NRC FORM 366 (7-77)

Update Report-Previous Report Date 10/18/82

LICENSEE EVENT REPORT

U. S. NUCLEAR REGULATORY COMMISSION

Attachment to AECM-83/0156
Page 1 of 2

CONTROL BLOCK: (1)

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0 1 | MSGGS1 (2) | 0 0 - 0 0 0 0 0 - 0 0 (3) | 4 1 1 1 1 1 (4) | (5)

LICENSEE CODE | LICENSE NUMBER | LICENSE TYPE | CAT

CON'T

0 1 | REPORT SOURCE L (6) | 0 5 0 0 0 4 1 6 (7) | 1 0 0 4 8 2 (8) | 0 3 0 7 8 3 (9)

DOCKET NUMBER | EVENT DATE | REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 | With the unit in cold shutdown, a special inspection on Division 2 Standby Diesel

0 3 | Generator was conducted. During this inspection, one of the capscrews which secures

0 4 | the rear crankcase cover to the engine block was discovered to be defective. This

0 5 | report is submitted pursuant to T.S.6.9.1.12.e and i. The event had no effect on

0 6 | the health and safety of the public and did not constitute a threat to plant safety.

0 7 | The Division 1 and 3 Diesel Generators were operable at the time the defect was

0 8 | discovered.

| SYSTEM CODE | CAUSE CODE | CAUSE SUBCODE | COMPONENT CODE | COMP. SUBCODE | VALVE SUBCODE
0 9 | EE (11) | B (12) | B (13) | ENGINE (14) | Z (15) | Z (16)

| LER/RO REPORT NUMBER (17) | EVENT YEAR | SEQUENTIAL REPORT NO. | OCCURRENCE CODE | REPORT TYPE | REVISION NO.
| | 82 | 080 | 01 | X | 1

| ACTION TAKEN | FUTURE ACTION | EFFECT ON PLANT | SHUTDOWN METHOD | HOURS (22) | ATTACHMENT SUBMITTED | NPRD-4 FORM SUB. | PRIME COMP. SUPPLIER | COMPONENT MANUFACTURER
| A (18) | X (19) | Z (20) | Z (21) | 0000 | Y (23) | N (24) | A (25) | D055 (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 | The capscrew broke while being checked for the correct torque. It is believed that

1 1 | the capscrew had partially cracked due to fatigue during engine operation prior to

1 2 | the torque check. The capscrew and 20 others were replaced. A design change has

1 3 | been issued to replace the current capscrews with higher strength bolts.

1 4 |

| FACILITY STATUS | % POWER | OTHER STATUS (30) | METHOD OF DISCOVERY | DISCOVERY DESCRIPTION (32)
1 5 | G (28) | 000 (29) | NA | C (31) | Special Inspection by Maintenance

| ACTIVITY RELEASED | CONTENT OF RELEASE | AMOUNT OF ACTIVITY (35) | LOCATION OF RELEASE (36)
1 6 | Z (33) | Z (34) | NA | NA

| PERSONNEL EXPOSURES NUMBER | TYPE | DESCRIPTION (39)
1 7 | 000 (37) | Z (38) | NA

| PERSONNEL INJURIES NUMBER | DESCRIPTION (41)
1 8 | 000 (40) | NA

| LOSS OF OR DAMAGE TO FACILITY TYPE (43) | DESCRIPTION
1 9 | Z (42) | NA

| PUBLICITY ISSUED | DESCRIPTION (45)
2 0 | N (44) |

8303180369 830307
PDR ADOCK 05000416
S PDR

NRC USE ONLY

NAME OF PREPARER M. Scott Freeman and Boyd Shingleton PHONE:

GPO 917-926

SUPPLEMENTARY INFORMATION TO
LER 82-080/01 X-1

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

Event Narrative:

This is an update to a previous report submitted on October 18, 1982. The following paragraphs describe the event reported.

The special inspection of the 21 capscrews which secure the rear crankcase cover to the engine block of the Division 2 Standby Diesel Generator revealed that one capscrew had failed. The capscrews were SAE Grade 5, NC X 1-3/4".

The maintenance work order which led to the discovery of the failed capscrew had been initiated as a follow-up to a previous, similarly failed capscrew on the same Division 2 Standby Diesel Generator rear crankcase cover. This situation was previously reported to the NRC in Potentially Reportable Deficiency (PRD) 82/14 under 10 CFR 50.55e. The first failure occurred on March 15, 1982, during the 24-hour load test performed during the Pre-Operational Test Program. The failure of March 15, 1982, resulted in a generator fault caused by the head of the broken capscrew becoming lodged between the generator stator and rotor while the generator was at 100% load. This resulted in the generator tripping on Generator Differential Current. The generator was subsequently replaced. The capscrews securing the rear crankcase cover were inspected for correct tightness and found to be below the required 60 ft-lbs. The capscrews were replaced on both the Division 1 and 2 Diesel Generators and torqued to the required 60 ft-lbs.

The follow-up work order, performed on October 4, 1982, instructed that each of the capscrews securing the rear crankcase cover to the engine block be checked for correct tightness (60 ft-lbs). Three of the capscrews were found to be less than 40 ft-lbs (20, 23 and 35 ft-lbs). The work order further instructed that any capscrews not within ±2 ft-lbs of the required 60 ft-lbs be torqued within the acceptable range. When the capscrew (which was found at 20 ft-lbs originally) was tightened it sheared off approximately one inch from the bottom side of the head before reaching 60 ft-lbs. The remaining capscrews were tightened successfully. Another work order was subsequently issued to replace the 21 capscrews on the Division 2 Diesel Generator rear cover and torque to 60 ft-lbs. An inspection of the Division 1 Diesel Generator revealed no problems (the Division 3 Diesel Generator is supplied by a different manufacturer so no inspection was required).

Nuclear Plant Engineering has attributed the cause of failure to fatigue cracking. A design change has been issued to replace the current crankcase capscrews with a higher (SA540 Grade B24) strength type. The work is currently ongoing. A final report will be submitted by May 7, 1983.