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DUKE POWER

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

Subject: Catawba Nuclear Station, Unit 2
Docket No. 50-414
Special Report
Invalid Failure of Diesel Generator 2B

Pursuant to Technical Specification 4.8.1.1.3 and 6.9.2, find attached a Special Report concerning the Unit 2 Diesel Generator (DG 2B) invalid failure that occurred on February 3, 1993. The Special Report is being submitted late because of an administrative oversite.

Very truly yours,

M.S. Tuckman

MS Tuckman

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Attachment

xc: SD Ebneter
Regional Administrator, Region II

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SPECIAL REPORT

CATAWBA NUCLEAR STATION
DIESEL GENERATOR 2B INVALID FAILURES
DUE TO VIBRATION SENSOR FAILURE

Two invalid failures of Diesel Generator 2B (DG 2B) occurred on February 3, 1993 due to a failure of a pneumatic vibration switch on the engine. Unit 2 was in Cold Shutdown (Mode 5) for the 2EOC5 refueling outage at the time these failures occurred. There have been 0 valid failures in the last 20 valid tests and 1 valid failure in the last 100 valid tests. DG 2B remains on a monthly operability test schedule in accordance with Technical Specification (TS) 4.8.1.1.2 Table 4.8-1. There is no unavailability time associated with these failures due to the unit being in cold shutdown with the other engine, DG 2A, operable.

At 2200 hours on February 3, 1993, DG 2B was manually started (Start #715) to verify the correct operation of a newly installed shutdown logic board. It was noted that the control air pressure in the pneumatic shutdown logic was not increasing. At the end of the 60 second lockout period for Group II trips, the engine shutdown automatically. The engine was restarted (Start #716) and several more components in the cabinet were checked for air leaks. The engine tripped after 60 seconds into this run. Several more runs were performed, isolating sections of tubing leaving the logic board, to pinpoint any source of air leakage. It was discovered that the tubing line leaving Port 9 of the logic board was not holding pressure. This line goes to the reset connections for the four vibration switches and the crankcase pressure switch of the engine and P3 in the panel. Upon checking these switches, it was discovered that the right front turbocharger vibration switch was not holding air pressure at its reset port due to an internal leak. This defective sensor was replaced and the engine was run for a functional with no other problems being observed. The vibration sensors are part of the non-emergency trip system. If an emergency start signal had been received, the trips caused by this failure would have been bypassed.

The entire pneumatic non-emergency trip system is in the process of being replaced on Unit 2 with an electrical system per Nuclear Station Modification (NSM) CN-20528 during 2EOC5 refueling outage. This modification includes the vibration trip portion of the system. This modification has been completed on Unit 1 engines per NSM CN-11149.

These invalid failures due to vibration sensor failures are not related to the invalid failures which occurred on this engine due to failures of the crankcase pressure sensors, as documented in previous Special Reports.