

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 2
--	--------------------------------------	--------------------

TITLE (4)
Inadequate Water Supply for Ultimate Heat Sink

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)
06	01	84	84	031	00	06	28	84	NA		0 5 0 0 0
											0 5 0 0 0

OPERATING MODE (9) 2	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)									
POWER LEVEL (10) 0.04	20.402(b)	20.406(c)	50.73(a)(2)(iv)	73.71(b)						
	20.406(a)(1)(i)	50.36(e)(1)	50.73(a)(2)(v)	73.71(c)						
	20.406(a)(1)(ii)	50.36(e)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	20.406(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)							
	20.406(a)(1)(iv)	X 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)(vi)								

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME Ronald W. Byrd/Licensing Engineer		AREA CODE 6 0 1 4 3 7 - 2 1 4 9	

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)			EXPECTED SUBMISSION DATE (15)			
<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input type="checkbox"/> NO			MONTH 0 7	DAY 3 1	YEAR 8 4

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

Per the GGNS FSAR, the combined capacity of the SSW basins was determined adequate to provide sufficient cooling for at least 30 days without makeup, to mitigate the effects of an accident in one unit, and simultaneously permit safe shutdown of the other unit. As reported to the NRC in AECM-82/232, dated May 24, 1982, the minimum usable SSW basin water level was set at 107'0" as a result of a deficiency involving inadequate SSW System flow through some component loops due to higher than anticipated frictional pressure drops. Our architect engineer (Bechtel Power Corporation) recently determined that for operation of Unit 1 alone, the combined capacity of the two basins above elevation 107'0" is adequate to provide a 30 day inventory for post-LOCA operation. However, in the event of a LOCA coincident with a loss of offsite power and a single active failure (loss of a division), the ability to transfer water to the operating basin from the basin associated with the failed division is lost. Thus, operation of the ultimate heat sink (SSW) without external makeup would be reduced to less than 30 days which is contrary to FSAR Chapter 9.

8407070117 840628
PDR ADOCK 05000416
S PDR

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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 1	- 0 0	0 2	OF 0 2

TEXT (If more space is required, use additional NRC Form 388A's) (17)

GGNS FSAR Section 9.2 states that the Standby Service Water (SSW) System is designed to provide a reliable source of cooling for plant auxiliaries that are essential to a safe reactor shutdown following a design-basis, loss-of-coolant accident (LOCA). Per the FSAR, the combined capacity of the SSW basins was determined adequate to provide sufficient cooling for at least 30 days without makeup, to mitigate the effects of an accident in one unit, and simultaneously permit safe shutdown of the other unit.

Mississippi Power & Light Company reported a deficiency in PRD-81/17 concerning a low flow rate in the SSW System due to higher than anticipated frictional pressure drops through some of the component loops. Long-term corrective action is to modify the Unit 1 SSW pumps during the first refueling outage. Interim measures include limiting the minimum post-accident draw-down level of the SSW basins to an elevation of 107'0". The originally established minimum level was 84'6".

Our architect engineer (Bechtel) recently determined that for operation of Unit 1 alone, the combined capacity of the two basins above elevation 107'0" is adequate to provide a 30 day inventory for post-LOCA operation. However, in the event of a LOCA coincident with a loss of offsite power and a single active failure (loss of a division), the ability to transfer water to the operating basin from the basin associated with the failed division is lost. The level in the operating basin, considering evaporation and operation without makeup, would decrease to 107'0" in approximately 12 days. Operation below this level could result in an insufficient flow through SSW loops that remove heat from plant components. The reduction in the heat transfer capability (cooling) could cause failure of the components to perform their intended safety function.

The plant was shutdown as a precautionary measure to enable proper and complete evaluation of the deficiency. The plant shutdown commenced on June 1, 1984, following plant notification to the NRC of the deficiency. The plant is presently in Cold Shutdown. MP&L is currently finalizing plans for an acceptable transfer method until the permanent modification to increase the capacity of the SSW pumps is completed.



MISSISSIPPI POWER & LIGHT COMPANY

Helping Build Mississippi

P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

NUCLEAR LICENSING & SAFETY DEPARTMENT

June 28, 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
Inadequate Water Supply for
Ultimate Heat Sink
LER 84-031-0
AECM-84/0320

Attached is Licensee Event Report (LER) 84-031-0 which is an interim report.

Yours truly,

L. F. Dale
Director of Nuclear Licensing & Safety

EBS/SHH:rg
Attachment

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

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

Mr. J. P. O'Reilly, Regional Administrator (w/a)
U. S. Nuclear Regulatory Commission
Region II
101 Marietta St., N.W., Suite 2900
Atlanta, Georgia 30323

IE22
1/1