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Georgia Power

The South's Electric System

Vogtle Project

16 All: 34

April 18, 1984

United States Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region II - Suite 3100
101 Marietta Street
Atlanta, GA 30303

File: X7BG03-M58
Log: GN-342

Reference: Vogtle Electric Generating Plant - Units 1 and 2, 50-424, 50-425;
Transamerica Delaval Diesel Generator Drive Couplings

Attention: Mr. James P. O'Reilly

Gentlemen:

On March 20, 1984, Mr. C. W. Hayes, Vogtle Project Quality Assurance Manager, reported a potential deficiency to Mr. John Rogge of the USNRC. This potential deficiency concerned the diesel generator drive couplings for the units furnished by Transamerica Delaval.

Georgia Power Company has completed its evaluation of this concern and has determined that a substantial safety hazard and significant deficiency could exist. It should be noted that Transamerica Delaval has already reported the existence of this condition to the USNRC in their letter of January 9, 1984. Based upon guidance contained in NUREG-0302, Revision 1, and other documents received from the NRC, Georgia Power Company is reporting this event as a significant deficiency pursuant to the requirements of Part 10 CFR 50.55(e). A copy of our evaluation is attached for your information.

This response contains no proprietary information and may be placed in the NRC Public Document Room.

Your truly,

D. O. Foster
D. O. Foster *com*

REF:DOF:js

cc: U. S. Nuclear Regulatory Commission
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EVALUATION FOR A SUBSTANTIAL SAFETY HAZARD
EVALUATION FOR A SIGNIFICANT DEFICIENCY

Transamerica Delaval Diesel Generator Drive Couplings

Initial Report:

On March 20, 1984, Mr. C. W. Hayes, Vogtle Project Quality Assurance Manager, reported a potentially reportable concern to Mr. John Rogge of the USNRC that involved the diesel generator drive couplings.

Background Information:

On January 9, 1984, Transamerica Delaval, Inc. (TDI) notified the Director, Office of Inspection and Enforcement of the USNRC of a potential defect in a component of a DSR or DSRV Standby Diesel Generator. Transamerica Delaval stated that there could exist a potential problem with the overspeed governor and fuel transfer pump drive which could result in engine non-availability. The diesel generators furnished to Georgia Power Company by Transamerica Delaval were included in a list of diesel generators that could have this potential defect.

On a non-nuclear commercial engine installation, TDI recently discovered the flexible coupling drive hubs loose on the shafts in the overspeed governor fuel transfer pump drive. The hubs are manufactured by Lovejoy Couplings and installed by TDI. This design is used on DSRV standby diesel generators supplied to the Vogtle jobsite.

The condition is related to the installation and maintenance of the overspeed governor/fuel booster pump drive assembly. The overspeed governor/fuel booster pump drive couplings could work loose on the shafts if the assembly is not installed and maintained properly. If the fuel transfer pump stops turning on a nuclear application the engine will not operate unless there is an auxiliary fuel transfer pump driven by an external source. Vogtle has no auxiliary fuel transfer pump.

Engineering Evaluation:

The standby diesel generators provide onsite power to safety-related equipment to ensure its continued operation following an accident occurring coincident with a loss of offsite power. Because the design and fabrication of both diesel generators for each unit are essentially the same, it is reasonable to postulate a common mode failure of the overspeed governor/fuel booster pump drive assembly on both engines due to the improper installation and maintenance of the couplings. This could result in a loss of power to both trains of the engineered safety features (ESF) equipment. Because failure of the couplings could result in failure of the emergency onsite power supply and consequential failure of the ESF systems, it was concluded that this condition constitutes a substantial safety hazard and significant deficiency in the design of the diesel generators, and is reportable under both CFR Part 21 and 10 CFR 50.55(e).

A review has also been made of the quality assurance program at TDI and it has been concluded that there has not been a significant breakdown in the quality program at TDI.

Conclusion:

This condition is considered to be reportable under the requirements of Part 10 CFR 21 and 10 CFR 50.55(e) since there could have been a loss of power to the engineered safety features equipment. This condition also represents a deviation from the performance specifications of the diesels such that repair is necessary to establish the adequacy of the component to meet the criteria and bases stated in the safety analysis report. Since the NRC has already been informed by TDI of this condition through their Part 10 CFR 21 report on January 9, 1984, Georgia Power Company, to avoid duplicate reporting and based on guidance in NUREG-0302, Rev. 1, is reporting this condition as a significant deficiency pursuant to the requirements of 10 CFR 50.55(e).

Corrective Action:

In their report to the Nuclear Regulatory Commission, Transamerica Delaval recommends inspection of the drive assembly by following their procedures described in a Service Information Memo 363 as the corrective action. Transamerica Delaval's engineering evaluation of this deficiency has concluded that their Service Information Memo 363 provides adequate inspection and installation procedures for the overspeed governor/fuel booster pump drive assembly to eliminate the possibility of the drive couplings working loose under operating conditions. The Transamerica Delaval Service Information Memo 363 has been incorporated into a procedure to be used to modify and inspect the diesel generator units at the Vogtle jobsite. The Service Information Memo will also be incorporated into diesel generator maintenance procedures for the operating plant.