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D. O. Foster
Vice President and General Manager
Vogtle Project

December 14, 1982

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

File: X7BG03-M33
Log: GN-204

Reference: Vogtle Electric Generating Plant - Units 1 & 2
50-424, 50-425; Transamerica DeLaval Diesel
Generator - Governor Drive Coupling

Attention: Mr. James P. O'Reilly

Gentlemen:

Georgia Power Company has reviewed the concern associated with the governor drive coupling of the Transamerica DeLaval Diesel Generators furnished for the Vogtle Electric Generating Plant - Units 1 & 2. It has been concluded that a reportable deficiency does exist. Enclosed is our evaluation and corrective action for this item. A Part 10CFR21 is not being reported since DeLaval informed the Commission of this problem in their June 23, 1982 letter.

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

Yours truly,

D. O. Foster
D. O. Foster

DOF/CWH/skr

xc: U. S. Nuclear Regulatory Commission
Attn: Victor J. Stello, Jr., Director
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Evaluation for a Substantial Safety Hazard
Evaluation for a Significant Deficiency

Transamerica Delaval
Diesel Generator Governor Drive Coupling

Initial Report: On October 28, 1982, C. W. Hayes of Georgia Power Company reported a potential deficiency to the NRC concerning the materials used for the Delaval diesel generator drive coupling.

Background: The diesel generator governor drive coupling is an integral component in the Delaval diesel generators supplied for Plant Vogtle. The drive coupling must function in the high temperature, oil environment of the engine's gear case. Coupling integrity must be maintained for the diesel generators to achieve sufficient frequency stability. The defect is related to the material used for the coupling's drive element. The material, an isoprene, is designed for atmospheric use and is not suitable for use in the high temperature, oil atmosphere in the engine's gear case. The isoprene, a rubber, deteriorates rapidly and ultimately fails.

Analysis of Safety Implications: The standby diesel generators provide an emergency source of power to safety-related equipment to ensure continued operation following an accident occurring coincident with a loss of offsite power. Because the design, materials, and service conditions of each diesel generator are similar, it is reasonable to postulate a common mode failure of the governor drive coupling or both engines. While the coupling is designed "fail safe" and mechanically locks when the flexible element fails, frequency instability could be induced with the result of the tripping of the engines. This leads to a loss of power to both trains of the Emergency Core Cooling System (ECCS) and most of the Engineered Safety Features (ESF) equipment.

Conclusion: This item represents a deficiency which, if left uncorrected, could have affected adversely the safety of operation of the nuclear power plant and also represents a deficiency concerning the performance of the diesels since, with this deficiency, the diesel generators may not have been able to perform their safety function.

It has been concluded that the use of inappropriate material for the diesel generator drive coupling represents a substantial safety hazard since the potential loss of both trains of emergency power is unacceptable.

Corrective Action: The flexible element of the governor drive coupling will be replaced with replacement parts available from the manufacturer. The manufacturer also has furnished a procedure for replacing the governor drive coupling, flexible element, and coupling adapter. Georgia Power Company has ordered the replacement parts. Mr. R. H. Robinson of Georgia Power Company is responsible for the installation of the replacement parts. It is expected that these replacement parts will be installed by March 30, 1983.