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June 29, 1992

United States Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Document Control Desk

References: Facility Operating License No. NPF-86, Docket No. 50-443

Subject: Facility Operating Report (LER) 92-05-00; Pressurizer Safety Valve Setpoint Testing

Gentlemen:

Enclosed please find Licensee Event Report (LER) No. 92-05-00 for Seabrook Station. This submittal documents an event which occurred on May 29, 1992, and is being reported pursuant to 10 CFR 56.73(a)(2)(i).

Very truly yours,


Ted C. Feigenbaum

TCF:ALL/ss

Enclosures: NRC Forms 366, 366A

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LICENSEE EVENT REPORT (LER)

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/88

FACILITY NAME (1) Seabrook Station										DOCKET NUMBER (2) 0 5 0 0 0 4 4 3 1 OF 0 4																															
TITLE (4) Pressurizer Safety Valve Setpoint Testing																																									
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 NAMES						DOCKET NUMBER(S)								
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OPERATING MODE (8)						THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. /Check one or more of the following/ (11)																																			
POWER LEVEL (10) 1 1 0 0						20.402(b)						20.406(c)						50.73(a)(2)(iv)						73.71(b)																	
						20.406(a)(1)(i)						50.38(c)(1)						50.73(a)(2)(v)						73.71(c)																	
						20.406(a)(1)(ii)						50.38(c)(2)						50.73(a)(2)(vi)						OTHER (Specify in Abstract below and in Text, NRC Form 386A)																	
						20.406(a)(1)(iii)						X 50.73(a)(2)(i)						50.73(a)(2)(vii)(A)																							
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20.406(a)(1)(vi)						50.73(a)(2)(iv)						50.73(a)(2)(x)																													
LICENSEE CONTACT FOR THIS LER (12)																																									
NAME										TELEPHONE NUMBER																															
James M. Peschel, Regulatory Compliance Manager										6 0 3 4 7 4 1 - 9 5 1 2 1																															
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																																									
CAUSE		SYSTEM		COMPONENT		MANUFACTURER		REPORTABLE TO NRC		CAUSE		SYSTEM		COMPONENT		MANUFACTURER		REPORTABLE TO NRC																							
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)										MONTH		DAY		YEAR																	
YES (If yes, complete EXPECTED SUBMISSION DATE)										X NO																															

ABSTRACT (Limit to 1400 words, i.e., approximately fifteen single-space typewritten lines) (16)

Abstract

Two out of three Pressurizer Code Safety Valves (PCSV's) failed their required setpoint testing. The valves which were installed in the plant during the first operating cycle, were removed during the first refueling outage and sent to Wyle Laboratories for setpoint testing. The required setpoint is 2485 psig \pm 1% (2461 to 2509 psig) pursuant to Technical Specification 3.4.2.2. The as-found setpoints were as follows:

Serial Numbers	As Found Setpoint
N56964-08-0064	2454 psig (Out of Specification-Low)
N56964-08-0065	2434 psig (Out of Specification-Low)
N56964-08-0066	2480 psig (In Specification)

The PCSV's operate to prevent the Reactor Coolant System (RCS) from being pressurized above its Safety Limit of 2735 psig. Technical Specification 3.4.2.2 requires that "All Pressurizer Code Safety Valves shall be OPERABLE with a lift setting of 2485 psig \pm 1% when in Modes 1, 2, and 3.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 1550-0104

EXPIRES: 8/31/90

FACILITY NAME (1) Seabrook Station	DOCKET NUMBER (2) 0500044392-005-0002 OF 04	LER NUMBER (8)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			

TEXT (If more space is required, use additional NRC Form 365A (2/177))

Description of Event

During the first refueling outage, the three Pressurizer Code Safety Valves (PCSV's), RC-V115, RC-V116, and RC-V117 were removed and replaced with three tested spare PCSV's. This was done to perform setpoint testing required by Technical Specification 4.0.5 and Section XI of the ASME Boiler and Pressure Vessel Code, Subsection IWB-3512, 1983 Edition including Summer 1983 Addendum.

In May 1992, the PCSV's were sent to Wyle Laboratories for setpoint testing and adjustment, to meet the requirements of Technical Specification 3.4.2.2. The valves were tested on May 27/28, 1992 in accordance with Wyle Laboratories Test Procedure 1032, Rev. B. This procedure was previously reviewed and approved by NHY. The Acceptance Criteria defined in this procedure includes: 1) a total of three consecutive valid test runs within $\pm 1\%$ of the set pressure and 2) the three consecutive valid test runs shall not exhibit a continuous increase or decrease in set pressure such that the difference between the highest set pressure and the lowest set pressure exceeds 1.5% of the valve nameplate set pressure. The results of the testing were provided to NHY by Wyle Laboratories on May 29, 1992.

Two out of three Pressurizer Code Safety Valves (PCSV's) failed the required setpoint testing. The required setpoint is 2485 psig $\pm 1\%$ (2461 to 2509 psig). The as-found setpoints were as follows:

Serial Numbers	As-Found Setpoint
N56964-08-0064	2454 psig (Out of Specification-Low)
N56964-08-0065	2434 psig (Out of Specification-Low)
N56964-08-0066	2480 psig (In Specification)

The PCSV's operate to prevent the Reactor Coolant System (RCS) from being pressurized above its Safety Limit of 2735 psig. Technical Specification 3.4.2.2 requires that "All Pressurizer Code Safety Valves shall be OPERABLE with a lift setting of 2485 psig $\pm 1\%$ " when the plant is in Modes 1, 2, and 3. Contrary to this Technical Specification requirement, two out of three PCSV's which were installed on the Pressurizer during the first cycle of operation exhibited as-found setpoints which were outside the range required by Technical Specification 3.4.2.2. These as-found setpoints represent a condition prohibited by Technical Specifications and is reportable pursuant to 10CFR50.73(a)(2)(i)(B).

