U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

CONTROL BLOCK: | | | | | | | (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01 | M S G G S 1 (2) | 0 0 - 0 0 0 0 0 - 0 0 (3) | 4 1 1 1 1 (4) | | (5)
LICENSEE CODE 9–14; LICENSE NUMBER 15–25; LICENSE TYPE 26–30; CAT 57–58

CON'T 01 REPORT SOURCE | L (6) | 0 5 0 0 0 4 1 6 (7) | 0 7 1 6 8 3 (8) | 0 8 0 1 8 3 (9)
DOCKET NUMBER 61–68; EVENT DATE 69–74; REPORT DATE 75–80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 On July 16, 1983, a LOCA signal was simulated for the performance of an
03 18 month Emergency Diesel Generator functional test. Several SSW valves
04 did not reposition, the LPCI "A" injection valve did not open and the
05 applicable Division I electrical loads did not shed as required. The
06 event had no affect on the health and safety of the public and did not
07 constitute a threat to plant safety. This is reported pursuant to T.S.
08 6.9.1.12.e and T.S.6.9.1.12.i.

	SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
09	SF (11)	E (12)	Z (13)	RELAYX (14)	B (15)	Z (16)

(17) LER/RO REPORT NUMBER	EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
	83	—	083	/	01	T	—	0

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS (22)	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
C (18)	X (19)	Z (20)	Z (21)	0000	Y (23)	N (24)	N (25)	A107 (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 The cause was a combination of relay failure and an apparent flaw in the
11 Load Shed and Sequencing (LSS) panel. Corrective actions to this date
12 have been to replace the malfunctioning relays and initiate actions to
13 determine further corrective measures. This is an interim report. An
14 update should be expected by August 31, 1983.

15 FACILITY STATUS: G (28) | % POWER: 000 (29) | OTHER STATUS (30): NA | METHOD OF DISCOVERY: Z (31) | DISCOVERY DESCRIPTION (32): Surveillance Testing

16 ACTIVITY RELEASED: Z (33) | CONTENT OF RELEASE: Z (34) | AMOUNT OF ACTIVITY (35): NA | LOCATION OF RELEASE (36): NA

17 PERSONNEL EXPOSURES NUMBER: 000 (37) | TYPE: Z (38) | DESCRIPTION (39): NA

18 PERSONNEL INJURIES NUMBER: 000 (40) | DESCRIPTION (41): NA

19 LOSS OF OR DAMAGE TO FACILITY (43) TYPE: Z (42) | DESCRIPTION: NA

20 PUBLICITY ISSUED: N (44) | DESCRIPTION (45): NA | NRC USE ONLY

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PDR ADOCK 05000416
S PDR

IE22 1/1

NAME OF PREPARER M. V. Rohrer PHONE: ______

SUPPLEMENTARY INFORMATION TO
LER 83-083/01 T-0

Mississippi Power & Light Company
Grand Gulf Nuclear Station - Unit 1
Docket No. 50-416

Technical Specification Involved: N/A
Reported Under Technical Specification: 6.9.1.12.i and 6.9.1.12.e

Event Narrative:

On July 16, 1983, Division I was given a LOCA signal in accordance with the Standby Diesel Generator 11 eighteen (18) month functional test. All intended results were demonstrated except for the following:

1. SSW valves P41-F113, F160A and F238 did not reposition.

2. The RHR LPCI "A" injection valve E12-F042A did not open.

3. The required Division I loads did not shed from the Division I bus (15AA).

For the SSW valves the causes are as follows:

- F113 (SSW Fill Tank Outlet Valve)

  Contacts R4-M4 of relay R7 malfunctioned and the relay was replaced. Contacts R4-M4 (normally closed contacts when the relay is deenergized) are used to energize the 42R device and thus drive the valve shut on a LOCA. Relay type is AGASTAT.

- F160A (Outboard Outlet From Drywell Purge Compressor)

  Contacts R1-M1 of relay R8 malfunctioned and the relay was replaced. Contacts R1-M1 (normally closed contacts when the relay is deenergized) are used to energize the 42F device and thus drive the valve open on a LOCA. Relay type is AGASTAT.

- F238 (Outlet from ESF Room Cooler)

  Problem was found to be a tripped 49 (thermal overload) device. The device was reset and the valve was retested satisfactorily. On a valid LOCA, this device is not in the logic circuit.

For the RHR LPCI "A" injection valve the cause is as follows:

Contacts R_1M_1 of relay K24A malfunctioned. Contacts R_1M_1 (normally closed contacts when the relay is deenergized) serve to energize K23A which in turn opens the valve on a valid LOCA signal (level 1). Relay is AGASTAT.

For the Load Shed and Sequencing (LSS) panel the cause is as follows:

> A test pulse signal which is periodically sent through the logic "blocked" the LOCA signal from being processed. When the test pulse signal is input and a LOCA signal is received superimposed on the signal the LSS panel should "hold onto" the LOCA signal and process it as though the pulse was not there, allowing completion of the required actions. The test pulse signal lasts for such a short duration that it is never seen as a valid LOCA signal (signal has cleared before relays have time to act) and is not meant to block the LOCA signal, however, tests were conducted and the above verified i.e., when a LOCA signal was input to the system coincident and synchronous with the test pulse signal, the LOCA signal was found to be lost.

Corrective actions implemented or being implemented are as follows: all subject relays were replaced in the field and tests are being conducted to determine the cause of the failed sets of contacts. Future actions will be dictated by these tests. The vendor for the LSS panel (Vitro) has subsequently verified that a design problem exists for both Division I and II and that no ECCS pumps will start if the LOCA signal occurs at exactly the same time that the test pulse is initiated. In addition, the exact same test was reperformed on July 25, 1983, and the results were totally satisfactory (test pulse and LOCA not superimposed on one another).

This is a written followup report consistent with the reporting requirements of Technical Specification 6.9.1.12 paragraphs (e) and (i). An update report should be expected by August 31, 1983.

MISSISSIPPI POWER & LIGHT COMPANY
Helping Build Mississippi
P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

83 AUG 4 AM 11:18

August 1, 1983

NUCLEAR PRODUCTION DEPARTMENT

Office of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Region II
101 Marietta St., N.W., Suite 2900
Atlanta, Georgia 30303

Attention: Mr. J. P. O'Reilly, Regional Administrator

Dear Mr. O'Reilly:

SUBJECT: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-13
File 0260/L-835.0
Standby Diesel Generator 11
Eighteen Month Functional
Test Unsatisfactory
LER 83-083/01 T-0
AECM-83/0433

On July 16, 1983, a LOCA signal was simulated for the performance of an eighteen (18) month Emergency Diesel Generator functional test. Several SSW valves did not reposition, the LPCI "A" injection valve did not open and the applicable Division I electrical loads did not shed as required. This is reported pursuant to Technical Specification 6.9.1.12.e and 6.9.1.12.i. Attached is LER 83-083/01 T-0 with Supplementary Information.

Yours truly,

L. F. Dale
Manager of Nuclear Services

EBS/SHH:sap
Attachment

cc: Mr. J. B. Richard (w/a)
Mr. R. B. McGehee (w/o)
Mr. T. B. Conner (w/o)
Mr. G. B. Taylor (w/o)

Mr. Richard C. DeYoung, Director (w/a)
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U. S. Nuclear Regulatory Commission
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