

Northeast
Utilities System

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May 10, 1996

Docket No. 50-423
B15711

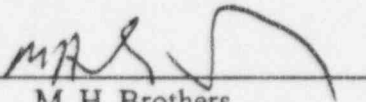
Re: 10CFR50.73(a)(2)(i)(B)
and 50.73(a)(2)(ii)(B)

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

This letter forwards Licensee Event Report 96-008-00, which is submitted within thirty (30) days pursuant to 10CFR50.73(a)(2)(i)(B) and 50.73(a)(2)(ii)(B).

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



M. H. Brothers
Unit Director, Millstone Unit No. 3

Attachment: LER 96-008-00

cc: T. T. Martin, Region I Administrator
A. C. Cerne, Senior Resident Inspector, Millstone Unit No. 3
V. L. Rooney, NRC Project Manager, Millstone Unit No. 3

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PDR ADOCK 05000423
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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-
8 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)

Millstone Nuclear Power Station Unit 3

DOCKET NUMBER (2)

05000423

PAGE (3)

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TITLE (4)

Reactor Protection System Lead/Lag Time Constants Set Non-Conservatively

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
04	12	96	96	008	00	05	10	96	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)		5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 6: (Check one or more) (11)							
POWER LEVEL (10)		000	20.2201(b)		20.2203(a)(2)(v)		<input checked="" type="checkbox"/>		50.73(a)(2)(i)	50.73(a)(2)(viii)
			20.2203(a)(1)		20.2203(a)(3)(i)		<input checked="" type="checkbox"/>		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

William J. Temple, Nuclear Licensing Supervisor

TELEPHONE NUMBER (Include Area Code)

(860)437-5904

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)

YES (If yes, complete EXPECTED SUBMISSION DATE.)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION	MONTH	DAY	YEAR

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

On April 12, 1996, at 14:30, with the plant in Mode 5 at 0-percent power, it was discovered that time constants used on lead/lag cards for Overpressure Delta Temperature and Overtemperature Delta Temperature Reactor Trip setpoints as well as Steam Line Negative Rate -High Main Steam Line Isolation setpoints may be set non-conservatively. A subsequent review determined that the time constants specified in plant Technical Specifications for Overpressure Delta Temperature and Overtemperature Delta Temperature Reactor Trip setpoints were used as an input to calculate Safety Analysis Limits, thus affecting Limiting Safety System settings. These values were treated in the plant as Nominal values, which allowed field calibration within a specified calibration range on either side of the Technical Specification limit. The same review found that the plant Technical Specification that identifies the rate-lag time constant used for the Steam Line Negative Rate - High Main Steam Line Isolation setpoint incorrectly identifies the direction of conservatism. In addition, the plant considered this value as a Nominal value instead of a limiting setting. The root cause of the non-conservatively set time constants was the failure by the vendor (Westinghouse) to identify conservative calibration requirements for Reactor Protection circuits in plant Technical Specifications. Corrective action will include a change to plant Technical Specifications to correctly identify the direction of conservatism for the rate-lag time constant used for the Steam Line Negative Rate - High Main Steam Line Isolation setpoint. Additionally, time constants used on lead/lag cards for Overpressure Delta Temperature and Overtemperature Delta Temperature Reactor Trip setpoints will be changed to ensure conservative settings in accordance with Westinghouse recommendations.

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		YEAR	SEQUENTIAL NUMBER		REVISION NUMBER	
		96	--	008	--	00
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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

I. Description of Event

On April 12, 1996, at 14:30, with the plant in Mode 5 at 0-percent power, it was discovered that time constants used on lead/lag cards for Overpressure Delta Temperature and Overtemperature Delta Temperature Reactor Trip setpoints as well as Steam Line Negative Rate - High Main Steam Line Isolation setpoints may be set non-conservatively. The concern was discovered during a conversation with Westinghouse while reviewing 24-month fuel cycle calculations.

