



**North
Atlantic**

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The Northeast Utilities System

November 30, 2000

Docket No. 50-443

NYN-00101

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

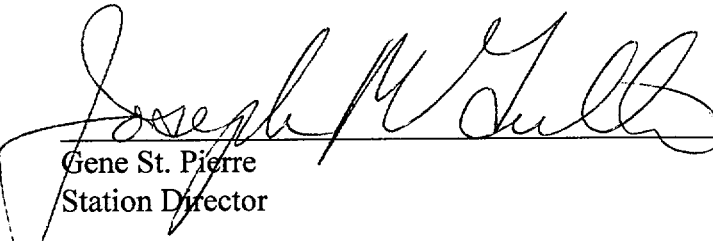
Seabrook Station
Licensee Event Report (LER) 00-006-00, Supplement 1
Main Steam Safety Valve Lift
Pressure Outside Technical Specification Limits

Enclosure 1 contains Licensee Event Report (LER) 00-006-00, Supplement 1 for an event that occurred at Seabrook Station on October 20, 2000. This event is being reported pursuant to 10 CFR 50.73(a)(2)(i). Commitments associated with this letter are contained in Enclosure 2.

Should you require further information regarding this matter, please contact Mr. James M. Peschel, Manager-Regulatory Programs at (603) 773-7194.

Very truly yours,

NORTH ATLANTIC ENERGY SERVICE CORP.

for 
Gene St. Pierre
Station Director

cc: H. J. Miller, NRC Region I Administrator
V. Nerses, NRC Project Manager, Project Directorate I-2
R. K. Lorson, NRC Senior Resident Inspector

JE22

ENCLOSURE 1 TO NYN-00101

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) Seabrook Station					DOCKET NUMBER (2) 05000443			PAGE (3) 1 of 3			
TITLE (4) Main Steam Safety Valve Lift Pressure Outside Technical Specification Limits											
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	
10	20	00	00	006	01	11	30	00	FACILITY NAME	DOCKET NUMBER	
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)									
1		20.2201(b)			20.2203(a)(2)(v)			☒ 50.73(a)(2)(i)		50.73(a)(2)(viii)	
POWER LEVEL (10)		65		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 James M. Peschel, Manager - Regulatory Programs								TELEPHONE NUMBER (Include Area Code) (603) 773-7194			
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	
X	SB	RV	C710	Y							
SUPPLEMENTAL REPORT EXPECTED (14)						EXPECTED SUBMISSION		MONTH	DAY	YEAR	
☐ YES (If yes, complete EXPECTED SUBMISSION DATE).						☒ NO					
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16) On October 20, 2000, with the unit in Mode 1 at approximately 65 percent power, the as-found set pressure for one Main Steam Safety Valve (MSSV) was found to be outside the setpoint tolerance allowed by Technical Specification (TS) 3.7.1.1. The MSSV was subsequently tested two more times and the lift set pressures were satisfactory. No repairs or adjustments to the valve were necessary. All other tested valves met the TS acceptance criteria. There were no adverse safety consequences as a result of this event as the as-found lift setpoint of the valve would not have resulted in secondary system pressures exceeding the Condition II (Events of Moderate Frequency) pressure limit (110 percent of design pressure) for the secondary system during the most limiting event. The cause of this condition can not be conclusively determined given an insufficient amount of data associated with the setpoint of only one MSSV being out of tolerance. However, the most probable cause is component aging. Corrective actions for this event include gathering additional information during future MSSV testing that will aid in further understanding the cause of MSSV setpoint deviations and increased testing frequency of MS-V6 and the other MSSVs that utilize the same style disc insert.											

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		00	—	006	—	01
Seabrook Station	05000443					2 of 3

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

I. Description of Event

On October 20, 2000, at 1102, with the unit in Mode 1 at approximately 65 percent power, the as-found set pressure for Main Steam Safety Valve (MSSV) [SB] MS-V6 was 1245.5 psig, which is outside the lift set pressure of 1185 psig +/- 3 percent as allowed by Technical Specification (TS) 3.7.1.1. This condition was identified during testing conducted in accordance with TS 4.0.5 and Section XI of the ASME Boiler and Pressure Vessel Code as the plant power was being reduced in preparation for Refueling Outage 7. Testing was performed in-place using the Trevitest test methodology.

