

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>Cooper Nuclear Station</b>	DOCKET NUMBER (2) <b>0 5 0 0 0 2 9 8 1</b>	PAGE (3) <b>1 OF 0 3</b>
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TITLE (4) **Low Reactor Vessel Water Level Scram and Group Isolations Due to Loss of Water Inventory Upon Reopening the Main Steam Isolation Valves**

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)		
<b>0 1 1</b>	<b>0 8</b>	<b>7 8 7</b>		<b>0 0 6</b>	<b>0 0</b>	<b>0 2 0</b>	<b>0 9</b>	<b>8 7</b>	<b>0 5 0 0 0</b>		

OPERATING MODE (9) **N**

POWER LEVEL (10) **0 1 0 0**

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

<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME <b>D. L. Reeves, Jr.</b>	TELEPHONE NUMBER
	AREA CODE <b>4 0 2</b> NUMBER <b>8 2 5 1 - 3 8 1 1</b>

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)  NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

Following the reactor scram due to Main Steam Isolation Valve (MSIV) closure which occurred at 1027 on this date, a second reactor scram occurred at 1137 due to Low Reactor Pressure Vessel (RPV) Water Level. Upon reopening of the MSIVs, with reactor pressure at approximately 800 psig and RPV water level at 59 inches as monitored by the narrow range recorder, a rapid decrease in RPV pressure and water level occurred. The licensed operator in the Control Room, in monitoring the cooldown rate, believed that RPV pressure would continue to decay at a sufficient rate to facilitate use of the Condensate Booster Pumps for level control. However, when level reached approximately 30 inches and reactor vessel pressure began to stabilize, efforts to initiate the Reactor Core Isolation Cooling (RCIC) System were commenced. However, these actions were not timely, and RPV water level continued to decrease, ultimately resulting in a reactor scram and Group Isolations 2, 3 and 6 upon reaching the Low Reactor Water Level scram setpoint of 15 inches.

The cause of the scram is considered to be due to personnel error in that an adequate source of feedwater should have been available prior to or immediately following reopening of the MSIVs.

Control of reactor vessel water level was reestablished using the RCIC System and normal scram recovery procedures were instituted. Additionally, several procedure revisions relating to use of the Condensate Booster Pumps for RPV level control were made. Further corrective action to be taken includes a review of this event by the Operations Supervisor with all licensed operators during meetings with each shift crew routinely conducted as a part of requalification training.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			

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

A. EVENT DESCRIPTION

Following the reactor scram due to Main Steam Isolation Valve (MSIV) closure at 1027 on this date (LER 87-005 dated February 9, 1987), the MSIVs were reopened so as to provide a means for pressure control, in lieu of potentially requiring actuation of the safety relief valves. Prior to reopening the MSIVs, all associated steam loads, with the exception of the main turbine steam seals, were isolated. Reactor Pressure rapidly decreased from 800 psig to 600 psig and stabilized at that value. Reactor Pressure Vessel (RPV) water level, initially high (59 inches), also decreased rapidly. When level reached approximately 30 inches, as monitored by the narrow range recorder, and it became apparent to the licensed operator that reactor pressure was not going to decrease sufficiently to enable water addition to the RPV using the Condensate Booster Pumps, the decision was made to reinitiate Reactor Core Isolation Cooling (RCIC) as a means to maintain Reactor Vessel Water Level. However, before RCIC startup had progressed to the point where water addition to the RPV was possible, level decreased to the low level scram setpoint and the reactor scrambled at 1137. Additionally, due to the low water level condition, actuation of the isolation circuitry for Groups 2, 3 and 6 (Primary Containment, Reactor Water Cleanup, and Secondary Containment including Standby Gas Treatment System initiation, respectively) occurred.

B. PLANT STATUS

Shutdown, Reactor Pressure Vessel isolated (MSIVs closed), RPV water level at 59 inches as monitored on the narrow range recorder, and reactor pressure at approximately 800 psig. At the time of this event, scram recovery procedures following the prior reactor scram at 1027 were being implemented.

C. BASIS FOR REPORT

An unanticipated actuation of Engineered Safety Features which is reportable in accordance with 10CFR50.73, paragraph (a)(2)(iv).

D. CAUSE

Personnel error, in that an adequate source of feedwater should have been available prior to or immediately following reopening of the MSIVs.

E. SAFETY SIGNIFICANCE

None, since the reactor scram occurred while shutdown. With respect to the significance of a water level transient while operating, as described in the CNS Technical Specifications, in the Bases for Section 2.1, paragraph A.2, the Reactor Water Low Level Scram setpoint is established at a level above the bottom elevation of the steam separator skirt. Through analyses, the determination has been made that a scram at that level adequately protects the fuel and the pressure barrier since MCPR remains well above the MCPR fuel cladding integrity limit in all cases.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
					0   3	OF	0   3

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

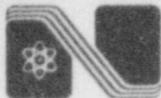
Further, the Technical Specifications, in the Bases for Section 2.1, paragraph B, notes that the capacity of each Core Standby Cooling System (CSCS) component was established based on the low water level scram setpoint. Hence, under worst case conditions, for an event such as Total Loss of Feedwater Flow, sufficient protection is afforded to assure fuel clad integrity.

F. CORRECTIVE ACTION

Reactor vessel water level was recovered and stabilized using the RCIC System. Normal scram recovery activities proceeded and, upon their completion, startup activities in preparation for restoring the plant to service were initiated. Additionally, several procedure changes related to use of the Condensate Booster Pumps for RPV level control were made to Procedure 2.1.6, Scram Recovery During Startup, and 2.1.7, Scram Recovery During Power Operation - MSIVs Open. Further corrective action to be taken includes a review of this event by the Operations Supervisor with all licensed operators during meetings routinely conducted with each shift crew when they are attending requalification training.

G. SIMILAR EVENTS

While past events have included Main Feedwater System transients and Reactor Scram due to Low RPV level, no events similar to this have been reported.



# Nebraska Public Power District

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

CNSS870078

February 9, 1987

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

Dear Sir:

Cooper Nuclear Station Licensee Event Report 87-006 is forwarded as an attachment to this letter.

Sincerely,

A handwritten signature in cursive script, appearing to read "G. R. Horn".

G. R. Horn  
Division Manager of  
Nuclear Operations

GRH:lb

Attach.

cc: R. D. Martin  
L. G. Kunc1  
K. C. Walden  
C. M. Kuta  
INPO Records Center  
ANI Library

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