



Nebraska Public Power District

COOPER NUCLEAR STATION
P.O. BOX 98, BROWNVILLE, NEBRASKA 68321
TELEPHONE (402) 825-3811

CNSS933096

April 30, 1993

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Dear Sir:

Cooper Nuclear Station Licensee Event Report 93-010, Revision 0, is forwarded as an attachment to this letter.

Sincerely,

R. L. Gardner
Plant Manager

RLG/ju

Attachment

cc: J. L. Milhoan
G. R. Horn
J. M. Meacham
R. E. Wilbur
V. L. Wolstenholm
D. A. Whitman
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PDR ADOCK 05000298
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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Cooper Nuclear Station	DOCKET NUMBER (2) 0 5 0 0 0 2 9 8 1	PAGE (3) 1 OF 0 3
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TITLE (4)
Spurious Trip Of Two Reactor Protection System Electrical Protection Assemblies Due To An Unknown Cause While Shutdown

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	3	1	9	3	9	3	9	0	1	0	0	0	0	0	4	3	0	9	3			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) 0 0 0	20.402(b)	<input checked="" type="checkbox"/>	50.73(e)(2)(iv)	<input type="checkbox"/>	73.71(b)	<input type="checkbox"/>				
	20.405(a)(1)(i)	<input type="checkbox"/>	50.73(e)(2)(v)	<input type="checkbox"/>	73.71(c)	<input type="checkbox"/>				
	20.405(a)(1)(ii)	<input type="checkbox"/>	50.73(e)(2)(vii)	<input type="checkbox"/>	OTHER (Specify in Abstract below and in Text, NRC Form 366A)	<input type="checkbox"/>				
	20.405(a)(1)(iii)	<input type="checkbox"/>	50.73(e)(2)(viii)(A)	<input type="checkbox"/>		<input type="checkbox"/>				
	20.405(a)(1)(iv)	<input type="checkbox"/>	50.73(e)(2)(viii)(B)	<input type="checkbox"/>		<input type="checkbox"/>				
	20.405(a)(1)(v)	<input type="checkbox"/>	50.73(e)(2)(ix)	<input type="checkbox"/>		<input type="checkbox"/>				

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME Donald L. Reeves, Jr.	AREA CODE 4 0 2	8 2 5	- 3 8 1 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	
X	J C	5 2	G 0 8 0	Y						

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO				

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

On March 31, 1993, at 2:24 am, the "B" Reactor Protection System (RPS) bus was de-energized when the two Electrical Protection Assemblies (EPAs) on the output of the RPS Motor Generator (MG) set supplying the bus tripped for no apparent reason. Loss of the RPS bus caused a half Group 1 (Main Steam) isolation, a half Group 2 (Primary Containment) isolation, a half Group 7 (Reactor Coolant Sample) isolation, and a half Scram. At the time, the plant was shutdown for the 1993 Refueling Outage. Due to plant status and maintenance activities in progress, only one Group 1 and two Group 2 isolation valves were actuated.

An immediate investigation into the trip revealed that no one had been in the vicinity of the EPAs when they tripped, nor could it be concluded that any of the outage related activities in progress at the time had any direct effect on the "B" RPS bus. The RPS MG set was found running with its output breaker closed, thereby isolating the fault to the EPAs. A thorough checkout of both EPA units and the "B" RPS MG set control cabinet revealed no discrepancies. The units were returned to service on April 1 and have operated satisfactorily since that time. The vendor is being consulted to assist in the evaluation of the spurious trip.

The "B" RPS bus was re-energized from its alternate source in approximately 20 minutes. The isolations were reset by licensed Control Room operators and systems restored as needed. Following checkout of the EPAs and the RPS MG set control cabinet, the EPAs were re-energized and monitored. No abnormalities were observed. On April 1, normal power was restored to the "B" RPS bus. No further problems have been experienced.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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			0 1 0	0 0	0 2	OF

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

A. Event Description

On March 31, 1993, at 2:24 am, the "B" Reactor Protection System (RPS) bus was de-energized when the two Electrical Protection Assemblies (EPAs) on the output of the RPS Motor Generator (MG) set supplying the bus tripped for no apparent reason. Loss of the RPS bus caused a half Group 1 (Main Steam) isolation, a half Group 2 (Primary Containment) isolation, a half Group 7 (Reactor Coolant Sample) isolation, and a half Scram. Due to plant status and maintenance activities in progress, only three valves were actuated. One was associated with Group 1 and the other two with Group 2.

B. Plant Status

In Cold Shutdown for the 1993 Refueling Outage.

C. Basis for Report

An unplanned automatic actuation of ESF Group 1 and 2 components, reportable in accordance with 10CFR50.73(a)(2)(iv).

D. Cause

An immediate investigation into the trip revealed that no one had been in the vicinity of the EPAs when they tripped, nor could it be concluded that any of the outage related activities in progress at the time had any direct effect on the "B" RPS bus. The RPS MG set was found running with its output breaker closed, thereby isolating the fault to the EPAs. A thorough checkout of both EPA units and the "B" RPS MG set control cabinet revealed no discrepancies. The units were returned to service on April 1 and have operated satisfactorily since that time. The vendor is being consulted to assist in the evaluation of the spurious trip.

E. Safety Significance

The safety significance of this event is minimal. The outboard Drywell Floor Drain and Equipment Drain Sump Isolation valves closed. The inboard valves were already closed and tagged. The only other recorded valve status change was closure of one Main Steam Line drain valve. The steam lines were drained with the Steam Line Plugs installed at the vessel nozzles.

Approximately 20 minutes later, the RPS Bus was re-energized from its alternate source and the isolations were reset. The plant was, essentially, unaffected by the event.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

F. Safety Implications

During normal plant operation, loss of one RPS bus will cause loss of the Reactor Building Heating and Ventilating System due to a half Group 6 Isolation. The half Group 6 Isolation in this instance was not received since Secondary Containment had been previously isolated with the Standby Gas Treatment System in operation to facilitate preventive maintenance activities. Under elevated temperature conditions with the plant at rated power, if the ventilation system were lost and not promptly restored, MG set winding temperatures would rapidly increase to their trip setpoint. This would result in loss of one or both Recirculation Pump MG sets and the associated Reactor Recirculation (RR) Pumps. If both RR Pumps were lost, the worst case situation, operator action would be taken to manually scram the reactor.

G. Corrective Action

As noted previously, the "B" RPS bus was re-energized from its alternate source in approximately 20 minutes. The isolations were reset by licensed Control Room operators and system restoration activities were completed as needed.

The EPA units and the RPS MG set control cabinet were thoroughly checked and tested. No discrepancies were found. Subsequently, the EPAs were re-energized and monitored. No abnormalities were observed. On April 1, normal power was restored to the "B" RPS bus. No further problems have been experienced. As previously noted, the vendor has been contacted to assist in evaluation of the apparent spurious trip.

H. Similar Events

LER 90-005, dated May 30, 1991, reported a trip of the "B" RPS MG set output breaker due to a relay contact deficiency. The events were not the same, however, in that during this event, the MG set output breaker remained closed.