



MISSISSIPPI POWER & LIGHT COMPANY

Helping Build Mississippi

P. O. BOX 1640, JACKSON, MISSISSIPPI 39215-1640

April 8, 1985

15 APR 12 8:03

NUCLEAR LICENSING & SAFETY DEPARTMENT

U. S. Nuclear Regulatory Commission
Region II
101 Marietta St., N.W., Suite 2900
Atlanta, Georgia 30323

Attention: Dr. J. Nelson Grace, Regional Administrator

Dear Dr. Grace:

SUBJECT: Grand Gulf Nuclear Station
Unit 1
Docket Nos. 50-416
License No. NPF-29
File: 0260/L-835.0
Special Report 85-004/0,
Failure of an Air Start
Valve on the Division I
Diesel Generator
AECM-85/0105

Reference: AECM-85/0094, March 25, 1985

On March 10, 1985 at 2015 during operational testing of the Division I Diesel Generator, the generator could not be loaded due to fuel rack binding preventing the adjustment of the engine speed. The diesel generator was shutdown after 45 minutes of operation. The binding was caused by excessive heat due to a malfunctioning air start valve located on the #6 right bank cylinder.

During removal of the air start valve, a cylindrical metal object approximately 3/8 inch in diameter and 1 inch long was found on top of the piston during a cleanliness inspection required by the maintenance procedure used to replace the air start valve. A preliminary investigation determined that this metal object was a part of the disc assembly from a check valve in the on-engine mounted air start system header. To verify this determination a visual inspection was performed on the disc assembly on each of the four air start system header check valves. This inspection disclosed that the right bank rear check valve was missing a part of the lower disc guide. This missing part was the part found in the #6 right bank cylinder. The inspection on the Division I Diesel Generator also revealed the left bank rear check valve disc assembly exhibited a circumferential crack that extended approximately 180 degrees in roughly the same location as the fracture of the right bank rear check valve disc. The left bank front and right bank front check valves had no visible cracks upon visual examination of this same area. The Division II Diesel Generator air start header check valves were also inspected and no visible cracks were identified in these valves.

Our initial failure analysis revealed that the failure was due to fatigue. As a precautionary measure, air start header check valves on both TDI Diesel Generators were replaced. In addition, a 800 hour limit has been

JOP13AECM85032901 - 1 Member Middle South Utilities System

Official Copy

10 22/0

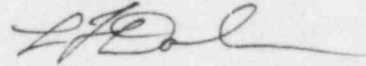
8506070639 850408
PDR ADOCK 0500C416
S PDR

placed on the use of these valves as interim corrective action. This interim corrective action will remain intact until final corrective actions are determined and implemented. A metallurgical analysis of the failed component is currently in progress to determine the cause of failure. Upon determination of the cause, corrective actions will be finalized.

This was the third valid failure in the last 100 valid tests for the diesel. Therefore, per Regulatory Position C.2.d of Regulatory Guide 1.108, the test interval is once per seven days.

This event was reported in accordance with the requirements of 10CFR21 in the referenced letter. The cause of the failure as well as final corrective action will be included in the 10CFR21 final report. This Special Report is submitted pursuant to Technical Specification 4.8.1.1.3.

Yours truly,



L. F. Dale
Director

EBS/SHH:vog

cc: Mr. J. B. Richard
Mr. O. D. Kingsley, Jr.
Mr. R. B. McGehee
Mr. N. S. Reynolds
Mr. G. B. Taylor

Mr. James M. Taylor, Director
Office of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555