

Northern States Power Company

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December 7, 1992

Report Required by 10 CFR Part 50, Section 50.73

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

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

Failure of Fmergency Service Water Check Valve to Seat, Cause Unknown

The Licensee Event Report for this occurrence is attached. Please contact us if you require further information.

This that

Thomas M Parker Director of Licensing Nuclear Generation

c: Regional Administrator - III NRC Sr Resident Inspector, NRC NRR Project Manager, NRC State of Minnesota, Attn: Kris Sanda

Attachment

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On November 7, 1990, during the performance of a scheduled surveillance, two check valves in the Emergency Service Water system failed to seat properly. The valves are the cross-ties between the normal Service Water and Emergency Service Water systems. The failure of the check valves could have affected the cooling water flow to the Division II Control Room Ventilation system. The Division II Control Room Ventilation system was declared inoperable, a Safety Evaluation was completed to evaluate the use of manual operator actions, procedures were revised and the Division II Service Water to Emergency Service cross-tie was isolated. The Division II Control Room Ventilation system was declared operable. The check valves will be inspected during the next available outage to determine the cause and a supplemental report will be submitted.

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DESCRIPTION

On November 7, 1992, with the plant operating at 95% rated thermal power, two check valves (EIIS Component: V) in the Emergency Service Water (EIIS System: BI) system failed to seat properly during a scheduled surveillance test. The check valves are ESW-13 (Service Water to V-EAC-14B) and ESW-14 (Service Water to V-EAC-14B). The two valves are the cross-tie from normal Service Water (EIIS System: KG) to the discharge of # 14 Emergency Service Water pump (EIIS Component: P). During normal operation the Service Water system supplies the cooling water flow through the two check valves for the Division II Control Room Ventilation (EIIS System: VI) system. During abnormal or emergency conditions the Emergency Service water system would supply the cooling water flow and the check valves would close co prevent reverse flow into the service water system.

As a result of the check valve failures, the Division II Control room ventilation system was declared inoperable. The Service Water system was isolated from the Division II Control Room Ventilation system and the Division II Control Room Ventilation system was prevented from automatic initiation. The Division I Control Room Ventilation system was placed in operation and procedures have been revised to instruct operations to start #14 Emergency Service Water pump if the Division II Control Room Ventilation is required to be placed in service. A 10 CFR Part 50, Section 50.59 Safety Evaluation was completed to confirm that this method of operation does not involve an unreviewed safety question.

Technical Specification 3.17.A.2 states in part, "With one control room ventilation train inoperable, restore the inoperable train to operable status within seven days or be in hot shutdown within the next 12 hours". The check valves were being tested as required by Technical Specification 4.15.B on a quarterly bases. It is reasonable to assume that the check valve failures would have prevented #14 Emergency Service Water pump from performing its intended function if called upon, and that this condition existed for longer than the seven day allowable outage time for the Centrol room ventilation system. Therefore this event is reportable as a condition prohibited by Technical Specification, 10 CFR Part 50, Section 59.73(a)(2)(i).

CAUSE

The cause of this event was a failure of the check valves to perform the intended function. The root cause of the check valve failure is unknown at this time. A supplemental report will be submitted when the valves have been inspected and the cause of the failure is determined.

NRC FORM 366A (6-80)	U.S. NUCLEAR REGULATORY COMMISSION								N APPROVED OMB NO. 3150-0104 EXPIRES. 4/30/92											
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ANALYSIS

The purpose of the check values is to allow the normal Service Water system to supply cooling water flow to the Emergency Service Water system during normal operation. During abnormal or emergency conditions, if the normal Service Water System is unavailable, the Emergency Service Water system will supply the cooling water flow to Control Room Ventilation, High Pressure Coolant Injection (EIIS System: BJ) room cooler, and the Division II Core Spray (EIIS System: BM)/ Residual Heat Removal (EIIS System: BO) room and motor coolers. If the check values failed to perform their function Emergency Service Water flow could be degraded and adequate cooling ty not be available for the Division II Control Room Ventilation system. High Pressure Coolant Injection room cooler, and the Division II Core Spray/Residual Heat Removal room and motor coolers.

The Division I Control Room Ventilation, Residual Heat Removal and Core Spray systems were unaffected by the check valve failures and were available to perform their function.