A subsequent review determined that time constants specified in plant Technical Specifications for Overpressure Delta Temperature and Overtemperature Delta Temperature Reactor Trip setpoints were used as an input to calculate Safety Analysis Limits, thus affecting Limiting Safety System settings. These values were treated in the plant as Nominal values, which allowed field calibration within a specified calibration range on either side of the Technical Specification limit. Thus, any setting outside the limit resulted in a noncompliance with the plant Technical Specification and placed the plant in a condition outside the design basis.

The same Engineering review found that the plant Technical Specification that identifies the rate-lag time constant used for the Steam Line Negative Rate - High Main Steam Line Isolation setpoint incorrectly identifies the direction of conservatism. The Technical Specification currently specifies that the rate-lag time constant be set less than or equal to fifty seconds. The value used in the accident analysis assumed a value greater than or equal to fifty seconds. In addition, the plant considered this value as a Nominal value instead of a limiting setting. Thus, any setting outside the limit resulted in a noncompliance with the plant Technical Specification and placed the plant in a condition outside the design basis.

Based on the above evaluations it was determined on May 1, 1996, that the plant had been in a condition outside the design basis of the plant, and an immediate notification was promptly made under 10CFR 50.72(b)(1)(ii)(B).

At the time of discovery the plant was shutdown for unrelated reasons. Plant systems responded normally to the shutdown. No Reactor Protection System Actuation or Engineered Safety Features Actuators were required or were initiated as part of the shutdown.

II. Cause of Event

The conservative calibration requirements for reactor protection circuits, specifically lead/lag time constants, in the plant Technical Specifications were not identified by the vendor (Westinghouse). The current lead/lag settings were based on reasonable interpretation of vendor documents and were adopted with the endorsement of the vendor. The plant Technical Specification that identifies the lag time constant used for the Steam Line Negative Rate - High Main Steam Line Isolation setpoint incorrectly identifies the direction of conservatism. The plant Technical Specifications were based on the original Standard Technical Specification Manual which has the same error. The error also appears in NUREG 1431, "Standard Technical Specifications for Westinghouse Plants."

III. Analysis of Event

This event is reported under 10CFR 50.73(a)(2)(i)(B) as a noncompliance with Technical Specifications, and is reported under 10CFR 50.73(a)(2)(ii)(B) as a condition outside the design basis of the plant.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)					PAGE (3)
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		96	--	008	--	00	

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05000423

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

It was incorrectly determined during the first fuel cycle that the plant should treat the reactor protection lead/lag time constants as nominal values since the Technical Specification basis indicated that this was acceptable for bistables. The current practice was a reasonable interpretation of vendor documents and was adopted with the endorsement of the vendor. The plant Technical Specifications were based on the original Standard Technical Specification Manual and incorporated the same error. The error also appears in NUREG 1431, "Standard Technical Specifications for Westinghouse Plants."

IV. Corrective Action

As immediate action, the plant remained in Mode 5 at 0-percent power.

Corrective action will include a change to plant Technical Specifications to correctly identify the direction of conservatism for the rate-lag time constant used for the Steam Line Negative Rate - High Main Steam Line Isolation setpoint. Additionally, Engineering calculations will establish more conservative nominal values and calibration acceptance criteria for time constants used on lead/lag circuits for Overpressure Delta Temperature and Overtemperature Delta Temperature Reactor Trip setpoints and Steam Line Negative Rate - High Main Steam Line Isolation setpoints. The affected protection channels will be recalibrated to the new acceptance criteria.

A change will be submitted to the Westinghouse Owners Group (WOG) to incorporate identification of conservative direction of the reactor protection lead/lag circuits for Steam Line Pressure High Negative Rate into NUREG 1431, "Standard Technical Specifications for Westinghouse Plants."

V. Additional Information

At the time of discovery the plant was in a shutdown required by Technical Specifications for reasons unrelated to this reported subject. See LER 96-006-00, "Plant Shutdown Required by Technical Specifications, for Auxiliary Feedwater Containment Isolation Valves Declared Inoperable."

Similar Events

No similar LERs have been reported.

Manufacturer DataEIIS System Codes

Solid State Protection System - JC

Engineered Safety Features Actuation System - JE