NORTHEAST UTILITIES
The Connecticut Light And Power Company
Western Massachusetts Electric Company
Holyoke Water Power Company
Northeast Utilities Service Company
Northeast Nuclear Energy Company

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Re: 10CFR50.73(a)(2)(i)
January 14, 1991
MP-91-42

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

Reference: Facility Operating License No. DPR-65
Docket No. 50-336
Licensee Event Report 90-022-00

Gentlemen:

This letter forwards Licensee Event Report 90-022-00 required to be submitted within thirty (30) days pursuant to paragraph 50.73(a)(2)(i), any operation or condition prohibited by the plant's Technical Specifications.

Please note that this LER is being submitted late due to an oversight in the Plant Incident Report/Licensee Event Report Process.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

Stephen E. Scace
Director, Millstone Station

SES/GEK:mo

Attachment: LER 90-022-00

cc: T. T. Martin, Region I Administrator
W. J. Raymond, Senior Resident Inspector, Millstone Unit Nos. 1, 2 and 3
G. S. Vissing, NRC Project Manager, Millstone Unit No. 2

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NRC Form 366 (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

Estimated burden per response to comply with this information collection request: 50.0 hrs. Forward comments regarding burden estimate to the Records and Reports Management Branch (p-530), U.S. Nuclear Regulatory Commission, Washington, DC 20555, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1): Millstone Nuclear Power Station Unit 2

DOCKET NUMBER (2): 0 5 0 0 0 3 3 6

PAGE (3): 1 OF 0 3

TITLE (4): Service Water Headers Cross-Tied

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
1 1	1 5	9 0	9 0	0 2 2	0 0	0 1	1 4	9 1	0 5 0 0 0
									0 5 0 0 0

OPERATING MODE (9)	POWER LEVEL (10)	THIS REPORT IS BEING SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
1	0 7 5	20.402(b)	20.402(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
Gary E. Komosky, Engineer, Ext. 4725	2 0 3 4 4 7 - 1 7 9 1

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
0 7	0 1	9 1

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

On November 15, 1990, at 1330, with the plant in MODE 1 (75% power, 565°F, 2270 psig), Service Water header cross-tie valve, 2-SW-9°A, was found open by a plant engineering technician performing a routine intake structure inspection. The control room was notified and an operator manually closed the valve. No emergency operations were performed. No equipment was cycled to its accident position. The specific cause of the event is unknown but the most likely cause is either improper positioning of the cross-tie valve or the valve was inadvertently re-positioned during ma..tenance activities. This event is being reported pursuant to the requirements of paragraph 50.73(a)(2)(i), reporting any operation or condition prohibited by the plant's Technical Specifications.

Similar LERs: None.

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

I. Description of Event

On November 15, 1990, at 1330, with the plant in MODE 1 (75% power, 565°F, 2270 psig), Service Water header cross-tie valve, 2-SW-97A was found open by a plant engineering technician while performing a routine intake structure inspection. The control room was notified and an operator manually closed the valve. At the time, the plant was returning to service following refueling.

The Service Water (SW) system is configured with three supply pumps, the 'A', 'B', and 'C' and two supply headers, the A and B. The 'B' pump is the swing pump and can be aligned to either the A or B SW header. Cross-tie valves are situated between the 'A' and 'B' pumps (2-SW-97A) and between the 'B' and 'C' pumps (2-SW-97B) to facilitate the swing feature of the 'B' pump. Normal system operation has the 'A' pump on the A header and the 'C' pump on the B header with one of the cross-tie valves closed and the 'B' pump out of service.

