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April 15, 1991

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-Start of Spent Fuel Pool 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 March 14, 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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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 20545, 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 1

DOCKET NUMBER (2)

0 1 5 1 0 1 0 1 2 1 8 1 2

PAGE (3)

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TITLE (4)

Auto-Start of Spent Fuel Pool 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	3	1	4	9	1	9	1	0	0	1	Prairie Island Unit 2	0 1 5 1 0 1 0 1 3 1 0 1 6
0	3	1	4	9	1	9	1	0	0	1		0 1 5 1 0 1 0 1 1 1 1

OPERATING MODE (9)

N

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 51 (Check one or more of the following) (11)

POWER LEVEL (10)

1 0 0

20.402(b)

20.406(a)

X 50.73(a)(2)(iv)

73.71(b)

20.406(a)(1)(i)

50.38(a)(1)

50.73(a)(2)(iv)

73.71(a)

20.406(a)(1)(ii)

50.38(a)(2)

50.73(a)(2)(iv)

OTHER (Specify in Abstract below and in 1st, NRC Form 266A)

20.406(a)(1)(iii)

50.73(a)(2)(i)

50.73(a)(2)(iv)(A)

20.406(a)(1)(iv)

50.73(a)(2)(ii)

50.73(a)(2)(iv)(B)

20.406(a)(1)(v)

50.73(a)(2)(iii)

50.73(a)(2)(a)

LICENSEE CONTACT FOR THIS LER (12)

NAME

Arne Hunsrad

TELEPHONE NUMBER

AREA CODE

6 1 1 2 3 1 8 1 8 1 - 1 1 1 1 2 1 1

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

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 March 15, 1991, both units were operating at full power. Surveillance procedure SP1115, Spent Fuel Pool Special Ventilation System Test, was being performed. This test verifies that the Spent Fuel Pool Special Ventilation System is activated and the normal spent fuel pool ventilation system isolated by actuation of redundant radiation monitors. Spent Fuel Pool Special Ventilation Train A had been tested satisfactorily. When Train B was to be tested, the Train A radiation monitor was put in RESET per the procedure. After high radiation was simulated on the Train B radiation monitor, control room operators observed that spent fuel pool normal ventilation had isolated as required but that both trains of the Spent Fuel Pool Special Ventilation System were running. Actuation of Train A was a non-ESF actuation of an ESF system. Troubleshooting of the Train A radiation monitor revealed no problems. SP1115 was then performed again in its entirety; the monitors and the actuation circuitry operated as designed. Further investigation was done. No cause for the event could be assigned and the spurious actuation of Train A of the Spent Fuel Pool Special Ventilation System could not be duplicated. Possible causes were investigated but no cause could be assigned. Observation of the equipment is continuing.

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)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

Prairie Island Nuc Gen Plant Unit 1

0 5 0 0 0 2 8 2 9 1

YEAR SEQUENTIAL REVISION

NUMBER NUMBER NUMBER

* — 0 0 1 — 0 0 0 2 OF 0 4

TEXT (If more space is required, use additional NRC Form 205A's) (17)

EVENT DESCRIPTION

On March 15, 1991, both units were operating at full power. Surveillance procedure SP1115, "Spent Fuel Pool Special Ventilation System Test", was being performed by a control room operator. This test verifies that the Spent Fuel Pool Special Ventilation System is activated and the normal ventilation system isolated by actuation of redundant radiation monitors (ELIS Component Identifier MON). Each radiation monitor actuates one train of the Spent Fuel Pool Special Ventilation System, R-25 actuates Train A and R-31 actuates Train B. High radiation is simulated during the test by having Health Physics personnel "bug" the monitors with a radiation source. Because of the proximity of the radiation monitors to each other, each monitor is tested with the other monitor in RESET to prevent unwanted actuations of the Spent Fuel Pool Special Ventilation System.

Surveillance procedure SP1115 had been successfully completed for Spent Fuel Pool Special Ventilation Train A (activated by radiation monitor R-25). Prior to testing Spent Fuel Pool Special Ventilation Train B (activated by radiation monitor R-31), radiation monitor R-25 was placed in RESET per Surveillance procedure SP1115. High radiation was then simulated on Spent Fuel Pool Special Ventilation Train B by "bugging" radiation monitor R-31 with a radiation source. After high radiation was simulated on monitor R-31, control room operators observed at 0746 that the normal spent fuel pool ventilation had isolated as required, but that both trains of the Spent Fuel Pool Special Ventilation System were running. Only Train B of the Spent Fuel Pool Special Ventilation System should have been running. Train A should not have actuated because radiation monitor R-25 had been placed in the RESET position. The operators also observed that as expected, only the High Radiation Train B alarm had been received, the High Radiation Train A alarm had not been received. Actuation of Train A was a non-ESF actuation of an ESF system.

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 (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)

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Prairie Island Nuc Gen Plant Unit 1 0 5 0 0 0 2 8 2 9 1 - 0 0 1 - 0 0 0 3 OF 0 4

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

When it was determined by the control room operators that the actuation of Spent Fuel Pool Special Ventilation Train A was found to be spurious, the operators shut down the system. A Work Request was written for troubleshooting radiation monitor R-25 in an attempt to find the cause for the unplanned actuation of the Spent Fuel Pool Special Ventilation Train A equipment. No problems with the radiation monitor R-25 were identified. Surveillance procedure SP1115 was then performed again in its entirety. The radiation monitors and the actuation circuitry operated as designed. Further investigation was done to look at all the possible reasons for Train A of the Spent Fuel Pool Special Ventilation System to have been found running, including relay misoperation and personnel error. No cause for the event could be assigned and the spurious actuation of Train A of the Spent Fuel Pool Ventilation System could not be duplicated.

CAUSE OF THE EVENT

No cause for the spurious actuation was found. Possible causes were investigated but no cause could be assigned. Observation of the equipment is continuing.

ANALYSIS OF THE EVENT

This event is reportable pursuant to 10CFR50.73(a)(2)(iv) since the actuation of Train A of the Spent Fuel Pool Special Ventilation System was unplanned.

The functional response of the auto-start actuation of the Spent Fuel Pool Special Ventilation 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 this event was 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

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 (P-630), 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)

LER NUMBER (5)

PAGE (3)

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0 5 0 0 0 2 8 2

YEAR SEQUENTIAL
NUMBER NUMBER

9 1 0 0 1 0 0

0 4 OF 0 4

TEXT (if more space is required, use additional NRC Form 365A-1 (17))

CORRECTIVE ACTION

When the actuation of Spent Fuel Pool Special Ventilation Train A was found to be spurious, the control room operators shut down the system. A Work Request was written for troubleshooting radiation monitor R-25 in an attempt to find the cause for the unplanned actuation of the Train A equipment. No problems with radiation monitor R-25 were identified. Surveillance procedure SP1115 was then performed again in its entirety. The radiation monitors and the actuation circuitry operated as designed. Further investigation was done to look at all the possible reasons for Train A of the Spent Fuel Pool Special Ventilation System to have been found running, including relay misoperation and personnel error. No cause for the event could be assigned and the spurious actuation of Train A of the Spent Fuel Pool Ventilation System could not be duplicated.

FAILED COMPONENT IDENTIFICATION

None identified.

PREVIOUS SIMILAR EVENTS

Previous actuations of the Spent Fuel Pool Ventilation System were reported as Unit 1 Licensee Event Reports 90-005 and 90-006, but those events are not comparable the event described above because 90-005 was caused by spiking of a radiation monitor and 90-006 was caused by a procedural inadequacy.