



Northern States Power Company

Prairie Island Nuclear Generating Plant

1717 Wakonade Dr. East
Welch, Minnesota 55089

November 22, 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

Auto-Start of One Train of Auxiliary Building
Special Ventilation System on High Radiation
During Restoration of a Seal Water Return Filter

The Licensee Event Report for this occurrence is attached. In the report, we made one new NRC commitment:

Procedures will be revised to eliminate the need to vent the filter housing when refilling.

This event was reported via the Emergency Notification System in accordance with 10 CFR Part 50, Section 50.72, on October 25, 1994. Please contact us if you require additional information related to this event.

Michael W. Wadley 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

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941130029B 941122
PDR ADDCK 05000306
S PDR

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LICENSEE EVENT REPORT (LER)

(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 U2

DOCKET NUMBER (2)

05000 306

PAGE (3)

1 OF 4

TITLE (4) Auto-Start of One Train of ABSVS on High Radiation During Restoration of a Unit 2 Seal Water Return Filter

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	
10	25	94	94	-- 03 --	00	11	22	94	Prairie Island U1	05000 282	
OPERATING MODE (9) N			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
POWER LEVEL (10) 100			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
			20.405(a)(1)(iii)			50.73(a)(2)(i)				50.73(a)(2)(viii)(A)	(Specify in
			20.405(a)(1)(iv)			50.73(a)(2)(ii)				50.73(a)(2)(viii)(B)	Abstract below
20.405(a)(1)(v)			50.73(a)(2)(iii)				50.73(a)(2)(x)		and in Text,		
			NRC Form 366A)								

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 NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES
(If yes, complete EXPECTED SUBMISSION DATE).

X NO

EXPECTED
SUBMISSION
DATE (15)

MONTH DAY YEAR

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

On October 25, 1994, both units were at 100% power. No. 22 reactor coolant pump seal water return filter had been removed from service for preventive maintenance. The filter was isolated and drained, and the filter element inspected. When the filter housing was being refilled and vented, at 1211 the control room received indications of high gas activity on radiation monitor 2R-30 and an auto-start of No. 122 Auxiliary Building Special Ventilation Fan. Control room operators evaluated the situation and manually started No. 121 Auxiliary Building Special Ventilation Fan to help clean up the Auxiliary Building atmosphere. Discharge of the Special Ventilation Fans is through particulate/absolute/charcoal filters to the outside atmosphere. Access to the Auxiliary Building was restricted while the Auxiliary Building atmosphere was being cleaned up. The 2 maintenance workers working on the filter and 10 other workers in the Auxiliary Building were contaminated with radioactive noble gases and particulate daughters. Decontamination of the workers was easily accomplished; individual exposures were less than 1 mRem. About 2.5 Curies of noble gases were released during the event. Calculated dose at the site boundary was about 0.002 mRem, which is about 0.01% of the annual dose limit.

NRC FORM 366A (5-92)		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95	
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)	
Prairie Island Unit 2		05000 306		YEAR 94	SEQUENTIAL NUMBER -- 03 --
				REVISION NUMBER 00	PAGE (3) 2 OF 4

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

EVENT DESCRIPTION

On October 25, 1994, both units were at 100% power. No. 22 reactor coolant pump seal water turn filter (EIIS Component Identifier FLT) had been removed from service for preventive maintenance. The filter was isolated and drained, and the filter element inspected. When the filter housing was being refilled and vented, at 1211 the control room received indications of high gas activity on radiation monitor 2R-30 (EIIS Component Identifier MON) and an auto-start of No. 122 Auxiliary Building Special Ventilation Fan (EIIS Component Identifier FAN). Control room operators evaluated the situation and manually started No. 121 Auxiliary Building Special Ventilation Fan to help clean up the Auxiliary Building atmosphere. Discharge of the Special Ventilation Fans is through particulate/absolute/charcoal filters to the outside atmosphere. Access to the Auxiliary Building was restricted while the Auxiliary Building atmosphere was being cleaned up. The 2 maintenance workers working on the filter and 10 other workers in the Auxiliary Building were contaminated with radioactive noble gases and particulate daughters. Decontamination of the workers was easily accomplished; individual exposures were less than 1 mRem. About 2.5 Curies of noble gases were released during the event. Calculated dose at the site boundary was about 0.002 mRem, which is about 0.01% of the annual dose limit.

CAUSE OF THE EVENT

Cause of the event was inadequate procedure. The same filling and venting procedure has been used successfully many times, but during this fuel cycle the RCS gaseous activity is much higher than it has been in many years, and the procedure was not adequate to deal with the higher activity levels.

The filter is refilled by cracking open its inlet valve; displaced air escapes through the filter housing vent. Some gas is always released during the process since the filter is at atmospheric pressure when it is refilled, so dissolved gases come out of solution when the pressure of the fill fluid, reactor coolant, is reduced. But the amount of gas released in this event is not consistent with the amount of coolant used for filling, so it is believed that gas was drawn from the in-service filter and from the inlet line to the filter being refilled. See attached Figure. The filters are physically located at an elevation approximately 20 feet higher than the Volume Control Tank (VCT). Because of this difference, the absolute pressure in the filter housing and inlet piping is less than VCT pressure. Dissolved gases apparently come out of solution and collect in the upper portions of each filter and the inlet piping. The inlet connection to each filter is in the upper portion of the filter housing. If a

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sufficient gas space is present in the in-service filter and the inlet piping, it is possible to draw that gas into the filter being filled and vented.

ANALYSIS OF THE EVENT

The event is reportable pursuant to 10CFR50.73(a)(2)(iv) since Auxiliary Building Special Ventilation Fans (ESF equipment) were started. No. 122 Fan started automatically and No. 121 Fan was later started manually to help clean up the Auxiliary Building atmosphere. Radiation monitor 2R-30 starts No. 122 Fan and radiation monitor 2R-37 starts No. 121 Fan. No. 121 Fan did not start automatically because the high radiation signal on monitor 2R-37 did not exist long enough to complete the actuation circuitry.

CORRECTIVE ACTION

A site-wide Notice was issued reminding all personnel of the need for taking extra precautions when working on the Unit 2 chemical and volume control system because of the higher RCS gaseous activity.

Procedures will be revised to eliminate the need to vent the filter housing when refilling.

Procedures for other similar plant evolutions are being reviewed in light of the higher RCS gaseous activity.

FAILED COMPONENT IDENTIFICATION

None.

PREVIOUS SIMILAR EVENTS

There have been no previous similar events at Prairie Island.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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