



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

Nuclear Business Unit

FEB 09 1996

LR-N96033

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

Gentlemen:

LER 272/96-002
SALEM GENERATING STATION - UNIT 1
FACILITY OPERATING LICENSE NO. DPR-70
DOCKET NO. 50-272

This Licensee Event Report entitled "Motor Operated Gate Valves Susceptible to Pressure Locking and Thermal Binding" is being submitted pursuant to the requirements of the Code of Federal Regulations 10CFR50.73 (a) (2) (i) (B).

Sincerely,

Clay Warren
General Manager -
Salem Operations

Attachment

SORC Mtg. 96-016

DVH/tcp

C Distribution
LER File 3.7

130075

9602130111 960209
PDR ADOCK 05000272
S PDR

The power is in your hands.

Attachment A

The following item represents a commitment that Public Service Electric & Gas (PSE&G) made to the Nuclear Regulatory Commission (NRC) relative to this LER (272/96-002-00). The commitment is as follows:

1. The response to Generic Letter 95-07, due by February 13, 1996, will contain the actions and schedule to address the pressure locking and thermal binding issues. A supplement to this LER will be submitted to include the corrective actions contained in the GL response.

LICENSEE EVENT REPORT (LER)

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

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.

FACILITY NAME (1) SALEM GENERATING STATION - UNIT 1	DOCKET NUMBER (2) 05000272	PAGE (3) 1 OF 3
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TITLE (4)
Motor Operated Gate Valves Susceptible to Pressure locking and Thermal Binding

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
01	10	96	96	-- 002 00		02	09	96	Salem Generating Station Unit 2	05000311
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9) **N**

POWER LEVEL (10) **000**

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

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)	OTHER
20.2203(a)(2)(iii)	50.38(c)(1)	50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 368A
20.2203(a)(2)(iv)	50.38(c)(2)	50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

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

X YES (If yes, complete EXPECTED SUBMISSION DATE).	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
			03	15	96

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

An evaluation performed for pressure locking and thermal binding in power operated gate valves required by Generic Letter 95-07 determined that four Containment Spray Valves, four Refueling Water Storage Tank Supply to Charging/Safety Injection Pump Suction Valves, four Cross Tie Connection - Suction of Charging Pumps to Suction of Safety Injection Pumps Valves, and four PORV Block valves are susceptible to pressure locking or thermal binding.

The response to Generic Letter 95-07, due by February 13, 1996, will contain the actions and schedule to address the pressure locking and thermal binding issues. A supplement to this LER will be submitted to include the corrective actions contained in the GL response. This issue is reportable under 10 CFR 73(a) (2) (ii), a condition that was outside of the design basis of the plant.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
SALEM GENERATING STATION UNIT 1	05000272	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
		96	- 002	- 00	

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

PLANT AND SYSTEM IDENTIFICATION

Westinghouse - Pressurized Water Reactor

- Containment Spray Valves, {BE/V}*
- Refueling Water Storage Tank Supply to Charging/Safety Injection Pump Suction Valves {BQ/V}
- Cross Tie Connection - Suction of Charging Pumps to Suction of Safety Injection Pumps Valves {BQ/V}
- PORV Block Valves, {AB/V}

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

CONDITIONS PRIOR TO OCCURRENCE

Unit 1: Defueled, 000 % Reactor Power
 Unit 2: Defueled, 000 % Reactor Power

There were no structures, components, or systems that were inoperable at the start of the event that contributed to the event.

DESCRIPTION OF OCCURRENCE

An evaluation performed for pressure locking and thermal binding in power operated gate valves required by Generic Letter 95-07 determined that four Containment Spray Valves, four Refueling Water Storage Tank Supply to Charging/Safety Injection Pump Suction Valves, four Cross Tie Connection - Suction of Charging Pumps to Suction of Safety Injection Pumps Valves, and four PORV Block valves are susceptible to pressure locking or thermal binding.

Original plant design did not account for the pressure locking and thermal binding effects. In 1977 double-disc gate valves were modified based on recommendations by Westinghouse. In 1986, a review of flexible wedge gate valves to address INPO SOER 84-7 determined that the valves were not susceptible to pressure locking or thermal binding based on valve design, expected seat leakage and the use of diagnostic thrust measuring equipment as a preventative maintenance/surveillance tool. Further analyses of the pressure locking and thermal binding was not performed until issuance of GL 95-07.

CAUSE OF OCCURRENCE

The regulatory requirements associated with the issuance of GL 95-07 resulted in a reassessment of the Salem power operated valve population to ensure compliance. The criteria available in 1986 was not as stringent as that contained in GL 95-07 and therefore, the 1986 review was satisfactory at that time. However, the identified valves do not meet the requirements of GL 95-07 for pressure locking and thermal binding.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

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		96	-- 002	-- 00		

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

PRIOR SIMILAR OCCURRENCES

During the previous two years there were no LERs that attributed their root cause to revised design requirements.

ASSESSMENT OF SAFETY CONSEQUENCES

There were no safety consequences because these valves have not been challenged under design basis accident conditions. The health and safety of the public was not affected.

The safety implications for the Refueling Water Storage Tank Supply to Charging/Safety Injection Pump Suction valves, and Cross Tie Connection - Suction of Charging Pumps to Suction of Safety Injection Pumps Valves failing to open would be the loss of High Head Injection. With the loss of the High Head Injection and pressure remaining above the Intermediate Head Injection shutoff head, operator action to manually open the valves would be required. If manual opening of the valves was unsuccessful, operator actions outside the parameters of the Emergency Operating Procedures would then be required. Intermediate Head Injection is not affected by the above valves failing to open.

For accident conditions, the only event the PORVs are relied upon is a steam generator tube rupture (SGTR). If the PORV Block valves were closed and failed to open during a SGTR, pressurizer spray would be used to control RCS pressure.

If the Containment Spray valves fail to open, there may be a concern with the containment temperature and pressure if all five fan cooling units are not operating. The Containment Spray valves have not been challenged and corrective actions are being taken to address the pressure locking and thermal binding concern.

CORRECTIVE ACTIONS

The response to Generic Letter 95-07, due by February 13, 1996, will contain the actions and schedule to address the pressure locking and thermal binding issues. A supplement to this LER will be submitted to include the corrective actions contained in the GL response.