

LICENSEE EVENT REPORT

CONTROL BLOCK:

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

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

DOCKET NUMBER EVENT DATE REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES: (10)

03 On October 28, 1983, while prelubing D/G 11, a fuel oil leak was discovered at a 90 degree connection in the #5 right bank cylinder line. The subcover head gasket at the same cylinder was also damaged and leaking. During maintenance work on these failures, a connector pushrod was found broken between the ball weld and the rod. The D/G was declared inoperable and an LCO was entered pursuant to T.S.3.8.1.1 when the oil leak was discovered. This is reported pursuant to T.S.6.9.1.13.b.

2 9
 8

SYSTEM CODE
 9 E E 11

CAUSE CODE
 11 E 12

CAUSE SUBCODE
 12 B 13

COMPONENT CODE
 13 E N G I N E 14

COMP. SUBCODE
 19 Z 15

VALVE SUBCODE
 20 Z 16

17 LER RO REPORT NUMBER
 21 8 3 22

EVENT YEAR
 23

SEQUENTIAL REPORT NO.
 24 1 7 1 26

OCCURRENCE CODE
 27

REPORT TYPE
 28 0 3 29

REVISION NO.
 30 X 31

ACTION TAKEN
 33 F 18 34 Z 19

FUTURE ACTION
 35 Z 20

EFFECT ON PLANT
 36 Z 21

SHUTDOWN METHOD
 37 0 0 0 0 40

HOURS
 41 Y 23

ATTACHMENT SUBMITTED
 42 N 24

NPRO-4 FORM SUB.
 43 A 25

PRIME COMP. SUPPLIER
 44 D 0 5 1 47

COMPONENT MANUFACTURER
 27 CAUSE DESCRIPTION AND CORRECTIVE ACTIONS

1 0 The lube oil leak was due to a crack in the tubing which occurred while
1 1 loosening and tightening the fitting during maintenance work. The push-
1 2 rod failure was due to the ball material being difficult to weld. A new
1 3 replacement connector pushrod design developed by TDI has been installed
1 4 in both Division 1 and Division 2 Diesel Generators.

8 9
FACILITY STATUS (28) % POWER (0 0 1) (29) NA (30) OTHER STATUS (30) METHOD OF DISCOVERY (31) DISCOVERY DESCRIPTION (32) Equipment Prep for Surveillance
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 51 52 53 54 55 56 57 58 59 60
ACTIVITY CONTENT
RELEASED OF RELEASE (1 6) (2 33) (3 34) NA (35) AMOUNT OF ACTIVITY (35) LOCATION OF RELEASE (36) NA
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 51 52 53 54 55 56 57 58 59 60
PERSONNEL EXPOSURES
NUMBER (1 7) (2 0) (3 0) (4 37) (5 2) (6 38) NA (39) DESCRIPTION (39)
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 51 52 53 54 55 56 57 58 59 60
PERSONNEL INJURIES
NUMBER (1 4) (2 0) (3 0) (4 0) NA (40) DESCRIPTION (41)
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 51 52 53 54 55 56 57 58 59 60
LOSS OF OR DAMAGE TO FACILITY
TYPE (1 9) (2 42) NA (43) DESCRIPTION (43)
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 51 52 53 54 55 56 57 58 59 60
PUBLICITY
ISSUED (2 0) (3 44) NA (45) DESCRIPTION (45)
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 51 52 53 54 55 56 57 58 59 60
NRC USE ONLY
68 69

NAME OF PREPARER Ron Byrd

PHONE

NRC USE ONLY

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SUPPLEMENTARY INFORMATION TO
LER 83-171/03 X-1

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

Technical Specification Involved: 3.8.1.1
Reported Under Technical Specification: 6.9.1.13.b

Event Narrative:

On October 28, 1983, while prelubing Diesel Generator 11, a fuel oil leak was discovered at a 90 degree connection in the line to the number 5 right bank cylinder. The subcover gasket at the same cylinder was also found damaged and leaking. The diesel generator was declared inoperable and removed from service to make repairs. An LCO was entered pursuant to Technical Specification 3.8.1.1. The diesel generator remained inoperable for 12.25 hours.

During this time Diesel Generator 12 was also inoperable. Two hours after entrance into the LCO, shutdown preparations were initiated in accordance with Technical Specification 3.8.1.1. The shutdown was not completed as Diesel Generator 11 was restored 10.25 hours later.

The leaking tubing and fitting were replaced. The blown gasket was also replaced. During this maintenance work a connector pushrod was found broken between the ball weld and the rod. The pushrod was replaced.

During subsequent inspections, 14 of 16 connector pushrods were discovered with cracked or separated welds on the Division I Diesel Generator and 13 of 16 on the Division II Diesel Generator. A metallurgical evaluation concluded that the ball material is difficult to weld (details of this evaluation were provided in the Diesel Generator Comprehensive Reliability Report, AECM-84/0103). Also, the discovery of a cracked connector pushrod ball demonstrated that the underbead cracks induced during the welding operation could propagate through the ball material, causing it to break into pieces which could potentially disable the diesel generator.

Further discussion of these failures is included in the Diesel Generator Comprehensive Reliability Report (AECM-84/0103) and PRD 84/03 (AECM-84/0105).

Initially the defective pushrods in both Division I and Division II diesels were replaced with spares and an interim inspection program was implemented.

These pushrods have now been replaced with new rods designed by Transamerica Delaval, Inc. The new design consists of a tubular steel shaft which is friction welded to cylinders of alloy steel on each end. The ends are then machine finished and hardened. The changes in materials and manufacturing processes should prevent recurrence. This is submitted as a final report.



MISSISSIPPI POWER & LIGHT COMPANY

Helping Build Mississippi

P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

MAR 22 9:01
March 16, 1984

NUCLEAR PRODUCTION DEPARTMENT

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 - Diesel Generator 11
Declared Inoperable After
Discovery of a Fuel Oil Leak
LER 83-171/03 X-1
AECM-84/0146

This letter submits an update to a previous report submitted on November 28, 1983. The event for which the report was submitted occurred on October 28, 1983, while prelubing Diesel Generator 11, when a fuel oil leak was discovered at a connection in the number 5 right bank cylinder line. The subcover head gasket at the same cylinder was also damaged and leaking. The diesel generator was declared inoperable and a Limiting Condition for Operation was entered pursuant to Technical Specification 3.8.1.1 when the oil leak was discovered. This was reported pursuant to Technical Specification 6.9.1.13.b.

Our investigation and corrective action associated with the above event is complete. This is a final report. Attached is LER 83-171/03 X-1 with Supplementary Information.

Yours truly,

L. F. Dale
Manager of Nuclear Services

EBS/SHH:rg
Attachment

cc: See next page

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MISSISSIPPI POWER & LIGHT COMPANY

AEEM-84/0146

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Mr. R. B. McGehee (w/o)
Mr. T. B. Conner (w/o)
Mr. G. B. Taylor (w/o)

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