

NRC Form 364  
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION  
APPROVED OMB NO. 3150-0104  
EXPIRES 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Grand Gulf Nuclear Station - Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 1 6	PAGE (3) 1 OF 0 3
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TITLE (4)  
Scram on Low Reactor Water Level

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)
1	1	2 4	8	4	0 5 2	0	0	1 2 2 0 8 4	NA		0 5 0 0 0
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OPERATING MODE (9) 1

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

20.402(b)	20.406(e)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)	73.71(b)
20.406(a)(1)(i)	50.36(e)(1)		50.73(a)(2)(v)	73.71(e)
20.406(a)(1)(ii)	50.36(c)(2)		50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 365A)
20.406(a)(1)(iii)	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)	
20.406(a)(1)(iv)	50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)	
20.406(a)(1)(v)	50.73(a)(2)(iii)		50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Angela H. Horton/License Engineer	6 0 1 4 3 7 1 - 2 1 4 9

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)  NO

EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

While conducting a normal plant shutdown, the F003 feedwater long cycle cleanup isolation valve was opened according to a procedure requirement. When the valve opened, reactor water level dropped to 28 inches. The operator took manual control of the "B" Reactor Feed Pump (RFP) to restore the water level to normal. The F003 valve was closed in order to help in level restoration. This raised the level above normal to 38 inches. The Operator then started slowing down the RFP speed, but the "B" RFP tripped a few seconds later due to low suction flow. The reactor water level continued to decrease below the scram setpoint to -25 inches (131.7 inches above the top of active fuel). The level was restored by resetting Reactor Feed Pump Turbine "A".

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

Description of Reportable Occurrences

On November 24, 1984 at 0805 hours, the reactor scrambled on low water level due to a low suction flow trip of the "B" Reactor Feed Pump.

Initial Conditions

A normal reactor shutdown was in progress with the reactor at approximately 18% power. All components and systems that contributed to the event were operable at the start of the event.

Status of Redundant or Backup Systems

RCIC was operable and could have been initiated if continued level restoration was needed.

The "A" Reactor Feed Pump was in the tripped condition in accordance with the shutdown procedure.

Nature of Occurrence

While conducting a normal plant shutdown, the F003 feedwater long cycle cleanup isolation valve was opened according to procedure. When the valve opened, reactor water level dropped to 28 inches. The operator took manual control of the "B" Reactor Feed Pump (RFP) to restore the water level to normal. The F003 valve was closed in order to help in level restoration. This raised the level above normal to 38 inches. The Operator then started slowing down the RFP speed, but the "B" RFP tripped a few seconds later due to low suction flow. The reactor water level continued to decrease below the scram setpoint to -25 inches (131.7 inches above the top of active fuel). The level was restored by resetting Reactor Feed Pump Turbine "A".

Immediate Corrective Actions Taken

By resetting the "A" RFPT, reactor water level was successfully restored above the level 3 scram setpoint (11.4 inches) approximately 2.5 minutes after the Reactor Protection System trip.

Apparent Cause

The procedure required the F003 valve be opened after the F510 valve was verified closed in preparation for Long Cycle Cleanup later in the shutdown. The pipe between the two valves was apparently not pressurized such that the line was filled and pressurized when the F003 valve was opened. The feedwater flow diverted into the pipe resulted in the vessel level decrease to 28 inches.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT (If more space is required, use additional NRC Form 386A's) (17)

Although the minimum flow valve started opening after the operator attempted to lower the above-normal level, it did not catch up with the flow before the time delay timed out and produced the low suction flow signal. This loss of feedwater resulted in a low level reactor scram.

#### Supplemental Corrective Action

An evaluation of the shutdown procedures was performed and it was decided that the preparation for the Long Cycle Cleanup is not needed until later in the shutdown process. Therefore, a change was issued to Operations procedure 03-1-01-2 to prevent the opening of F003 until shutdown procedure 03-1-01-3 is performed.

Also, Maintenance adjusted the minimum flow controller for both reactor feedwater pumps.

#### Safety Assessment

The actual low level scram was produced by the trip of the feedwater pump. The adjustment of the minimum flow controller should reduce the probability of recurrence. All personnel responded appropriately and as a result, the transient was terminated in an efficient manner.



MISSISSIPPI POWER & LIGHT COMPANY

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P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

December 20, 1984

NUCLEAR LICENSING & SAFETY DEPARTMENT

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

Gentlemen:

SUBJECT: Grand Gulf Nuclear Station  
Unit 1  
Docket No. 50-416  
License No. NPF-29  
File: 0260/L-835.0  
Scram on Low Reactor Water Level  
LER 84-052-0  
AECM-84/0540

Attached is Licensee Event Report (LER) 84-052-0 which is a final report.

Yours truly,

L. F. Dale  
Director

CBS/SHH:vog  
Attachment

cc: Mr. J. B. Richard (w/a)  
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