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December 30, 1982

Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Re: Catawba Nuclear Station
Units 1 and 2
Docket Nos. 50-413 and -414

Dear Mr. O'Reilly:

Pursuant to 10 CFR 50.55e, please find attached a Supplemental Response to Significant Deficiency Report SD 413-414/82-14.

Very truly yours,

Hal B. Tucker

RWO/php
Attachment

cc: Director
Office of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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NRC Resident Inspector
Catawba Nuclear Station

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CATAWBA NUCLEAR STATION

REPORT NUMBER: SD 413-414/82-14, Supplemental Response

REPORT DATE: December 30, 1982

FACILITY: Catawba Nuclear Station, Units 1&2

IDENTIFICATION OF DEFICIENCY:

Capscrews that secure the starting air valve and housing assembly to the cylinder head may "bottom out" prior to properly seating the valve and housing assembly in place. The improper seat may cause a "scouring" or "burning away" of the starting air valve and housing. If this condition occurred on at least one cylinder per bank, simultaneously, it is felt the diesels would not be able to start and accept a load within the 11 second time requirement.

INITIAL REPORT:

On June 28, 1982, Mr. C. A. Julian of NRC Region II, Atlanta, Georgia was notified of the deficiency by Mr. W. O. Henry, Mr. J.P. Voglewede, Mr. J.M. Lines, and Mr. C.C. Rolfe of Duke Power Company, Charlotte, N.C. 28242. This notification was in response to Mr. R.A. Pratt's (Transamerica Delaval) letter dated June 8, 1982 to Mill Power Supply Company.

SUPPLIER AND/OR COMPONENT:

Transamerica Delaval Incorporated of Oakland, California, manufactured the starting air valves and housing assemblies that are installed on the 4 Catawba diesels for Units 1&2. The diesels are designated 1A, 1B, 2A, and 2B.

DESCRIPTION OF DEFICIENCY:

Capscrews, 3" in length, were provided by Transamerica Delaval to secure the starting air valve and valve housing in the cylinder head. With the 3" long capscrews, there exists a possibility of the capscrews "bottoming out" in the tapped and threaded cylinder head holes, prior to the starting air valve housing being properly positioned and torqued to the required value of 150 foot-pounds. For instance. the torque wrench reading may be 150 foot-pounds due to the capscrew "bottoming out" but the housing may be secured with less than 150 foot-pounds. When the starting air valve housing is not properly positioned, the combustion gases escape by a copper gasket and the valve housing, destroying a rubber O-ring gasket, and leaking into the starting air header. The escaping gases "scour" or "burn away" the valve housing first, then the valve seat, and eventually the starting air valve.

The loss of one starting air valve on each bank of the diesel, simultaneously, would compromise the ability of the diesel to start and be ready to accept a load within the 11 seconds time requirement.

ANALYSIS OF SAFETY IMPLICATION:

Provided the "burning away" of a starting air valve occurs only on one bank of the diesel, the diesel generator can still be started and be ready to accept the load requirements within the 11 seconds time requirements. However, based on the assumption that the "burning away" of the valve could occur simultaneously on at least one cylinder per bank, and remain undetected, this situation could compromise the diesel generator's ability to be started and be ready for load acceptance within the 11 seconds time requirement.

CORRECTIVE ACTION:

Transamerica Delaval recommends a modification that corrects the possible deficiency described above. The modification involves removing each of one hundred twenty-eight (128) 3-inch long capscrews for the four (4) Catawba diesels that are used to secure the starting air valves in the cylinder heads, and replacing these capscrews with 2-3/4 inch length capscrews. The 2-3/4 inch capscrew will provide sufficient thread engagement, but will not "bottom out" prior to properly positioning the valve housing and meeting the required 150 foot-pounds of torque.

In addition, the sixty-four (64) copper O-ring gaskets, along with the sixty-four rubber O-ring gaskets will be replaced. The copper O-ring gaskets tightly seal the bottom of the starting air valve housing and the rubber O-ring gaskets seal the top of the housing from the air start header.

Also, Transamerica Delaval has modified its assembly procedures to prevent future recurrence of this problem.

The above corrective actions were expected to be completed by January 1, 1983. However, the installation of the starting air valve capscrews is being delayed to coincide with the repair work on the Catawba diesels as a result of another reportable item on the Catawba diesel piston skirts, manufactured by Transamerica Delaval, Inc.

This delay prevents redundant work by Duke Power, since the starting air valves will be removed to facilitate the piston skirt repairs.

Therefore, it is expected the one hundred twenty-eight (128) capscrews will be installed by February 1, 1984.