Wisconsin Electric
POWER COMPANY

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VPNPD-92-047
NRC-92-011

10 CFR 50.73

January 24, 1992

U.S. NUCLEAR REGULATORY COMMISSION
Document Control Desk
Mail Station P1-137
Washington, DC 20555

Gentlemen:

DOCKETS 50-266 AND 50-301
LICENSEE EVENT REPORT 91-001-01
FAILURE OF MAIN STEAM ISOLATION VALVES TO CLOSE
POINT BEACH NUCLEAR PLANT, UNIT 2

Enclosed is Licensee Event Report 91-001-01 for Point Beach Nuclear Plant, Unit 2. This report is provided in accordance with 10 CFR 50.73(a)(2)(v)(D), "The licensee shall report any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident."

This supplemental report is being submitted in order to delineate the status of corrective measures initiated as a result of the incident investigation conducted in response to this event.

Please contact us if there are any questions.

Sincerely,

James Zach

James J. Zach
Vice President
Nuclear Power

Enclosure

Copies to NRC Regional Administrator, Region III
NRC Resident Inspector

IE22 1/1

NRC FORM 366 (6-89) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

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.

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Point Beach Nuclear Plant, Unit 2	0 5 0 0 0 3 0 1	1 OF 0 4

TITLE (4)
Failure of Main Steam Isolation Valves to Close

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)
0 9	2 9	9 1	9 1	-	0 0 1	-	0 1	0 1	2 4	9 2		0 5 0 0 0
												0 5 0 0 0

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 1 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	X 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)	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
T. J. Koehler, Manager - Maintenance	AREA CODE 4 1 4 7 5 5 - 2 3 7 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	
B	S B	I S V	A 5 8 5	Y							

SUPPLEMENTAL REPORT EXPECTED (14)

		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

ABSTRACT

At 0930 on September 29, 1991, an attempt to shut the Point Beach Nuclear Plant Unit 2 Main Steam Isolation Valves (MSIVs) was made from the control room. Both MSIVs failed to leave the fully open position. An operator was dispatched to the valves and shut them by applying mechanical force to the valve operators. After the valve operators were freed by mechanical force, the valves shut unassisted. Unit 2 had been shut down and cooled down to approximately 325 degrees F for the beginning of its annual maintenance and refueling outage when this event occurred. An extensive investigation into the cause of the failure to close is being performed. The cause for the valves failure to close has initially been attributed to degradation of the valve operators due to corrosion. Steps are being taken to prevent recurrence of the corrosion and return the operators to service. Modifications to the valves and associated operators and changes to the valve maintenance program are being considered. An independent Nuclear Power Department team investigation was also performed to assess MSIV performance and perceptions of valve performance.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Point Beach Nuclear Plant, Unit 2	0 5 0 0 0 3 0 1	9 1	-- 0 0 1	-- 0 1	0 2 OF 0 4

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

This supplemental Licensee Event Report is being submitted in order to delineate the status of corrective actions that are being taken as a result of the incident investigation conducted at Point Beach Nuclear Plant during the week of October 7, 1991.

As a result of this incident investigation several commitments were made. These commitments are described in a letter sent to the NRC (NRC-91-138) on December 3, 1991. The commitments and their current status are described below.

1. A Technical Specification Change Request is currently in progress. This change request will add the Main Steam Isolation Valves (MSIV) and Non-Return Stop Valves (NRSV) to Section 15.3, "Limiting Conditions for Operation" as well as clarify Section 15.4.7 regarding the surveillance testing requirements for the MSIV's. This change request will be submitted to the NRC by February 14, 1992.

2. A written plant survey has been developed and is being conducted. This survey will be used to determine whether any chronic or repetitive problems exist with any plant safety-related equipment. Personnel in Operations, Maintenance, Engineering, and Training are the target groups for this survey. This survey will be completed by February 14, 1992.

3. Once the above survey is complete, a systematic review of the operating and machinery history of all safety-related equipment will be performed. This review will use the results of the survey to focus its effort, but the review will not be limited to the equipment identified by the survey. Follow-up interviews and/or focus groups will be used, if necessary, to help in this effort. This review will be completed by February 28, 1993.

