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**DUKE POWER**

November 9, 1990

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

Subject: Catawba Nuclear Station, Unit 1  
Docket No. 50-413  
Special Report

Gentlemen:

Pursuant to Technical Specifications 6.9.2 and 4.8.1.1.3, please find attached a Special Report concerning Unit 1 Diesel Generator 1A invalid failures on October 12, 1990, respectively.

Very truly yours,

*M. S. Tuckman*  
*By [Signature]*

M. S. Tuckman, Vice President  
Nuclear Operations

MHH-2/lcs

Attachment

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## SPECIAL REPORT

### CATAWBA NUCLEAR STATION

#### D/G 1A INVALID FAILURES DUE TO A FAULTY JACKET WATER OUTLET TEMPERATURE SENSOR

Two invalid failures of Diesel Generator (D/G) 1A occurred on October 12, 1990, while Unit 1 was at 100% power. D/G 1A was on a monthly test schedule at the time of the invalid failures. There has been 0 valid failures in the last 20 valid tests and 1 valid failure in the last 100 valid tests on D/G 1A.

D/G 1A was declared inoperable on October 10, 1990, at 0024 hours, for preplanned maintenance. Following the maintenance, on October 12, 1990, at 0043 hours, OPS initiated (Start #848) per OP/1/A6350/02 Diesel Generator Operation) to perform a functional verification on the maintenance performed. Approximately 60 seconds into the run, the D/G tripped. The operator received several non-emergency trip annunciators at the time. The Shift then generated a high priority work request (54251 OPS) to investigate the trip.

The D/G was then restarted (Start #849) per OPS procedure with IAE present to determine the cause of the trip. This process revealed that the KD Outlet High Temperature sensor (1KD TT 5000) was venting. During the engine startup with sensor venting, the pneumatic non-emergency trips were not able to be pressurized above the 40 psig trip setpoint prior to the 60 second time delay. The non-emergency trips are bypassed during the initial 60 seconds to allow the pneumatic lines time to pressurize to a normal 60 psig.

The sensor was removed and found to be out of calibration. The sensor had been recalibrated earlier per 10244 SWR, during scheduled preventative maintenance. The sensor was found to be on the high side out of calibration, and was successfully recalibrated. Because of this earlier maintenance, a new sensor was calibrated and installed on the D/G. The D/G was then started twice by Operation's procedure and ran to ensure the D/G would not trip (Start #850 & #851). Following the repair the D/G was secured, then restarted per PT/1/A/4350/02A (D/G 1A Operability) and ran loaded at 5700 Kw for over 1 hour with no problems. The D/G was then declared operable on October 12, 1990 at 1800.

The sensor that failed is associated with the pneumatic non-emergency side of the D/G circuitry. It is not associated with the electronic emergency side of the run circuitry. In the event of an emergency demand of the D/G, the pneumatic non-emergency side of the run circuitry would have been bypassed and the D/G would have functioned as designed.