



Northern States Power Company

Prairie Island Nuclear Generating Plant

1717 Wakonade Dr. East  
Welch, Minnesota 55089

August 12, 1994

10 CFR Part 50  
Section 50.73

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

PRAIRIE ISLAND NUCLEAR GENERATING PLANT  
Docket Nos. 50-282 License Nos. DPR-42  
50-306 DPR-60

Unit 2 Turbine-Generator Trip/  
Reactor Trip Caused by Failure of a Wet Pipe Sprinkler Head

The Licensee Event Report for this occurrence is attached. In the report, we made no new NRC commitments.

This event was reported via the Emergency Notification System in accordance with 10 CFR Part 50, Section 50.72, on July 21, 1994. Please contact us if you require additional information related to this event.

*Jack Leveille for*

Roger O Anderson  
Director  
Licensing and Management Issues

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

Attachment

9408240229 940812  
PDR ADOCK 05000306  
S PDR

*LEPP*  
*11*

NRC FORM 366 (5-92)		U.S. NUCLEAR REGULATORY COMMISSION			APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95					
<b>LICENSEE EVENT REPORT (LER)</b>  (See reverse for required number of digits/characters for each block)							ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.			
FACILITY NAME (1) Prairie Island Nuclear Generating Plant Unit 2					DOCKET NUMBER (2) 05000 306		PAGE (3) 1 OF 3			
TITLE (4) Unit 2 Turbine-Generator Trip/Reactor Trip Caused by Failure of a Wet Pipe Sprinkler Head										
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
7	21	94	94	-- 002 --	00	08	12	94	Prairie Island U1	05000 282
									FACILITY NAME	DOCKET NUMBER
										05000
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
N		20.402(b)		20.405(c)		<input checked="" type="checkbox"/> 50.73(a)(2)(iv)		73.71(b)		
POWER LEVEL (10)		100%		20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		
		20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER		
		20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Specify in Abstract below and in Text, NRC Form 366A)		
		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 Arne A Hunstad						TELEPHONE NUMBER (Include Area Code) 612-388-1121				
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS	
B	KP	SRNK	V119	No						
SUPPLEMENTAL REPORT EXPECTED (14)					EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR	
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 July 21, 1994, Unit 2 was at 100% power. A wet pipe sprinkler system had been recently installed at the turbine-generator to provide protection against lube oil fires. On the morning of July 21, a hydrostatic test of the fire protection piping was begun. After the system had been at test pressure for about 1 3/4 hours, a sprinkler head activating device failed and water was sprayed on the main generator bushings, establishing a current path from B phase bushing to ground. The generator ground relay actuated the 86 generator lockout relay, which caused a reactor trip at 1019 hours. The unit responded as expected to the automatic trip, including automatic start of the auxiliary feedwater pumps on low steam generator level. Leaking feedwater isolation valves contributed to an RCS cooldown, and the resulting low pressurizer level caused letdown isolation. Cause of the trip was determined; the bushing enclosure, neutral connection, isophase bus, and vertical link box were disassembled, inspected, cleaned, and tested; and the determination was made that there was no electrical damage. The unit was returned to service at 0703 on July 22. The turbine-generator wet pipe sprinkler system on both Units 1 and 2 has been isolated until further system evaluation can be completed.										

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)		DOCKET NUMBER (2)		LER NUMBER (6)			PAGE (3)
Prairie Island Unit 2		05000 306		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
				94	-- 002 --	00	

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

EVENT DESCRIPTION

On July 21, 1994, Unit 2 was at 100% power. A wet pipe sprinkler system (EIIS System Identifier KP) had been recently installed at the turbine-generator (EIIS Component Identifier TG) to provide protection against lube oil fires. On the morning of July 21, a hydrostatic test of the fire protection piping was begun. After the system had been at test pressure for about 1 3/4 hours, a sprinkler head activating device failed and water was sprayed on the main generator bushing, establishing a current path from B phase bushing to ground. The generator ground relay actuated the 86 generator lockout relay, which caused a turbine trip and reactor trip at 1019 hours. The unit responded as expected to the automatic trip, including automatic start of the auxiliary feedwater pumps on low steam generator level. Leaking feedwater isolation valves contributed to an RCS cooldown, and the resulting low pressurizer level caused letdown isolation. Cause of the trip was determined; the bushing enclosure, neutral connection, isophase bus, and vertical link box were disassembled, inspected, cleaned, and tested; and the determination was made that there was no electrical damage. The unit was returned to service at 0703 on July 22. The turbine-generator wet pipe sprinkler system on both Units 1 and 2 has been isolated until further system evaluation can be completed.

CAUSE OF THE EVENT

Cause of the event was failure of a wet pipe sprinkler head activating device.

ANALYSIS OF THE EVENT

The event is reportable pursuant to 10CFR50.73(a)(2)(iv) since it was an unplanned reactor trip. Health and safety of the public were unaffected since the unit responded as designed to the automatic trip.

CORRECTIVE ACTION

Plant operators stabilized the unit using normal operating procedures.

Cause of the trip was determined, affected equipment was inspected and tested, the water spillage was cleaned up, the determination was made that there was no electrical damage, and the unit was returned to service.

The failed sprinkler head and riser were removed for evaluation of the failure.

NRC FORM 366A (5-92)		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95	
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				94	-- 002 --
				REVISION NUMBER	00
				PAGE (3)	
				3 OF 3	

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

The turbine-generator wet pipe sprinkler system on both Units 1 and 2 has been isolated until further system evaluation can be completed.

#### FAILED COMPONENT IDENTIFICATION

Viking Micromatic Sprinkler Model M

#### PREVIOUS SIMILAR EVENTS

There have been no previous similar events reported at Prairie Island.