4. A requested INPO Operating Experience Assist Visit took place at Point Beach in December 1991. During this visit, the INPO staff supplied us with the names of other utilities with good root cause analysis programs. These utilities will be contacted in order to obtain ideas for our own program. INPO has also offered to provide us assistance in the initial training of instructors for our root cause training program.

5. A review of the assumptions made in our Final Safety Analysis Report against the Limiting Conditions for Operation (LCO) and the Surveillance sections of our Technical Specifications is currently in progress. Once complete, a determination will be made concerning the need to add additional LCOs or surveillances to the Technical Specifications. If any additions are warranted, we expect to submit the associated Technical Specifications Change Requests by February 28, 1993.

6. An inspection of the maintenance call-up system will be performed to ensure that this preventative maintenance system includes all the equipment required in the assumptions of our FSAR accident analyses. This inspection will be completed by February 28, 1993.

7. A revision will be made to the Maintenance Work Request tag that will require concurrent reportability and operability determinations to be made. This will ensure that prompt reportability and operability determinations are made following the discovery of any equipment problem. This revision will be completed by February 14, 1992. In the interim, an Operations Night Order has been issued to advise the operating crews of this issue.

In response to the problem with the Unit 2 MSIVs, a commitment was made to perform a material inspection of the Unit 1 valve operators. This inspection was conducted on October 26, 1991. A complete description of the results of this inspection follows.

The external inspection of the valve operating cylinder for 1MS-2017 displayed some corrosion which was attributed to condensed packing leakage. When the valve operating cylinder was opened, approximately 50 cubic centimeters of water was found inside. The top of the operating piston displayed a small amount of corrosion. This corrosion has been attributed to the standing water found inside the operator. A slight amount of corrosion was also seen on the bottom of the cylinder. An inspection of the lower seal between the operating cylinder and dashpot piston revealed slight damage caused by piston travel. This lower seal was replaced. Overall, the operating cylinder functioned properly and was in good condition.

The external inspection of the valve operating cylinder for 1MS-2018 revealed no corrosion. However, when the operator was cycled, some corrosion was seen on the operating cylinder shaft. When the operating cylinder was opened, some corrosion was noted on the upper part and bottom of the cylinder. However, no water was present inside the cylinder. An inspection of the dashpot piston revealed a slight amount of corrosion. There was no water in the dashpot. Approximately 100 cubic centimeters of oil was present. Overall, the corrosion products found would not and did not hinder the operation of the cylinder.

Following the event, a thorough review of training was performed. As a result of this review, event specific Licensed Operator Requalification training will be presented to operators, Duty Technical Advisors, Duty Shift Superintendents, and Duty and Call Superintendents. This training will consist of a discussion of the contributing factors and corrective actions described in the original LER, as well as the reportability considerations and reporting requirements that were brought to light by this event. This training will be completed by February 14, 1992.

Finally, in order to improve the performance of the valves, modifications will be performed. During the recent Unit 2 outage, the packing on both the operator and non-operator ends of the valve shaft for both Unit 2 MSIVs was modified. Each end of the shaft now has four rings of packing with installed carbon spacers. This modification was performed to reduce the amount of packing friction on the valve shaft. The above modification will also be performed on the Unit 1 MSIVs during the Spring 1992 outage. This packing configuration modification should improve valve operation in the near term.

In the long term, modifications to replace the valve shaft non-operator end packing with a bearing, as well as install a shaft support bearing on operator end of the valve shaft are currently planned. These modifications will reduce the amount of packing friction on the valve shaft and provide support to the valve shaft to reduce the amount of shaft bending. We believe that valve shaft bending contributes to excess packing leakage. The packing leakage in turn results in steam condensing on the valve operators. Additionally, we intend to install a stronger spring in order to increase the actuator spring return force. This modification will provide a larger closing force on the valve. The current schedule has these modifications being performed on the Unit 2 MSIVs during the Fall 1992 outage with the same modifications being performed on the Unit 1 MSIVs during the Spring 1993 outage.