

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) Grand Gulf Nuclear Station - Unit 1										DOCKET NUMBER (2) 0 5 0 0 0 4 1 6				PAGE (3) 1 OF 0 3						
TITLE (4) Reactor Scram Resulting From Low Condenser Vacuum																				
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 NA				DOCKET NUMBER(S) 0 5 0 0 0							
0	7	0	3	8	5	8	5	0	2	7	0	1	0	8	0	9	8	5	0 5 0 0 0	
OPERATING MODE (9) 1		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 8: (Check one or more of the following) (11)																		
POWER LEVEL (10) 1 0 0		20.402(b)				20.405(e)				<input checked="" type="checkbox"/> 50.73(a)(2)(iv)				73.71(b)						
		20.405(a)(1)(i)				50.36(e)(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 Text, 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)(x)										
LICENSEE CONTACT FOR THIS LER (12)																				
NAME Ronald W. Byrd/Licensing Engineer										TELEPHONE NUMBER 6 0 1 1 4 3 1 7 1 - 1 2 1 1 4 9										
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	S	I	G	M	O	N	E	1	1	2	0	N								
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR						
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 July 3, 1985, circulating water pump B tripped causing a low condenser vacuum which resulted in a turbine trip and a reactor scram. Reactor pressure increased to 1108 psig, opening six safety relief valves. No ECCS systems were required to operate.

The circulating water pump trip was caused by a faulty rotor temperature monitoring circuit. Since the temperature trip was intended to function only during pump starts, it has been removed from the pump motor's trip logic circuitry until a design modification can be implemented to activate the trip circuitry only during pump start evolutions.

B508150307 850809
PDR ADOCK 05000416
S PDR

JE22 1/

NRC Form 366A
(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 5	- 0 2 7	- 0 1	0 2	OF	0 3

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

Description of Reportable Occurrence

On July 3, 1985, circulating water pump B tripped causing a low condenser vacuum which resulted in a turbine trip and a reactor scram.

Initial Conditions

The plant was operating at 100% power with a reactor pressure of 1040 psig.

Status of Redundant or Backup Systems

Circulating water pump A was in operation.

Nature of Occurrence

At 0616 circulating water pump B tripped causing condenser vacuum to decrease. Reactor operators began reducing power by reducing reactor recirculation flow in an attempt to prevent condenser vacuum from dropping to the turbine trip setpoint. Operators were also concerned about alarms received during the power reduction which indicated that an excess level of condensate in the moisture separator/reheater (MSR) drain lines was also approaching turbine trip setpoints.

At 0617 the turbine tripped due to low condenser vacuum and the reactor automatically scrammed. The reactor recirculation pumps automatically shifted to the low frequency motor generator sets on the closing of the turbine stop and control valves. Reactor pressure increased to 1108 psig, opening six safety relief valves (SRVs). The Reactor Core Isolation Cooling (RCIC) system was manually initiated to help lower reactor pressure by drawing steam from the vessel through the RCIC turbine. The RCIC system did not inject into the vessel.

Approximately four seconds after the scram, the reactor water level dropped to the level 3 reactor trip setpoint of +11.4 inches. Thirty seconds later reactor feed pump A was manually tripped as reactor level stabilized.

Immediate Corrective Actions

The operators performed the actions of the scram off-normal event procedure and stabilized plant conditions. Plant restart was commenced at 0020 on July 4, 1985.

NRC Form 368A
(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 (8)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Grand Gulf Nuclear Station - Unit 1	0 5 0 0 0 4 1 6 8 5	-	0 2 7	-	0 1	0 3 OF 0 3

TEXT (If more space is required, use additional NRC Form 368A's) (17)

Apparent Cause

A faulty rotor temperature monitor incorrectly indicated higher than the actual rotor cage temperatures. The device was set to trip the pump motor when the temperature of the rotor cage bars exceeded 300°C. Consultation with the vendor, Electric Machinery, Inc., revealed that the device was intended to function during multiple pump starts and not during operation.

Supplemental Corrective Action

The rotor high temperature trip has been temporarily removed from the pump motor trip logic until a design modification can be implemented to activate the trip circuitry only during pump start evolutions.

Safety Assessment

All safety systems functioned as designed. The transient did not require operation of any ECCS systems. The reactor water level was restored within 30 seconds of reaching the low level 3 trip, +11.4 inches, with the feedwater system.



MISSISSIPPI POWER & LIGHT COMPANY

Helping Build Mississippi

P. O. BOX 1640, JACKSON, MISSISSIPPI 39215-1640

August 9, 1985

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
Reactor Scram Resulting From
Low Condenser Vacuum
LER 85-027-1
AECM-85/0247

Attached is Licensee Event Report (LER) 85-027-1 which is a final report.

Yours truly,

L. F. Dale

for
L. F. Dale
Director

EBS/SHH:vog
Attachment

cc: Mr. J. B. Richard (w/a)
Mr. O. D. Kingsley, Jr. (w/a)
Mr. R. B. McGehee (w/a)
Mr. N. S. Reynolds (w/a)
Mr. H. L. Thomas (w/o)
Mr. R. C. Butcher (w/a)

Mr. James M. Taylor, Director (w/a)
Office of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dr. J. Nelson Grace, Regional Administrator (w/a)
U. S. Nuclear Regulatory Commission
Region II
101 Marietta St., N. W., Suite 2900
Atlanta, Georgia 30323

IE22
1/1