

LICENSEE EVENT REPORT

Attachment to AECM-83/0290

Page 1 of 3

CONTROL BLOCK: ①

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳ ㉑ ㉒ ㉓ ㉔ ㉕ ㉖ ㉗ ㉘ ㉙ ㉚ ㉛ ㉜ ㉝ ㉞ ㉟ ㊱ ㊲ ㊳ ㊴ ㊵ ㊶ ㊷ ㊸ ㊹ ㊺ ㊻ ㊼ ㊽ ㊾ ㊿

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LICENSEE CODE 14 15 LICENSE NUMBER 25 26 LICENSE TYPE 30 57 CAT 58 5

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

60 61 DOCKET NUMBER 68 69 EVENT DATE 74 75 REPORT DATE 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES ⑩

① ② With the unit in cold shutdown, a special inspection on Division 2

① ③ Standby Diesel Generator was conducted. During this inspection, one of

① ④ the capscrews which secures the rear crankcase cover to the engine block

① ⑤ was discovered to be defective. This report is submitted pursuant to

① ⑥ T.S.6.9.1.12.e and i. The event had no affect on the health and safety

① ⑦ of the public and did not constitute a threat to plant safety. The

① ⑧ Div. 1 and 3 D/G were operable at the time the defect was discovered.

① ⑨

SYSTEM CODE CAUSE CODE CAUSE SUBCODE COMPONENT CODE COMP. SUBCODE VALVE SUBCODE

E E ⑪ B ⑫ B ⑬ E N G I N E ⑭ Z ⑮ Z ⑯

9 10 11 12 13 18 19 20

① ⑰ LER NO. REPORT NUMBER ① ⑱ EVENT YEAR ① ⑲ SHUTDOWN METHOD ① ⑳ HOURS ② ㉑ ATTACHMENT SUBMITTED ① ㉒ NPD-4 FORM SUB. ① ㉓ PRIME COMP. SUPPLIER ① ㉔ COMPONENT MANUFACTURER ① ㉕

21 22 23 24 26 27 28 29 30 31 32

A ⑱ X ⑲ Z ㉑ Z ㉒ 0 0 0 0 Y ㉓ N ㉔ A ㉕ D ㉖ ㉗ ㉘ ㉙ ㉚ ㉛ ㉜ ㉝ ㉞ ㉟ ㊱ ㊲ ㊳ ㊴ ㊵ ㊶ ㊷ ㊸ ㊹ ㊺ ㊻ ㊼ ㊽ ㊾ ㊿

33 34 35 36 37 40 41 42 43 44 47

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS ⑳

① ⑩ The capscrew broke while being checked for the correct torque.

① ⑪ It is believed that the capscrew had partially cracked due to fatigue

① ⑫ during engine operation prior to the torque check. The capscrew and

① ⑬ 20 others were replaced. A design change has been completed which

① ⑭ replaced the current capscrews with higher strength capscrews.

① ⑮

FACILITY STATUS ① ㉑ % POWER ① ㉒ OTHER STATUS ③ ㉓ METHOD OF DISCOVERY ① ㉔ DISCOVERY DESCRIPTION ③ ㉕

① ⑮ B ㉑ 0 0 0 ㉒ NA ㉓ C ㉔ Special Inspection by Maintenance ㉕

7 8 9 10 12 13 44 45 46 80

① ⑯

ACTIVITY CONTENT ① ㉖ RELEASED OF RELEASE ① ㉗ AMOUNT OF ACTIVITY ③ ㉘ LOCATION OF RELEASE ③ ㉙

① ⑯ Z ㉖ Z ㉗ NA ㉘ NA ㉙

7 8 9 10 11 44 45 46 80

① ⑰

PERSONNEL EXPOSURES

NUMBER TYPE DESCRIPTION ③ ㉚

① ⑰ 0 0 0 ㉚ Z ㉛ NA ㉜

7 8 9 11 12 13 80

① ⑱

PERSONNEL INJURIES

NUMBER DESCRIPTION ④ ㉝

① ⑱ 0 0 0 ㉝ NA ㉞

7 8 9 11 12 80

① ㉟

LOSS OF OR DAMAGE TO FACILITY

TYPE DESCRIPTION ④ ㉞

① ㉟ Z ㉞ NA ㉟

7 8 9 10 80

① ㊱

PUBLICITY

ISSUED DESCRIPTION ④ ㊱

① ㊱ N ㊱ NA ㊱

7 8 9 10 80

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PDR ADOCK 05000416
S PDR

NRC USE ONLY

68 69 80

NAME OF PREPARER M. V. Rohrer & E. B. Shingleton

PHONE



MISSISSIPPI POWER & LIGHT COMPANY

Helping Build Mississippi

P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

May 18, 1983

JAMES P. MCGAUGHY, JR.
VICE PRESIDENT

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
Update Report - Division 2
Standby Diesel Generator
Rear Crankcase Cover
Capscrew Defective
LER 82-080/01 X-2
AECM-83/0290

This letter submits an update to previous reports submitted on October 18, 1982, and March 7, 1983. The events for which the reports were submitted occurred on October 4, 1982, when during a special inspection, one of the capscrews which secure the rear crankcase cover to the engine block of the Division 2 Standby Diesel Generator was discovered defective. The report was submitted pursuant to Technical Specification 6.9.1.12.e and i.

A design change has been completed which replaced the current crankcase bolts with a higher strength grade. The work package is still open. A test program was developed, the Division 2 diesel was instrumented and vibrational data was collected during a test run. The data is currently being analyzed. Possible further corrective action will be considered when the test results are received. Attached is LER 82-080/01 X-2, with supplementary information.

Yours truly,

J.P. McGaughy
for J. P. McGaughy

JPM:sap
Attachment

cc: (See Next Page)

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REGION II
ATLANTA, GEORGIA

TE 22

MISSISSIPPI POWER & LIGHT COMPANY

AECM-83/0290

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SUPPLEMENTARY INFORMATION TO
LER 82-080/01 X-2

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 March 7, 1983. 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 torque (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. Another work order was subsequently issued and the 21 capscrews on the Division 2 Diesel Generator rear cover were replaced with new replacement capscrews and torqued 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 completed which replaced the current crankcase capscrews with a higher (SA540 Grade B24) strength type on both Division 1 and Division 2 Diesel Generators. The work package which implemented the design change is still open. A test program was developed, the Division 2 diesel was instrumented and data was collected during a test run. This data is presently being analyzed. Possible further corrective action will be considered when the test results are received. An update report is expected to be submitted by July 15, 1983, after the test results are reviewed.