Northern States Power Company

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May 23, 1991

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

Auto-start of One Train of Auxiliary Building
Special Ventilation System Due to Unknown Cause

The Licensee Event Report for this occurrence is attached.

This event was reported via the Emergency Notification System in accordance with 10 CFR Part 50, Section 50.72, on April 23, 1991. Please contact us if you require additional information related to this event.

Thomas M Parker
Manager
Nuclear Support Services

c: Regional Administrator - Region III, NRC
NRR Project Manager, NRC
Senior Resident Inspector, NRC
MPCA
Attn: Dr J W Ferman

Attachment

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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)
PRAIRIE ISLAND NUCLEAR GENERATING PLANT UNIT 1	0 5 0 0 0 2 8 2	1 OF 0 3

TITLE (4)

Auto-Start of One Train of Auxiliary Building Special Ventilation System Due to Unknown Cause

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 4	2 3	9 1	9 1	- 0 0 3	- 0 0	0 5	2 3	9 1	Prairie Island Unit 2	0 5 0 0 0 3 0 6
										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)	1 0 0	20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	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
	AREA CODE
Arne A Hunstad	6 1 2 3 1 8 1 8 - 1 1 1 1 2 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	VI	MON	N 3 1 0	Yes							

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)

On April 23, 1991, both units were operating at full power. At 0938 control room operators observed annunciation of a RADIATION MONITOR DOWNSCALE FAILURE, and noticed that No. 121 Auxiliary Building Special Ventilation System was running. Inspection of the control room radiation monitoring panel showed a failure alarm for radiation monitor 2R-37, which actuates the Auxiliary Building Special Ventilation System on a high radiation signal. No high radiation alarms were received, and normal background response was indicated on the panel meter and also by the redundant monitor 1R-37. Since there was no high radiation condition in the Auxiliary Building, the control room operator reset the alarm on the radiation monitor and returned the Auxiliary Building Special Ventilation System to the normal standby condition and returned the Auxiliary Building Normal Ventilation System to service. The system engineer was contacted and an investigation of the downscale failure was begun.

Testing by the plant and by the manufacturer have identified no cause for the actuation.

EVENT DESCRIPTION

On April 23, 1991, both units were operating at full power. At 0938 control room operators observed annunciation of a RADIATION MONITOR DOWNSCALE FAILURE, and noticed that No. 121 Auxiliary Building Special Ventilation System was running. Inspection of the control room radiation monitoring panel showed a failure alarm for radiation monitor 2R-37, which actuates the Auxiliary Building Special Ventilation System on a high radiation signal. No high radiation alarms were received, and normal background response was indicated on the panel meter and also by the redundant monitor 1R-37. Since there was no high radiation condition in the Auxiliary Building, the control room operator reset the alarm on the radiation monitor (EIIS Component Identifier MON) and returned the Auxiliary Building Special Ventilation System to the normal standby condition and returned the Auxiliary Building Normal Ventilation System to service. The system engineer was contacted and an investigation of the downscale failure was begun.

CAUSE OF THE EVENT

Testing by the plant and by the manufacturer have identified no cause for the actuation.

ANALYSIS OF THE EVENT

The functional response of the auto-start actuation of the Auxiliary Building Special Ventilation System was according to design, which is to deactivate the Auxiliary Building Normal Ventilation and actuate the Auxiliary Building Special Ventilation System. The Auxiliary Building Special Ventilation System is used to decrease radiological impact of a radiological release to the Auxiliary Building through increased filtration and monitoring of the air in the ventilation system. Since this event was not triggered by a radiological event, there were no radiological concerns and there was no effect on the health and safety of the public.

This event is reportable pursuant to 10CFR50.73(a)(2)(iv) since there was an unplanned actuation of Engineered Safety Feature equipment.

CORRECTIVE ACTION

A new monitor module had just recently been installed in Radiation Monitor 2R-37. A Work Request was written immediately to test the 2R-37 module and external relays, and to replace the new module CRM-84 with its old style module CRM-71.

The new module was functionally tested in place, then removed, inspected and bench-tested; no problems were identified. The module was returned to the manufacturer for further testing. To date no problems with the module have been identified.

The external relays that actuate the Engineered Safety Feature equipment and control room high radiation annunciator were tested and inspected; no problems were identified.

Evaluation of the module circuitry that pr vides the Engineered Safety Feature actuation was done. That evaluation indicates that the only failures that could cause a downscale failure in conjunction with an Engineered Safety Feature actuation are misoperation of the relay that proviues the 12V power to the external relays, or interruption of the 12V power supply itself. Testing of this circuitry identified no problems.

The manufacturer is investigating possible software problems.

A plant modification has been initiated to remove unnecessary wiring that could potentially short the monitor module's 12V power supply.

FAILED COMPONENT IDENTIFICATION

Nuclear Measurements Corporation Model APM-625 gas monitor with CRM-84 module.

PREVIOUS SIMILAR EVENTS

Engineered Safety Feature auto-starts from similar monitors have been reported as Unit 1 LER's 88-007, 88-011, 89-008, 89-016, 89-018, 90-005 and 91-002.