



Monticello Nuclear Generating Plant
2807 West County Road 75
Monticello, MN 55362-9637

Operated by Nuclear Management
Company LLC

April 23, 2001

US Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

LER 2001-007
Failure to Comply with Technical Specification and ASME Code Section XI
Inservice Testing Requirements

A Licensee Event Report for this occurrence is attached. This report contains no new NRC commitments.

Contact Patrick Burke, Project Manager, at (763) 295-1661 if you require further information.

Byron Day
Plant Manager
Monticello Nuclear Generating Plant

c: Regional Administrator - III NRC
NRR Project Manager, NRC

Sr. Resident Inspector, NRC
Minnesota Department of Commerce

Attachment

JE22

Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1) Monticello Nuclear Generating Plant	DOCKET NUMBER (2) 05000263	PAGE (3) 1 OF 4
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TITLE (4)
Failure to Comply with Technical Specification and ASME Code Section XI Inservice Testing Requirements

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
02	24	2001	2001	007	00	04	23	2001		05000
										05000

OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11)									
POWER LEVEL (10) 100	20.2201(b)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)						
	20.2201(d)	20.2203(a)(4)	50.73(a)(2)(iii)	50.73(a)(2)(x)						
	20.2203(a)(1)	50.36(c)(1)(i)(A)	50.73(a)(2)(iv)(A)	73.71(a)(4)						
	20.2203(a)(2)(i)	50.36(c)(1)(ii)(A)	50.73(a)(2)(v)(A)	73.71(a)(5)						
	20.2203(a)(2)(ii)	50.36(c)(2)	50.73(a)(2)(v)(B)	OTHER Specify in Abstract below or in NRC Form 366A						
	20.2203(a)(2)(iii)	50.46(a)(3)(ii)	50.73(a)(2)(v)(C)							
	20.2203(a)(2)(iv) <input checked="" type="checkbox"/>	50.73(a)(2)(i)(A)	50.73(a)(2)(v)(D)							
	20.2203(a)(2)(v) <input checked="" type="checkbox"/>	50.73(a)(2)(i)(B)	50.73(a)(2)(vii)							
	20.2203(a)(2)(vi)	50.73(a)(2)(i)(C)	50.73(a)(2)(viii)(A)							
20.2203(a)(3)(i)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(B)								

LICENSEE CONTACT FOR THIS LER (12)

NAME Patrick Burke	TELEPHONE NUMBER (Include Area Code) (763) 295-1661
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/> NO							

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

On February 24, 2001 while operating at 100% power, the Monticello Nuclear Generating Plant staff discovered that the High Pressure Coolant Injection system and both divisions of the Low Pressure Coolant Injection mode of the Residual Heat Removal system were inoperable due to the failure to test the testable check valves as required by the Technical Specification and ASME Code Section XI.

Since the LPIC mode of the RHR system and the HPCI system were declared inoperable, the Limiting Condition for Operation for Technical Specification 3.5.A was entered and the plant was required to be in a condition for which the inoperable equipment is not required to be operable (in this case less than 212 degrees). The plant reached shutdown conditions on February 25, 2001 within the 24 hour LCO.

During the review to determine the extent of condition for this event, additional items were discovered to not comply with the Technical Specification and ASME Code Section XI inservice testing requirements.

There was no safety significance associated with these events since all components were subsequently demonstrated to be in compliance with the Technical Specification and ASME Code Section XI requirements.

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

Description

On February 24, 2001 while operating at 100% power, the Monticello Nuclear Generating Plant (MNGP) staff discovered that the High Pressure Coolant Injection (HPCI)¹ system and both divisions of the Low Pressure Coolant Injection (LPCI)² mode of the Residual Heat Removal (RHR)² system were inoperable due to the failure to test the testable check valves³ as required by the Technical Specification and ASME Code Section XI. The Reactor Core Isolation Cooling (RCIC)⁴ system and Core Spray (CS)⁵ system testable check valves were believed to have been tested as required by the Technical Specification and ASME Code Section XI. Later, after the plant was shutdown, it was determined that the CS system testable check valve had not been tested using the full accident flow rate and therefore did not meet the Technical Specification and ASME Code Section XI requirements. The RCIC system testable check valve, although disassembled and inspected during the January, 2000 refueling outage, may not have been partial stroke tested after reassemble and thus did not meet the Technical Specification and ASME Code Section XI requirements.

MNGP's Technical Specification have a surveillance requirement in 4.15.B that states:

"Inservice Testing of Quality Group A, B, and C pumps and valves shall be performed in accordance with the requirements for ASME Code Class 1, 2 and 3 pumps and valves, respectively, contained in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g) except where relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55(a)(g)(6)(i), or where alternate testing is justified in accordance with Generic Letter 89-04."

Since the LPIC mode of the RHR system and the HPCI system were declared inoperable, the Limiting Condition for Operation (LCO) for Technical Specification 3.5.A was entered and the plant was required to be in a condition for which the inoperable equipment is not required to be operable (in this case less than 212 degrees). The plant reached shutdown conditions on February 25, 2001 within the 24 hour LCO.

During the review to determine the extent of condition for this event, additional items were discovered to not comply with the Technical Specification and ASME Code Section XI inservice testing requirements. These additional items are discussed below.

