Northeast
Utilities System

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October 23, 1996

Docket No. 50-423
B15940

Re: 10CFR 50.73(a)(2)(ii)

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

This letter forwards Licensee Event Report 96-002-01, documenting a condition that was identified at Millstone Unit No. 3 on March 10, 1996. This LER was initially submitted pursuant to 10CFR 50.73(a)(2)(i)(B). Subsequent review has determined that the initial corrective actions did not adequately address the contributing causes.

The following are NNECO's commitments made within this letter:

B15940-01: All Operations Department Surveillance procedures will be reviewed to determine if sufficient data is available within the procedure to verify that the acceptance criteria have been satisfied. The review will be completed prior to startup from the current outage.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

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

Attachment: LER 96-002-01

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

IE22

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)
Millstone Nuclear Power Station Unit 3	05000423	1 of 3

TITLE (4)

Inadequate Surveillance for Determining Shutdown Margin When Unisolating a Reactor Coolant Loop, Due to Procedure Inadequacy

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
03	10	96	96	002	01	10	23	96	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)			
		20.2201(b)	20.2203(a)(2)(v)	[X] 50.73(a)(2)(i)	50.73(a)(2)(viii)
POWER LEVEL (10)	000	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	TELEPHONE NUMBER (Include Area Code)
J.M. Peschel, MP3 Nuclear Licensing Manager	(860)437-5840

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	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 March 10, 1996, with the plant in Mode 1 at 100-percent power, operations personnel discovered that an inadequate surveillance procedure had been historically used for determining reactor shutdown margin when unisolating a Reactor Coolant Loop. A review determined that there was at least one occasion which resulted in a noncompliance with surveillance requirements. Specifically, on May 26, 1995, at 0239 hours, with the plant in Mode 5 at 0-percent power, the cold leg stop valve on Loop 3 of the Reactor Coolant System (RCS) was opened without adequately verifying the reactor was subcritical by a required value within 30 minutes prior to opening the valve.

This was a noncompliance with Technical Specification 4.4.1.6.2, which requires that, "the reactor shall be determined to be subcritical by at least the value required by Specifications 3.1.1.1.2 or 3.1.1.2 for Mode 5... within 30 minutes prior to opening the cold leg stop valve."

There was no safety significance to returning the isolated RCS loop to service. The surveillance verified the boron concentration in the isolated loop was greater than the RCS boron concentration, and both were greater than 2600 ppm as required by procedure. The reactor was subcritical by the required margin before, during, and after the event.

As corrective action, changes will be made to the Technical Requirements Manual, the operating procedure, and the surveillance procedure, to clarify the requirements for meeting Specification 4.4.1.6.2. In addition, a change will be proposed to clarify Specification 4.4.1.6.2. This event was discovered during a review of conditional surveillances. A formal causal evaluation, completed on September 20, 1996, determined that "personnel error" was a contributing cause. The procedural error was discussed with the responsible operator and reviewed with all Operations personnel. Additionally, all Operations Department Surveillance procedures will be reviewed for related deficiencies.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)					PAGE (3)
		YEAR	SEQUENTIAL NUMBER			REVISION NUMBER	
Millstone Nuclear Power Station Unit 3	05000423	96	--	002	--	01	2 of 3

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

I. Description of Event

On March 10, 1996, with the plant in Mode 1 at 100-percent power, a Shift Technical Advisor discovered that an inadequate surveillance procedure had been historically used for determining shutdown margin when unisolating a Reactor Coolant Loop. This discovery was made during a planned conditional surveillance review, which was being done to ensure conditional surveillance procedures were adequate. A subsequent review determined that there was at least one historical occasion where the inadequate procedure resulted in a noncompliance with Technical Specification surveillance requirements. Specifically, on May 26, 1995, at 0239 hours, with the plant in Mode 5 at 0-percent power, the cold leg stop valve on Loop 3 of the Reactor Coolant System (RCS) was opened without performing a surveillance to verify the reactor was subcritical by the amount required by Technical Specification 3.1.1.1.2 or 3.1.1.2 within 30 minutes prior to opening the valve.