MS-V6 was subsequently tested two more times within the TS Allowed Outage Time (AOT) of 4 hours and the lift set pressures were 1186.6 and 1185.2 psig, respectively, thereby meeting both the TS as-found acceptance criteria of +/- 3 percent and the as-left acceptance criteria of +/- 1 percent. MS-V6 was then declared operable and TS 3.7.1.1 was exited. No repairs or adjustments to MS-V6 were necessary. Testing of the six remaining valves in the original sample population, and the two additional valves in the expanded sample population as a result of the MS-V6 deviation did not identify any other lift setpoint anomalies.

Based on the most probable cause of this condition (refer to discussion below), it could not be conclusively determined when the MS-V6 lift setpoint deviated from the TS acceptance criteria. However, it is probable that this condition occurred for a period of time that exceeded that TS AOT of 4 hours. As a result, this condition is reportable pursuant to 10 CFR 50.73(a)(2)(i) as a condition prohibited by TS.

II. Cause of Event

The cause of this condition can not be conclusively determined given an insufficient amount of data associated with the setpoint of only one MSSV being out of tolerance. The scenario where the as-found setpoint of a safety valve is out of tolerance high and subsequent tests conducted prior to any corrective maintenance are within the setpoint tolerances is very common throughout the industry. In this case, the most probable cause is component aging.

MS-V6 is a Crosby Valve and Gage Company [C710] relief valve, Size 6-R-10, Style HA-75-FN with a standard disc insert. Three other valves of those tested in October 2000 were of this same design. The five remaining valves of those tested were also of the same design but they had previously been upgraded to incorporate a flexi-disc insert, which provides enhanced seat tightness and ability to maintain setpoint within tolerances. Prior to this event, MS-V6 was last tested on November 3, 1995 and the as-found lift setpoint met the as-found TS acceptance criteria. All valves incorporating the flex-disc insert that have been tested to-date have met the as-found lift setpoint TS acceptance criteria.

III. Analysis of Event

There were no adverse safety consequences as a result of this event since the plant was not challenged by an overpressure condition. Additionally, while this condition has regulatory significance as a condition prohibited by TS, it is not safety significant for the following reasons. Seabrook Station is a four-loop Westinghouse PWR, where each steam generator has 5 MSSVs with staggered setpoints ranging from 1185 psig to 1225 psig. The MSSVs provide overpressure protection to the Steam Generators and the Main Steam System. The Updated Final Safety Analysis Report (UFSAR) states that the total capacity of the twenty MSSVs exceeds 110 percent

LICENSEE EVENT REPORT (LER)

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					01	

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

of full load steam flow at a pressure not exceeding 110 percent of the steam generator shell side design pressure. Engineering analysis has determined that the as-found lift setpoint of MS-V6 would not have resulted in secondary system pressures exceeding the Condition II (Events of Moderate Frequency) pressure limit (110 percent of design pressure) for the secondary system during the most limiting event.

IV. Corrective Action

MS-V6 was tested two more times using the Trevitest methodology and the lift set pressures were satisfactory thereby restoring compliance with the TS requirements. No repairs or adjustments to MS-V6 were necessary. Additional information will be gathered during future MSSV testing as part of routine implementation of the corrective action program to aid in further understanding the cause of MSSV setpoint deviations.

While not a regulatory commitment to restore compliance, it is anticipated that MS-V6 will be upgraded in the future with a newer style disc insert (e.g., flexi-disc insert) that is less susceptible to setpoint deviations. Other MSSVs that have had this modification installed have demonstrated satisfactory performance. In the interim, MS-V6 will be tested every refueling outage until it is replaced. The other MSSVs that utilize the original style disc insert will be tested every two refueling outages until they are replaced. Following valve replacement, the normal five year sampling program as detailed in ASME O&M Code 1995 Edition, 1996 Addenda will be resumed.

V. Additional Information

None

Similar Events

Most recent previous similar events where the MSSV lift setpoints were outside of their TS acceptance criteria include LERs 95-07-00 (December 03, 1995) and 92-16-00 (October 5, 1992). MS-V6 met the TS acceptance criteria during the 1995 testing. However, MS-V6 did not meet the acceptance criteria during the 1992 testing in that its as found setpoint was 1226 psig.

Manufacturer Data

MS-V6 was manufactured by Crosby Valve and Gage Company [C710]. MS-V6 is Size 6-R-10, Style HA-75-FN, Model N60448, and has a capacity of 893,160 pounds per hour.

ENCLOSURE 2 TO NYN-00101

Commitments Contained in NYN-00101

<u>Action Item</u>	<u>Description of Commitment</u>
00-13563-01	MS-V6 will be tested every refueling outage until it is replaced
00-13563-02	The other MSSVs that utilize the original style disc insert will be tested every two refueling outages until they are replaced.