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June 4, 1990

10 CFR Part 50
Section 50.73

Director of Nuclear Reactor Regulation
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-starts of Spent Fuel Pool Special Ventilation System
Due to Electrical Spiking of Radiation Monitor

The Licensee Event Report for these occurrences is attached.

These events were reported via the Emergency Notification System in accordance with 10 CFR Part 50, Section 50.72, on May 4, 1990 and May 14, 1990. Please contact us if you require additional information related to these events.

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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PDR ADOCK 05000282
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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-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)
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TITLE (4) Auto-Starts of Spent Fuel Pool Special Ventilation System Due to Electrical Spiking of Radiation Monitor

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	5	0	4	9	0	9	0	0	0	5	0	0
				0	0	5			0	0	0	6
						0	0	6	0	4	9	0
									Prairie Island Unit 2		0 5 0 0 0 3 1 0 6	
											0 5 0 0 0	

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

OPERATING MODE (9)	N	20.402(b)	20.406(e)	X	80.73(a)(1)	73.71(b)
POWER LEVEL (10)	11010	20.406(a)(1)(i)	80.39(e)(1)		80.73(a)(2)(i)	73.71(d)
		20.406(a)(1)(ii)	80.39(e)(2)		80.73(a)(2)(ii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.406(a)(1)(iii)	80.73(a)(2)(i)		80.73(a)(2)(iii)(A)	
		20.406(a)(1)(iv)	80.73(a)(2)(ii)		80.73(a)(2)(iii)(B)	
		20.406(a)(1)(v)	80.73(a)(2)(iii)		80.73(a)(2)(iv)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Arne A. Hunstad	6 1 2 3 8 8 - 1 1 2 1

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS

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 fifteen single-space typewritten lines) (16)

During these events, both units were operating at 100% power. The control room received a high radiation alarm and indication of an automatic start of No. 121 Spent Fuel Pool Special Exhaust Fan on two separate occasions: at 0733 hours on May 4, 1990; and at 0310 hours on May 14, 1990. These were non-ESF actuations of an ESF system. On the first occasion the actuation was caused by an electrical spike on spent fuel pool radiation monitor R-25 when an I&C technician turned off power to a nearby monitor for maintenance. On the second occasion the actuation was also caused by an electrical spike on the same monitor, for no apparent reason. In each case, radiation monitor R-25 was found to be in alarm with a normal response indicated by the meter located on the monitor. Since there was in fact no high radiation condition in the spent fuel pool area, the control room operator reset the alarm on the radiation monitor and returned the Spent Fuel Pool Normal Ventilation System to service. These radiation monitor modules will be replaced with upgraded monitor modules.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-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) Prairie Island Nuclear Generating Plt	DOCKET NUMBER (2) 0 5 0 0 0 2 8 2	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		9 0	— 0 0 5	— 0 0	0 2	OF 0 3

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

EVENT DESCRIPTION

During these events, both units were operating at 100% power. The control room received a high radiation alarm and indication of an automatic start of No. 121 Spent Fuel Pool Special Exhaust Fan on two separate occasions: at 0733 hours on May 4, 1990; and at 0310 hours on May 14, 1990. These were non-Engineered Safety Feature actuations of an Engineered Safety Feature system. On the first occasion the actuation was caused by an electrical spike on spent fuel pool radiation monitor R-25 (EIIIS Component Code Identifier: MON) when an I&C technician turned off power to a nearby monitor for maintenance. On the second occasion the actuation was also caused by an electrical spike on the same monitor, for no apparent reason. In each case, radiation monitor R-25 was found to be in alarm with a normal response indicated by the meter located on the monitor. Since there was in fact no high radiation condition in the spent fuel pool area, the control room operator reset the alarm on the radiation monitor and returned the Spent Fuel Pool Normal Ventilation System to service.

CAUSE OF THE EVENT

Cause of each event was an electrical spike on the radiation monitor, causing the high radiation alarm and actuation of No. 121 Spent Fuel Pool Special Exhaust Fan. Cause of the spiking could not be conclusively identified, though the first event occurred while maintenance was taking place on a radiation monitor just adjacent to R-25 in the monitor rack. No maintenance activities were underway during the second event.

ANALYSIS OF THE EVENT

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

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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FACILITY NAME (1)

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PAGE (3)

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Prairie Island Nuclear Generating Plt

0500028290-005-003 OF 03

TEXT IF MORE SPACES IS REQUIRED, USE REVISIONS NRC Form 305A 1/117

CORRECTIVE ACTION

Corrective actions included troubleshooting and inspection of the radiation monitoring channel. The detector tube connector was found to be corroded and it was cleaned. One of the wires at the detector tube connector was frayed and it was repaired. The detector tube was replaced and the monitor was watched carefully for a few days. There has been no recurrence of spiking.

These radiation monitor modules will be replaced by an upgraded monitor module manufactured by Nuclear Measurements Corporation. This upgrade will eliminate spiking caused by either intermittent component failure or poor connectors within the module. The new modules also provide circuitry that will prevent actuation of a control function even if a spike is generated within the radiation monitor channel. We expect the modifications will be made by March 1991.

FAILED COMPONENT IDENTIFICATION

Nuclear Measurements Corporation Model IGM-912 gas monitor

PREVIOUS SIMILAR EVENTS

Previous similar events were reported as Unit 1 LER's 88-007, 88-011, 89-008, 89-016 and 89-018.