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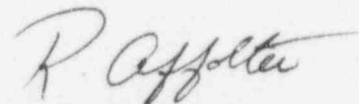
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Gentlemen:

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FACILITY OPERATING LICENSE NPF-30
SPECIAL REPORT 96-01
INVALID START FAILURE OF DIESEL GENERATOR 'B'
DUE TO AIR START DISTRIBUTOR ROTOR MISALIGNMENT

This Special Report is submitted pursuant to Technical Specification (T/S) 4.8.1.1.3 and 6.9.2 concerning an invalid start failure of Diesel Generator 'B' due to air start distributor rotor misalignment.


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RDA/HDB/MAH/cmw

Enclosure

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SPECIAL REPORT 96-01
INVALID START FAILURE OF DIESEL GENERATOR 'B'
DUE TO AIR START DISTRIBUTOR ROTOR MISALIGNMENT

At 0200 on 1/9/96 the 'B' Diesel Generator (D/G) was taken out of service and declared inoperable to perform routine maintenance. At 0053 on 1/10/96, during the performance of the maintenance, the 'B' D/G failed to start during an invalid test. The test was being conducted using only a portion of the air start system. The 'C' air starting train was used in the test with 'D' train valved out. During normal operation, both 'C' and 'D' are aligned to the 'B' D/G.

Subsequent to the failure, Operators verified the starting air system lineup was correct per procedure OSP-NE-00002, Standby Diesel Generator Periodic Tests and initiated a work request to begin troubleshooting. Further troubleshooting identified a problem in the 'C' air start distributor. The distributor rotor had shifted slightly on the 'C' train air start distributor shaft. This resulted in air start timing for the 'C' train being retarded by approximately 15 degrees. This amount of retardation in conjunction with the position the engine had stopped after its last run kept the engine from starting. The root cause of rotor shifting is attributed to the taper joint between the rotor and the distributor shaft not being lapped at the factory during engine assembly. In addition, the torque applied to the nut holding the rotor on the distributor shaft did not appear to be correct. This allowed the distributor shaft to slip in the rotor. A new shaft and rotor were installed. At 1240 on 1/11/96, D/G 'B' was successfully started on the 'C' train only. The D/G was declared operable per OSP-NE-00002 and Technical Specification (T/S) 4.8.1.1.2. The D/G was unavailable for a total of 58.7 hours.

Prior to the maintenance beginning on 1/9/96, the 'B' D/G was operable since its previous start because both 'C' and 'D' air start trains are normally lined up. D/G 'B' would have started with both air trains valved into the engine. Air start distributors 'A' and 'B' on 'A' D/G and 'D' on 'B' D/G will be checked in the next D/G outages of sufficient duration to ensure the timing of the rotors and the torque on the distributor shaft rotor nuts are

correct. On 5/31/95, the 'B' D/G was started using only the 'D' air start train. On 12/27/95, the 'A' D/G was started using only the 'B' train of starting air. On 1/24/96, only the 'A' train was used to start the 'A' D/G. No problems were encountered with the air distributors during these single train starts.

The starting history of D/G 'B' as of this report date is summarized as follows:

<u>No. of Valid Tests</u>	<u>No. of Failures During Valid Tests</u>	<u>No. of Failures During Invalid Tests</u>
165	2*	5#
Last 20	0	1
Last 100	2	4

* LER 89-001-01, Special Report 93-05

Special Reports 85-05, 89-01, 89-08, 90-02-01

Surveillance tests are currently performed at least once per 31 days for D/G 'B'. This is in conformance with T/S table 4.8-1 which requires a test interval of not more than 31 days if the number of failures in the last 20 valid tests is one or zero, or if the number of failures in the last 100 valid tests is four or less.