This condition resulted in a noncompliance with Technical Specification 4.4.1.6.2. Technical Specification 4.4.1.6.2 requires that, " the reactor shall be determined to be subcritical by at least the value required by Specifications 3.1.1.1.2 or 3.1.1.2 for Mode 5 or Specification 3.9.1.1 for Mode 6 within 30 minutes prior to opening the cold leg stop valve."

At the time of the May 26, 1995 event, the RCS was being cooled by the Residual Heat Removal (RHR) system. Although the 30-minute requirement in Surveillance 4.4.1.6.2 was not met, the corresponding Limiting Conditions for Operation in 3.4.1.6 were met. The boron concentration in the RCS was 2770 ppm, the boron concentration in Loop 3, which was to be restored, was 2856 ppm, and the required boron concentration was 2600 ppm. The isolated loop Tc was 90 degrees Fahrenheit and the highest operating loop Tc was 96 degrees Fahrenheit.

II. Cause of Event

This event is attributed to a procedure inadequacy. The surveillance procedure for implementing the Technical Specification had as an acceptance criterion that, "The reactor is subcritical by at least the value required by T.S. 3.1.1.1.2 or 3.1.1.2 for Mode 5 or T.S. 3.9.1.1 for Mode 6 within 30 minutes prior to opening cold leg stop valve." Operations personnel were aware of this requirement.

The data recorded on the surveillance form showed that the RCS boron concentration and the loop boron concentration were more than 150 ppm greater than the required concentration. Upon reviewing the surveillance data the operator concluded that the surveillance was performed. However, the time requirement of 30 minutes for opening the cold leg stop valve was exceeded by between 3 and 13 minutes depending upon subsequent interpretation of when the reactivity determination was made and when the cold leg stop valve was considered open. The form did not require comparing the interval to the 30-minute acceptance criterion, nor did it identify if "valve opening" was initiation of the open stroke (when flow could first occur), or achieving a full open final position.

A formal causal evaluation, completed on September 20, 1996, confirmed that the cause of the event was "procedural inadequacy". Additionally, it determined that "personnel error" was a contributing cause. The operator performing the surveillance and the Shift Manager reviewing the surveillance were aware of the requirement to verify the reactor sub-critical by the required margin within 30 minutes prior to opening the cold leg stop valve. However they did not recognize that the 30 minute requirement was exceeded within the surveillance.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)					PAGE (3)
		YEAR	SEQUENTIAL NUMBER			REVISION NUMBER	
Millstone Nuclear Power Station Unit 3	05000423	96	--	002	--	01	3 of 3

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

III. Analysis of Event

There was no safety significance to returning the isolated RCS loop to service in this event. The surveillance that was performed had verified that the boron concentration in the isolated loop was greater than the RCS boron concentration, and both were greater than 2600 ppm as required by procedure. Additionally, the requirements of Technical Specification 3.4.1.6 were met. The reactor was subcritical by the required margin before, during, and after unisolation of the loop.

IV. Corrective Action

As corrective action, changes will be made to the Technical Requirements Manual, the operating procedure, and the surveillance procedure, to clarify the requirements for meeting Specification 4.4.1.6.2. In addition, a change will be proposed to clarify Specification 4.4.1.6.2. This event was discovered during a review of conditional surveillances. No other reportable events or conditions have been identified to-date. The conditional surveillance review will be completed.

The formal causal factors evaluation identified the need to perform several additional corrective actions. The corrective actions resulting from this causal factor evaluation were:

(a) The procedural error was discussed with the responsible operator.
(b) The Lessons Learned from this event were reviewed with all Operations Department personnel.
(c) LERs will be catergorized as Level "B" Adverse Condition Report (ACRs). Level "B" ACRs require formal root cause evaluations. Exceptions to this process will require Management Review Team approval.
(d) All Operations Department Surveillance procedures will be reviewed to determine if sufficient data is available within the procedure to verify that the acceptance criteria have been satisfied. The review and any subsequent changes resulting from this review will be completed prior to stat up from the current outage.

V. Additional Information

Similar Events

Manufacturer Data

EIIS System Codes
Reactor Coolant System - AB

EIIS Equipment Codes
None