Northern States Power Company

Monticello Nuclear Generating Plant
2807 West Hwy 75
Monticello, Minnesota 55362-9637

November 18, 1999

10 CFR Part 50
Section 50.73

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

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

LER 99-008
Loss of Speed Control for Reactor Core Isolation Cooling System Turbine Due to Loose Gasket Material Preventing Closure of Governor Valve

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

Please contact David Musolf at (612) 295-1201 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
State of Minnesota, Attn: Steve Minn
Attachment

IE22

NRC FORM 366 (6-1998) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 06/30/2001

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to the industry. Forward comments regarding burden estimate to the Records Management Branch(T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 205555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If an 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)	DOCKET NUMBER (2)	PAGE (3)
MONTICELLO NUCLEAR GENERATING PLANT	05000 – 263	1 OF 4

TITLE (4) Loss of Speed Control for Reactor Core Isolation Cooling System Turbine Due to Loose Gasket Material Preventing Closure of Governor Valve

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 NAME	DOCKET NUMBER 05000
10	19	99	99	-- 008 --	00	11	18	99	FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	N
POWER LEVEL (10)	100 %

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

	20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(viii)
	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)
David Musolf	612-295-1201

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
B	BN	FCV	T155	N						

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES (If yes, complete EXPECTED SUBMISSION DATE).	√	NO				

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

During performance of Reactor Core Isolation Cooling (RCIC) System tests, with reactor pressure at rated conditions, it was found that RCIC flow and turbine speed could not be lowered using the flow controller in either automatic or manual mode. The turbine was tripped manually. Investigation determined that the cause of this condition was obstruction of the turbine governor valve with material from a deteriorated undersized gasket installed between the RCIC trip throttle valve and the downstream governor valve. The gasket was replaced with a gasket of the proper size and the RCIC was successfully tested and returned to service.

Description

At approximately 1500 on October 19, 1999, with the plant operating at 100% power, Surveillance Procedure 0255-08-IA-1, "Reactor Core Isolation Cooling (RCIC) System Tests With Reactor Pressure at Rated Conditions," was being performed. This is a quarterly test which demonstrates RCIC System[1] pump and valve operability in accordance with Section XI of the American Society of Mechanical Engineers (ASME) Code.

Step 48 of the procedure was being performed following successful demonstration of operability of the RCIC system. This step calls for placing the RCIC flow controller, FIC-13-91[2], in automatic and reducing flow from its rated value of 400 gpm to approximately 200 gpm in preparation for shutting down the turbine[3]. The flow controller was found to have no effect on the governor valve in either the automatic, balance, or manual positions. The turbine was subsequently tripped from rated flow using the manual turbine trip button and declared inoperable.

Investigation determined that the cause of governor valve sticking was an improperly sized gasket in the joint between MO-2080[4], the RCIC trip throttle valve, and HO-8/RCIC[5], the turbine governor valve. A 2-inch gasket[6] was installed in a 3-inch pipe flange. The inner ring of this gasket was found to be broken and the gasket metal ribbon unwound. The metal ribbon extended into the governor valve preventing valve closure.

The gasket was replaced with the proper gasket. An inspection for additional gasket material was performed and two 1 – 1.5 inch pieces were found and removed from the inlet of the turbine. The RCIC System was successfully tested and returned to service at 0135 on October 27, 1999.

Event Analysis

Analysis of Reportability

This event was originally believed to be non-reportable under either Section 10 CFR 50.72(b)(2)(iii) or 10 CFR 50.73(a)(2)(v) of the Commission's Regulations. RCIC has not been considered to be a single train safety system at Monticello.

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[1] EIIS System Code: BN
[2] EIIS Component Code: FIK
[3] EIIS Component Code: TRB
[4] EIIS Component Code: XCV
[5] EIIS Component Code: SCV
[6] EIIS Component Code: PSX

Discussions with NRC staff have subsequently indicated, however, that unplanned inoperability of RCIC should be reported in accordance with the provisions of 10 CFR 50.73(a)(2)(v).

Safety Significance

The RCIC System at Monticello is not relied upon to mitigate any design basis accident described in Chapter 14 of the Monticello Updated Safety Analysis Report (USAR), nor is it used in any safe shutdown analysis. It is not classified as a single train safety related system.

The RCIC System upon initial start met its surveillance criteria. The High Pressure Coolant Injection System[7] and the Automatic Depressurization System[8] were operable.

An evaluation of the possible effects of additional foreign gasket material was completed. We believe that the probability for further RCIC turbine performance degradation and the potential for adverse impact on RCIC exhaust check valve performance is small.

For the above reasons, we believe the health and safety of the public were not affected by this event.

Cause

The cause of this event was the improper installation of a 2-inch gasket in a 3-inch flanged joint between MO-2080 and the RCIC turbine governor valve. MO-2080 has a 2-inch inlet flange and a 3-inch outlet flange.

An exhaustive document search of all relevant work orders, modifications, and alterations was performed to attempt to determine when the undersized gasket may have been installed.

Documentation of previous work on the valve operator and linkages for MO-2080 was found. However, no instance of valve body removal, which would require gasket replacement, was identified in the plant records.

It is concluded that the improper gasket was installed in error during original plant construction and it has remained undisturbed since that time.

There is no similar valve configuration with different inlet and outlet flange sizes on the HPCI System.

[7] EIIS Component System Code: BJ
[8] EIIS Component System Code: SB

Corrective Actions

The gasket was subsequently replaced with the proper gasket and the RCIC operability test was successfully completed.

Failed Component Identification

Not applicable

Similar Events

None