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GPC II-137

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'95 JUL 27 P4:45

August 7, 1990

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Docket No. 50-424
50-425

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

Gentleman:

VOGTLE ELECTRIC GENERATING PLANT
SPECIAL REPORT
VALID DIESEL GENERATOR FAILURES

In accordance with the requirements of the Vogtle Electric Generating Plant Technical Specifications, Sections 4.8.1.1.3 and 6.8.2, Georgia Power Company hereby submits the enclosed Special Report concerning three valid diesel generator failures.

Sincerely,

W. G. Hairston, III
W. G. Hairston, III

WGH, III/NJS/gm

Enclosure: Special Report 1-90-05

xc: Georgia Power Company
Mr. C. K. McCoy
Mr. G. Bockhold, Jr.
Mr. P. D. Rushton
Mr. R. M. Odom
NORMS

U. S. Nuclear Regulatory Commission
Mr. S. D. Ebnetter, Regional Administrator
Mr. T. A. Reed, Licensing Project Manager, NRR
Mr. B. R. Bonser, Senior Resident Inspector, Vogtle

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NUCLEAR REGULATORY COMMISSION
Docket No. 50-424/425-OLA-3 EXHIBIT NO. GPC II-137
In the matter of Georgia Power Co. et al., Vogtle Units 1 & 2
 Staff Applicant Intervenor Other
 Identified Received Rejected Reporter KHW
Date 7/19/95 Witness Masbanah

ENCLOSURE

VOGTLE ELECTRIC GENERATING PLANT - UNITS 1 AND 2 TECHNICAL SPECIFICATION SPECIAL REPORT 1-90-05 VALID DIESEL GENERATOR FAILURES

A. REQUIREMENT FOR REPORT

This report is required in accordance with Technical Specification (TS) 4.8.1.1.3. This specification requires that all diesel generator (DG) failures, valid or non-valid, be reported to the Commission in a Special Report pursuant to TS 6.8.2.

B. DESCRIPTION OF EVENT

On 7-11-90, Diesel Generator (DG) 2A was being tested during a routine surveillance per procedure 14980-2, "Diesel Generator Operability Test". The right air start bank was isolated to allow testing of the left air start bank. The engine start button was pushed by the control room operator and the engine began to roll with starting air. According to the local operator in the diesel room, the engine rolled twice and stopped. The DG was declared inoperable and the TS action statement was initiated. The DG was unavailable for emergency operation for a period of 67 hours and 49 minutes.

During the review of this event, it was determined that similar events had occurred on 4-12-90 and 7-5-90. These previous similar events had not been recognized as failures and therefore had not been reported as such. These events are described as follows:

On 4-12-90, operators conducted a TS surveillance test of DG 2A per procedure 14980-2. The manual start button was pushed, but no start occurred. Operators decided that the pushbutton had not been depressed long enough and made another attempt which resulted in a successful start. On 7-5-90, a similar incident occurred on DG 1B, and a successful start again resulted on the second attempt. Neither DG was considered to be unavailable for emergency operation as a result of these two events.

C. CAUSE OF EVENT

An investigation into the 7-11-90 event by utility and vendor personnel found that the starting air valve pistons could stick in their cap assemblies due to inadequate manufacturing tolerances. This condition was apparently the result of the initial manufacturing process which left insufficient clearances between some of the pistons and caps. A failure to start would occur only after the engine had been shut down from a previous run and the engine stopped with a particular alignment of faulty air start valves and crankshaft position.

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VOGTLE ELECTRIC GENERATING PLANT - UNITS 1 AND 2 TECHNICAL SPECIFICATION SPECIAL REPORT 1-90-05 VALID DIESEL GENERATOR FAILURES

On a non emergency manual start with the air start pilot valves malfunctioning, the initial burst of air was not adequate to start the engine. The burst of air was adequate to change the alignment of the crankshaft with respect to the faulty air start pilot valves so that any subsequent attempt to start the engine could be successful. This problem is now believed to have been the cause of the DG failures on 1-24-90 and 1-25-90, which were reported to the Commission on 2-19-90 as Special Report 2-90-02. On 7-19-90, the manufacturer of the valves submitted a 10 CFR 21 report to the Commission as a result of the above findings.

The failure of the DG operators to recognize the initial start attempts of 4-12-90 and 7-5-90 as DG failures is partially attributed to limitations of the simulator computer. The simulator requires operators to hold the DG manual start pushbutton in order to have the proper control signals annunciate, creating the misconception that the pushbutton must remain depressed for a given period of time in order for a DG start to occur.

D. CORRECTIVE ACTIONS

1. The sixteen starting air valves on each of the four DG's were tested and polished where necessary to provide adequate clearance between the pistons and caps.
2. The appropriate maintenance procedures will be revised by the next refueling outages to require testing of the starting air valves to demonstrate freedom of movement following DG overhaul.
3. During shift briefings, operators were advised that the DG should start when the manual pushbutton is depressed, any failure to manually start is a reportable event, and such information should be relayed to the appropriate personnel so that a report can be initiated.
4. Operator training will be enhanced during the next training cycle to advise personnel that a DG start should occur without having to continue depressing the manual start pushbutton.
5. The DG 1B and 2A test frequency is currently once per 7 days in accordance with TS Table 4.8-1. This frequency will be continued until 7 consecutive valid tests are completed with no more than one valid failure in the last 20 valid tests and/or no more than 4 valid failures in the last 100 valid tests. Up to and including the 7-5-90 valid failure, there have been a total of 6 valid failures in 79 valid tests of DG1B. Up to and including the 7-11-90 valid failure, there have been a total of 5 valid failures in 43 valid tests of DG2A.