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June 5, 1991

Report Required by
10 CFR Part 50, Section 50.73

Director of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Spurious Increase of Intermediate Range Monitor
Signals Results in Reactor Protection System Actuation

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 May 7, 1991.

Thomas M Parker
Manager
Nuclear Support Services

c: Regional Administrator - III NRC
Sr Resident Inspector, NRC
NRR Project Manager, NRC
MPCA

Attn: Dr J W Ferman

Attachment

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FDR ADOCK 05000263
S FDR

1623

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.5 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-330), 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)

MONTICELLO NUCLEAR GENERATING PLANT

DOCKET NUMBER (2)

0 5 1 0 0 0 2 6 1 3 1 OF 0 1 4

PAGE (3)

TITLE (4)

Spurious Increase of Intermediate Range Monitor Signals
Results in Reactor Protection System Actuation

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 7

9 1

9 1

0 1

0 1

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0 6

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9 1

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0 5 1 0 0 0 1 1

OPERATING
MODE (9)

N

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50.71 (Check one or more of the following) (11)

20.402(b)

20.406(a)

X

50.73(a)(2)(iv)

73.71(b)

POWER
LEVEL
(10)

0 1 0 1 0

20.406(a)(1)(i)

50.73(a)(1)

50.73(a)(2)(iv)

73.71(a)

20.406(a)(1)(ii)

50.73(a)(2)

50.73(a)(2)(iv)

OTHER (Specify in Advance
below and in Text, NRC Form
268A)

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)(iv)(C)

LICENSEE CONTACT FOR THIS LER (12)

NAME

TELEPHONE NUMBER

Jeff Olson, Nuclear Engineer

AREA CODE

6 1 1 2 2 1 9 5 1 - 1 1 1 2 1 8 1 5

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 words, i.e., approximately fifteen single-spaced typewritten lines) (16)

with the plant shutdown, the mode switch in the refuel position, and fuel loading in progress, a spurious increase in the signal from Intermediate Range Monitors 14, 16, and 18 resulted in a Reactor Protection System trip. The investigation of the spurious signal increase could not determine the cause. The scram was reset and refueling activities continued. No control blade movement resulted because all operable control blades were fully inserted at the time of the scram.

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 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)

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Monticello Nuclear Generating Plant

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

DESCRIPTION

On May 7, 1991, the plant was in a shutdown condition (mode switch in REFUEL) for a refueling outage. Refueling activities were in progress, no surveillance testing was in progress, and no control blades were being moved. At 0623, control room alarms indicated that an Intermediate Range Monitor (EIIIS Component Identifier: MON) HI-HI Reactor Protection System (EIIIS System Identifier: JC) trip had occurred. Automatic actuation of any Engineered Safety Feature, including the Reactor Protection System, is reportable under 10 CFR Part 50, Section 50.73(a)(2)(iv).

The scram was reset and refueling activities continued. No control blade motion occurred due to the Reactor Protection System trip because all operable control blades were already fully inserted. There were no other equipment actuations as a result of this event.

CAUSE

The root cause of this event could not be determined. The proximate cause was a spurious increase in the signal from Intermediate Range Monitors 14, 16, and 18.

At the time of the scram, the refueling bridge was over the spent fuel pool, there was no fuel in the vicinity of Intermediate Range Monitor 14. Intermediate Range Monitor 16 was on the periphery of the core area loaded with fuel, and there were no control blades being moved. Intermediate Range Monitor 18 is on the edge of the reactor. There were no corresponding increases in any of the Source Range Monitor (EIIIS Component Identifier: MON) signals. It is therefore concluded that the increase in the Intermediate Range Monitor signals was not due to a valid neutron response.

There was no work in progress in the undervessel region of the drywell. Maintenance personnel were working in the drywell near the penetrations for Intermediate Range Monitors 12, 14, 16, and 18. However, their work would not affect the Intermediate Range Monitors. There was no welding or radiography work in progress in the reactor building. There were no activities in progress that could have affected the Intermediate Range Monitor power supplies.

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-301) U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (315-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
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Monticello Nuclear Generating Plant

0500026391-010-0003 OF 04

TEXT (IF MORE SPACE IS REQUIRED, USE ADDITIONAL NRC Form 366A 4/1/7)

Intermediate Range Monitor spiking has been observed previously (Monticello Licensee Event Reports 89-024 and 89-035). Prior investigations of Intermediate Range Monitor spiking have uncovered several possible sources of random Intermediate Range Monitor spiking (e.g. moving or jarring Intermediate Range Monitor cables, welding, radiography, moisture, radios), but none of these sources are a likely cause of this scram. No additional sources of Intermediate Range Monitor spiking were uncovered during this investigation. No event was found that could have caused the simultaneous spiking of Intermediate Range Monitors 14, 16, and 18.

ANALYSIS

All cells that contained one or more fuel bundles also contained a fully inserted control blade. Therefore, no control blade motion resulted from the scram. There were no deviations from normal plant procedures. Since all control blades in cells containing fuel were fully inserted at all times during this event, there were no consequences that affected the health and safety of the public. This event could not have had more serious consequences. Since the increase in the Intermediate Range Monitor signals was spurious, the Reactor Protection System trip was not required to protect the health and safety of the public or to prevent any damage to plant equipment.

CORRECTIVE ACTION

An investigation initiated to determine the cause of the spiking could not find a specific cause. Operating procedures had already been revised to maximize the time the reactor mode switch is in SHUTDOWN during outages. Operating procedures had also been revised to minimize work activities undervessel, near the nuclear instrumentation and associated cabling, electronics, and power supplies. Therefore, no further action is planned as a result of this event.

ADDITIONAL INFORMATION

Failed Component Identification

There were no failed components associated with this event.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 300 HRS. FORWARDED 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)

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PAGE (3)

Monticello Nuclear Generating Plant

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TEXT (If more space is required, use additional NRC Form 366A-1/ (17))

Previous Similar Events

There have been two similar events at Monticello - Licensee Event Report 89-024 (Procedural Inadequacy Results In Reactor Protection System Actuation) and Licensee Event Report 89-035 (Spurious Increase On Intermediate Range Monitors Results In Reactor Protection System Actuation). Actions taken in response to Licensee Event Report 89-024 were not effective in preventing this event because 89-024 dealt with a spike on one Intermediate Range Monitor while the Reactor Protection System shorting links were removed. Event 91-710 involves simultaneous spiking of Intermediate Range Monitors in both Reactor Protection System channels. The actions taken in response to Licensee Event Report 89-035 were to maximize the time the mode switch is in SHUTDOWN (when the Intermediate Range Monitor Reactor Protection System trip is not required to be operable). Since refueling was in progress, the mode switch had to be in REFUEL.