

NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)

DOCKET NUMBER (2)

PAGE (3)

Grand Gulf Nuclear Station - Unit 1

050004161 OF 02

TITLE (4)

Reactor Scram On Low 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)																														
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OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																																					
2			<table border="1"> <tr> <td>20.605(b)</td> <td>20.405(c)</td> <td>X</td> <td>50.73(a)(2)(iv)</td> <td>73.71(b)</td> </tr> <tr> <td>20.405(a)(1)(i)</td> <td>50.36(c)(1)</td> <td></td> <td>50.73(a)(2)(v)</td> <td>73.71(c)</td> </tr> <tr> <td>20.405(a)(1)(ii)</td> <td>50.36(c)(2)</td> <td></td> <td>50.73(a)(2)(vii)</td> <td>OTHER (Specify in Abstract below and in Test, NRC Form 366A)</td> </tr> <tr> <td>20.405(a)(1)(iii)</td> <td>50.73(a)(2)(i)</td> <td></td> <td>50.73(a)(2)(viii)(A)</td> <td></td> </tr> <tr> <td>20.405(a)(1)(iv)</td> <td>50.73(a)(2)(ii)</td> <td></td> <td>50.73(a)(2)(viii)(B)</td> <td></td> </tr> <tr> <td>20.405(a)(1)(v)</td> <td>50.73(a)(2)(iii)</td> <td></td> <td>50.73(a)(2)(ix)</td> <td></td> </tr> </table>								20.605(b)	20.405(c)	X	50.73(a)(2)(iv)	73.71(b)	20.405(a)(1)(i)	50.36(c)(1)		50.73(a)(2)(v)	73.71(c)	20.405(a)(1)(ii)	50.36(c)(2)		50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Test, NRC Form 366A)	20.405(a)(1)(iii)	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		20.405(a)(1)(iv)	50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)		20.405(a)(1)(v)	50.73(a)(2)(iii)		50.73(a)(2)(ix)	
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POWER LEVEL (10)																																								
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LICENSEE CONTACT FOR THIS LER (12)

NAME

TELEPHONE NUMBER

Ronald W. Byrd/Licensing Engineer

AREA CODE

601 437-2149

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
X	SID	FICIV	C161010						
B	BIN	XICIV	W121910						

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)

The reactor scrambled on a low water level 3 signal following condensate booster pump and reactor feed pump trips. Operators were unable to manually start RCIC to restore the level prior to the scram.

A broken position arm linkage on the condensate minimum flow control valve allowed the valve to open creating a flow path to the condenser, bypassing the condensate booster pumps. The condensate pump, booster pump, and feed pump immediately tripped on low suction. The RCIC turbine tripped on overspeed when operators attempted to manually start the system to restore the water level. Following the scram RCIC was started and operated properly. A modification was made to the RCIC turbine governor valve to restrict it from full opening and producing the turbine overspeed trip.

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NRC Form 365A
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Grand Gulf Nuclear Station - Unit 1	0 5 0 0 0 4 1 6 8 4	—	0 3 0	—	0 0	0 2 OF 0 2

TEXT (If more space is required, use additional NRC Form 365A's) (17)

On May 25, 1984, at approximately 0915 hours, a reactor scram occurred at low water level number 3, 11 inches above instrument zero. The low level was due to a trip of the condensate pump, condensate booster pump, and feedwater pump and the inability to manually start RCIC to restore level.

On the morning of May 25, 1984, maintenance personnel began to investigate the cause of a dual indication on valve N19F504, the condensate minimum flow control valve. The cause was determined to be a high voltage output on the controller which was then adjusted. As the technician touched the positioner arm linkage to check for tightness, a noise was heard inside the positioner and the valve moved to full open. A later investigation revealed a broken linkage and a bent valve stem positioner bracket which occurred at an unknown time.

With the valve full open, a path was created to the condenser bypassing the booster pumps. The running condensate and condensate booster pump and feedwater pump tripped immediately on low suction at 0910 hours. The reactor was operating at approximately 4 percent thermal power, 540°F, and 920 psig. Operators attempted to restart the condensate system but the condensate pumps again tripped. The reactor water level began to decrease from 38 inches above instrument zero. Operators tried twice to manually start RCIC but both times the RCIC turbine tripped. When RCIC was initially started, it operated properly and momentarily stabilized water level at approximately 27 inches before tripping on overspeed. It was reset and again tripped on overspeed. The turbine evidently oversped on initial startup, but the trip valve did not close instantaneously, allowing RCIC to operate for a short time. A reactor scram occurred on a low level 3 signal at 0915 hours. By 0927 hours all main steam inboard isolation valves were manually closed by handswitch. RCIC was restarted and began feeding the vessel at 0928 hours with the vessel level at 10 inches below instrument zero. The normal RCIC automatic initiation is at 41.6 inches below instrument zero at which time HPCS, which was available, would also start. By 0934 hours the condensate system was made available by isolating the recirculation flow path. RCIC was then secured with the water level at approximately 37 inches above instrument zero.

The N19F504 valve positioner arm was replaced and the valve was restored to service by 1640 hours the same day. A modification was made to the RCIC turbine governor valve to restrict it from full opening and causing a turbine overspeed trip. The turbine trip valve was lubricated and retested satisfactorily. Startup recommenced at 0420 hours on May 26, 1984.



MISSISSIPPI POWER & LIGHT COMPANY

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P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

NUCLEAR LICENSING & SAFETY DEPARTMENT

June 14, 1984

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-13
File: 0260/L-835.0
Reactor Scram on Low Water Level
LER 84-030-0
AECM-84/0313

Attached is Licensee Event Report (LER) 84-030-0 which is a final report.

Yours truly,

L. F. Dale
Director of Nuclear Licensing & Safety

EBS/SHH:rg
Attachment

cc: Mr. J. B. Richard (w/a)
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Mr. N. S. Reynolds (w/o)
Mr. C. B. Taylor (w/o)

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