While shutdown on March 2, 2001 the HPCI system suction check valve (HPCI-32) from the condensate storage tank (CST)⁶ was discovered to not comply with the testing requirements specified in the Technical Specifications and ASME Code Section XI. This valve had not been tested in the closed direction. This valve has a safety related function to close to assure the suppression pool water does not reverse flow, when Primary Containment is pressurized, and bypass Secondary Containment. This could occur for a short period of time when the HPCI system suction motor operated valves are opened automatically during transfer from the CST to the suppression pool on high level in the suppression pool or low level in the CST.

While shutdown on March 2, 2001 the RCIC system suction check valve (RCIC-41) from the condensate storage tank (CST) was discovered to not comply with the testing requirements specified in the Technical Specifications and ASME Code Section XI. This valve had not been tested in the closed direction. This valve has a safety related function to close to assure the suppression pool water does not reverse flow, when Primary Containment is pressurized, and bypass Secondary Containment. This could occur for a short period of time when the RCIC system suction motor operated valves are opened automatically during transfer from the CST to the suppression pool on low level in the CST.

1 EISS Code = BJ 2 EISS Code = BO 3 EISS Code = V 4 EISS Code = BN 5 EISS Code = BM
6 EISS Code = TK

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

While shutdown on March 3, 2001 the Core Spray pump¹ discharge check valves (CS 9-1 and CS 9-2) were discovered to not comply with the testing requirements specified in the Technical Specifications and ASME Code Section XI. These valves had not been tested in the closed direction and were incorrectly tested in the open direction. These check valves were determined to have a closed safety function to keep the Core Spray system discharge lines filled with water, prior to pump start, to minimize the possibility of dynamic loading due to pipe voiding. These check valves also have a safety related function in the open direction to pass full accident flow rates for injection into the reactor vessel. The open test was not being performed at the full accident flow rate.

While shutdown on March 12, 2001 the HPCI gland seal condenser² condensate pump discharge check valve (HPCI-20) were discovered to not comply with the testing requirements specified in the Technical Specifications and ASME Code Section XI. These valves had not been tested in the closed direction. The safety related closed function is the pressure boundary between the non-safety related condensate pump discharge and the safety related cooling water return line to the suction of the HPCI Booster Pump.

While shutdown on March 12, 2001 the RCIC condensate pump discharge check valve (RCIC-14) were discovered to not comply with the testing requirements specified in the Technical Specifications and ASME Code Section XI. These valves had not been tested in the closed direction. The safety related closed function is the pressure boundary between the non-safety related condensate pump discharge and the safety related return line to the pump suction.

While shutdown on March 12, 2001 it was discovered that the method used for testing the Feedwater (FW)³ check valves (FW-94-1, 97-1, 94-2, and 97-2) did not positively demonstrate they complied with the requirements of the Technical Specification and ASME Code Section XI. These check valves have an open safety function to pass the HPCI and RCIC system flows into the reactor vessel. The method used for testing the open function did not assure there was not a flow mismatch in the parallel injection lines. A flow mismatch could mask a malfunction of a FW check valve.

Event Analysis

Analysis of Reportability

This event is being reported as required by 10CFR50.73(a)(2)(i)(A) as a completion of a plant shutdown required by the Technical Specifications. The completion of the surveillance requirement 4.15.B for the testable check valves could not be completed while at full power.

This event is being reported as required by 10CFR50.73(a)(2)(i)(B) as a condition prohibited by Technical Specification 4.15.B and 3.5.A for the inoperable testable check valves for the LPCI mode of RHR and HPCI systems. These components were not tested in accordance with the ASME Code Section XI Inservice Testing requirements.

Safety Significance

There was no safety significance associated with these events since all components were subsequently demonstrated to be in compliance with the Technical Specification and ASME Code Section XI requirements.

1 EIIS Code = P
2 EIIS Code = COND
3 EIIS Code = SJ

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

Cause

Maintaining and implementing the IST program to current regulatory requirements and industry high standards was not given the proper priority. Therefore, implementing procedures and program documents did not effectively include IST requirements from regulatory source documents.

Responsible personnel were unaware of the requirements related to ASME Code Section XI for the component identified in this LER.

Corrective Actions

Implementing procedures and program documents have been revised.

An action to review and appropriately revise the training and qualification programs for the responsible engineers has been entered into the corrective action process.

An independent assessment to determine the extent of condition has been completed. A root cause investigation team has been formed. Findings and actions are being entered into the corrective action program.

The HPCI, LPCI mode of RHR, Core Spray and RCIC systems testable check valves were successfully tested.

The HPCI system pump suction check valve (HPCI-32) closed function was successfully tested.

The RCIC system pump suction check valve (RCIC-41) closed function was successfully tested.

The CS system pump discharge check valves open and closed function was successfully tested.

The HPCI gland seal condenser condensate pump discharge check valve (HPCI-20) closed function was successfully tested.

The RCIC condensate pump discharge check valve (RCIC-14) closed function was successfully tested.

The FW system check valves open function were determined to be acceptable.

Failed Component Identification

None

Similar Events

LER 2000-002, Personal error results in failure to comply with requirements of Section XI operability test for the Emergency Filtration Treatment Service Water Pump

LER 2001-002, Revision 1, Failure to comply with Technical Specification and ASME Code Section XI Inservice Inspection Requirements.

LER 1992-10, 4 ESW valves found not in Section XI testing scope

LER 1992-12, 6 RHRSW valves found not in Section XI testing scope

The corrective actions for these LERs did not prevent this event because they did not correct the lack of organizational knowledge, processes and procedures for implementing the AMSE Code Section XI requirements.