At the time of the event, the plant was returning to service after a refueling outage. During the outage both of the cross-tie valves were removed from the piping system. The cross-tie valve in question, 2-SW-97A, was removed from the system, for the duration of the A and B header outages, so that one header at a time could be removed from service for repairs without affecting the seismic integrity of the remaining operable header. The other cross-tie valve, 2-SW-97B, was also removed from the system, for the duration of the B header outage, while the adjacent piping was replaced. Valve 2-SA-97B was re-installed during the B header outage. Valve 2-SW-97A was re-installed on October 30, 1990 after the Service Water system repairs were completed. The remote control and indication from the control room for both cross-tie valves and the interlock feature between them was not reconnected at this time. Subsequent to October 30, 1990, complete restoration of the controls and indication for valves 2-SW-97A and 2-SW-97B was hampered by necessary SW flow testing and broken instrument air supply piping. After November 3, 1990, the restoration was precluded by the removal of the 'C' SW pump. Consequently, the valves were operated manually with local indication of their position throughout the period.

Operations Surveillance Procedure 2612C-1 was performed on October 30, 1990 which verified that valve 2-SW-97A was open since a flow path through the valve was required to support operation of the 'B' Service Water pump on the 'A' Service Water header. On November 2, 1990 the 'A' SW pump was returned to service on the 'A' SW header and the 'B' SW pump was switched to the 'B' SW header as directed by Operations Procedure OP 2326A. During these system iterations, the appropriate Operations Surveillance Procedures were performed. On the following day, November 3, 1990 the 'C' SW pump was taken out of service for repairs. On November 15, 1990, valve 2-SW-97A was found open thus identifying the cross-tieing of both Service Water facilities.

II. Cause of Event

The specific root cause of the event is unknown, but, the most likely cause is either improper positioning of the cross-tie valve or the valve was inadvertently re-positioned during maintenance activities.

Improper valve positioning may be the cause due in part to the complexity of system manipulations encountered at this time and the confusion inherent in the cross-tie valves local position indication when operating in the manual mode. The cross-tie valve local position indication is difficult to read and the actuator arm for one cross-tie valve operates in an opposite manner from the other cross-tie valve.

The maintenance activity being considered in this evaluation is the repair and connection of the instrument air supply to the cross-tie valves. The cross-tie valve position could have been changed if the air supply was activated without Operations involvement during or after the repair activity.

It should be noted that investigation of the events and interviews with the operations personnel involved at the time of the pump swap indicate that the proper Operating Procedure (OP 2326A) and Surveillance Procedures (2612C-1 and 2612D-1) were performed.

III. Analysis of Event

This event is being reported pursuant to the requirements of paragraph 50.73(a)(2)(i), reporting any operation or condition prohibited by the plant's Technical Specifications.

With header cross-tie valve 2-SW-97A open, facility separation was not maintained. In this configuration, the SW system functioned as one common header instead of the two independent headers required by the Technical Specifications.

The longest amount of time that the header cross-tie valve, 2-SW-97A, could have been improperly positioned was from November 2, 1990 to November 15, 1990, or a total of approximately thirteen days. During this period the reactor plant was critical for the last seven days.

Review of the Design Basis Accident (DBA) response of the SW system indicates that it would not have performed its intended function. During the DBA it is assumed that only one Emergency Diesel Generator will start. With this being the case, one SW pump would be operating on two headers which is an unanalyzed thermo/hydraulic configuration.

If it is postulated that one of the headers were to break, the ability of the system to perform its intended function would have been lost since both pumps would have supplied water to the break. Only a minimal amount of cooling water would then be available for component heat removal.

IV. Corrective Action

The corrective action was to immediately reposition the cross-tie valve, 2-SW-97A, to maintain facility separation.

As previously indicated, the specific cause for the valve mispositioning was not determined. It will be re-inforced with the individuals performing maintenance activities that valve position cannot be changed without the involvement of the Operations Department. There has been no previous evidence of a problem in this area.

Action to prevent recurrence will be applied based on the possible cause of improper positioning. These actions are as follows:

1. The surveillance procedures will be changed to include a specific verification for header cross-tie valve alignment when operating the valves in the manual mode.

2. Enhancements will be made to the valve local position indication.

V. Additional Information

There were no failed components.

Similar LERs: None.

EIIS Code Identifiers:

BS-V-F130