An analysis has been performed which shows that the Core Spray and Residual Heat Removal pumps can be operated for two hours without cooling water flow before they must be declared inoperable. This would allow sufficient time for operator actions if the check valves failed. The High Pressure Coolant Injection system requires the room cooler to be operable during operation of the system and may not be available with a degraded cooling water flow. In the event that the High Pressure Coolant Injection was not available the Safety Relief Valves (EIIS component: RV) would be used to control reactor pressure. High temperature in either the High Pressure Coolant Injection or Core Spray/Residual Heat Removal rooms would be alarmed in the Control Room (EIIS System: NA) and existing procedures would direct operators to take corrective actions.

Based on the availability of the Division I Control Room Ventilation, Core Spray and Residual Heat Removal systems, the Safety Relief Valves, and the availability of the Division II Core Spray and Residual Heat Removal systems for up to two hours without Emergency Service Water, there were no consequences to the health and safety of the public.

NRC FORM	1366A	U.S. NUCLEAR REGULATORY COMM	APPROVED DMB NO. 3150-0104										
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1	CORRECTIVE ACTION												
	The following correct	tive actions have been comple	eted:										
	1. The Division II	I Control Room Ventilation sy	ystem was declared inoperable.										
	2. A 10 CFR Part	50, Section 50.59 Safety Eval	luation was performed.										
	 The Service Wat to prevent degr Service Water p 	ter to Emergency Service Wate raded Emergency Service Water pump is placed in operation.	er Cross-tie line was isolated r flow if #14 Emergency										
	 Procedures were revised to provide operator actions if Division II Control Room Ventilation is placed in service. 												
	5. Upon completion of the Safety Evaluation and corrective actions 3 and 4 above the Division II Control Room Ventilation system was declared operable												
	The following actions	s will be completed:											
	 The check valve and replaced or 	es will be inspected during t r repaired based on the inspe	the next available outage time ection results.										
	 A supplemental inspection of t 	report will be submitted wit the check valves.	th the results of the										
	ADDITIONAL INFORMATIC	ON											
6.1	Failed Component Idea	ntification:											
	Manufacturer: Velan Valve Corporation Figure: B12-0114B-02TS Valve: 4 Inch Swing Check Valve												
	Previous Similar Even	nts:											
	There have been 87-020-00 (Cheo Pressure Coolan Check Valve Leo Coolant Inject corrective act until the check	n two previous similar events ck Valve Disc Nut Tack Failur nt Injection System Degradati akage Constitutes Potential I ion System). It is not possi ions for these events should k valves are inspected.	s. Licensee Event Reports, re Results in Potential High ion) and 89-611 (Excessive Degradation of High Pressure ible to determine if the have prevented this event										

TRANSMITTAL MANIFEST

NORTHERN STATES POWER COMPANY

NUCLEAR SUPPORT SERVICES DEPARTMENT

MONTICELLO NUCLEAR GENERATING PLANT

Failure of Emergency Service Water Check Valve to Seat, Cause Unknown

Manifest Date: December 7, 1992 M-RE-92-16

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Attn: DCD	1	D D Antony 1
Tony Hsia	1	G T Bart 1
Regional Admin III	1	K M Beadell 1
Steve Ray	1	B D Day 1
State of Minnesota		E B Earney 1
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Oper Comm & File	17	P H Kamman 1
Surveillance Coord.	1	D W Krech 1
General Electric		Monti Training Section 1
C N Gallt-Nuclear Serv	1	C A Schibonski 1
San Jose-Fuel Proj. Mgr	1	L L Nolan 2
San Jose-Licensing	1	L H Waldinger 1
Safety Audit Committee		*NSS Monti Plant File 1
D J Mendele	1	SAC Secretary 1
A B Cutter	1	NSS File 1
R L Hannen	1	USAR File Yes No X
F W Hartley	1	NRC Commitment Yes X No
W J Hill	1	Response Reminder Yes X Ent
D D Lanning	1	
T M Parker	1	
M B Sellman	1	
C R Steinhardt	1	
J A Thie	1	
*Jim Freborg	1	

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*Advanced copies sent

*Bob McGillic

Correspondence Date : 12/7/92