Safety Consequences

The as-found setpoints for safety valve serial numbers N56964-08-0064 and N56964-08-0065 were less than the lower limit of the required setpoint range for the PCSV's (2461 psig). With setpoints less than the lower limit of the required setpoint range the PCSV's, would open slightly earlier than expected if needed to mitigate a RCS overpressurization event. The PCSV's would continue to be able to perform their intended safety function. The as-found setpoints of the PCSV's are sufficiently above the Pressurizer Power Operated Relief Valves (PORV's) setpoints of 2385 psig such that unnecessary challenges to the PCSV's would not have occurred.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/90

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Seabrook Station	0500044392	—	005	—	003	OF 04

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

New Hampshire Yankee submitted License Amendment Request 91-11 "Code Safety Valve Setpoint Tolerance Relaxation" to the NRC on May 5, 1992 in letter NYN-92059. License Amendment Request 91-11 proposes changes to the Seabrook Station Technical Specifications to allow a revision of the Pressurizer Code Safety Valve and Main Steam Line Code Safety Valve setpoint tolerances to $\pm 3\%$. The $\pm 3\%$ value will be used as the as-found acceptance criteria to initiate additional valve testing required by ASME Section XI, Article IWB-3513. The proposed Technical Specification changes require that the safety valve setpoints be restored to within $\pm 1\%$ of their nominal setpoints following testing. The proposed revision of the safety valve setpoint tolerances was evaluated by Yankee Atomic Electric Company for NHY and is documented in topical report YAEC-1847. The YAEC-1847 demonstrated the following:

1. For events where DNBR is a concern, there will be no reduction in the calculated minimum DNBR,
2. For events where overpressurization is a concern, the safety limits are not exceeded, and
3. For events where offsite doses are a concern, the safety limits are not exceeded, and
4. For LOCA events, the acceptance criteria for ECCS performance are not exceeded.

The proposed revision of the code safety valve setpoint tolerance to $\pm 3\%$ relates to an acceptable range on the as-found setpoint of 2411 to 2559 ψ /sig. Each of the three PCSVs tested on May 27/28, 1992 at Wyle Laboratories exhibited as-found setpoints within this tolerance. Therefore, based on the evaluation documented in YAEC 1847 and submitted in License Amendment Request 91-11, NHY has concluded that there were no adverse safety consequences as a result of this event.

Root Cause

Safety Valve Serial Number N56964- .64

If a safety valve leaks during a setpoint test, the valves' huddle chamber becomes pressurized, effectively increasing the valve seat area. With this larger area, a lower pressure could produce sufficient force to lift the disc. A pre-test leakage was noted which affected the as-found setpoint of this test. The next three setpoint tests were performed within specification with zero leakage. Wyle Laboratories and the valve manufacturer, Crosby Valve and Gage Company concur with this evaluation. Safety Valve Serial Number N56964-08-0098 exhibited a similar result in November 1989.

Safety Valve Serial Number N56964-08-0065

Without pre-test leakage, the cause for a low out of tolerance setpoint is unknown. Wyle Laboratories and Crosby Valve & Gage Company concur with this evaluation. Safety Valve Serial Number N56964-08-0067 exhibited a similar result in December 1988. Several industry initiatives are ongoing to determine root causes for Safety Valve setpoint drift.

Safety Valve Serial Number N56964-08-0066

The as-found setpoint was within tolerance therefore no evaluation is required.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Seabrook Station	DOCKET NUMBER (2) 0 5 0 0 0 4 4 3	LER NUMBER (3)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (If more space is required, use additional NRC Form 305A 2/117)

Corrective Actions

Safety Valve Serial Number N56964-08-0064

The as-found setpoint for the first test was 2454 psig which is 98.7% of the nameplate set pressure of 2485 psig. The next three tests were all within $\pm 1\%$ of the nameplate set pressure without adjustment or repair. Pre-test leakage was noted and post-test leakage was zero.

Safety Valve Serial Number N56964-08-0065

The as-found setpoint for the first test was 2434 psig which is 97.9% of the nameplate set pressure of 2485 psig. Of the next three tests, one test was outside the $\pm 1\%$ tolerance (low), therefore the valve was adjusted $\frac{1}{4}$ flat clockwise. The next three tests were all out of the $\pm 1\%$ tolerance (high). The valve was adjusted $\frac{1}{4}$ flat, counter clockwise. The next three tests were all within the $\pm 1\%$ tolerance. Pre and post-test leakage was zero and there was no net adjustment on the valve.

Safety Valve Serial Number N56964-08-0066

The as-found setpoint for the first test was 2480 psig which is 99.8% of the nameplate set pressure of 2485 psig. Of the next two tests, one was outside the $\pm 1\%$ tolerance (low). The next three runs were all within the $\pm 1\%$ tolerance. Pre-test leakage was zero and post-test leakage was noted. This valve will be reworked at NHY. There was no adjustment made to the valve.

No test run exceeded $\pm 2.1\%$ of the nameplate set pressure for any of the valves tested.

NHY Inservice Test Program personnel will continue to monitor safety valve performance and will initiate corrective action as necessary.

Plant Conditions

The PCSV's which were determined to have as-found setpoints outside of the tolerance required by Technical Specifications were installed on the Pressurizer during the entire first cycle of operation.

This is the first event of this type to have occurred during an operating cycle at Seabrook Station.