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March 27, 1984

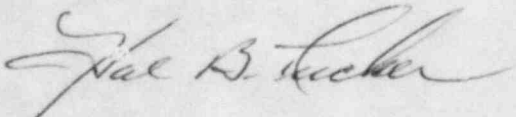
Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

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

Dear Mr. O'Reilly:

Please find attached a final report describing corrective action taken in response to Significant Deficiency No. SD 413-414/81-11.

Very truly yours,



Hal B. Tucker

LTP/php

Attachment

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

NRC Resident Inspector
Catawba Nuclear Station

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Report No.: CA-81-018 (SD 413-414/81-11)

Report Date: March 14, 1984

Facility: Catawba Nuclear Station Units 1 and 2

Identification of Deficiency: Borg-Warner Corp., Nuclear Valve Division Motor Operated Gate Valves

Description of Deficiency:

On June 2, 1981, W. C. Henry, and J. K. Berry advised Mr. Art Johnson, NRC, of the following deficiency.

Valve 1KC230A failed during dry cycling due to the valve disc becoming wedged between the body guides. Operating the valve from the closed position, the leading edge of the lower disc guide gouged the bottom body guide such that the valve could not be fully opened. In addition, the pull of the operator caused the upper side of the disc to rotate slightly about the fixed lower side resulting in the disc wedging between the body guides. Valve is oriented with the stem centerline in a horizontal plane.

This is an active, 8 inch, 150 lb., ASME Class 3 gate valve with a Rotork electric motor operator. Borg-Warner Corporation, Nuclear Valve Division's part number is 76110.

Analysis of Safety Implications:

Valve 1KC230A is used to isolate the essential KC header from the nonessential header during an accident condition. Failure of this valve to isolate could result in cooling water flow to essential components being reduced below acceptable levels should the nonessential KC header fail.

Corrective Action:

The valve was returned to Borg-Warner for repair of guides and body rails. Borg-Warner issued test report 1865 which was used to test the guides of low pressure motor operated valves manufactured prior to May 1979. The valve used in the test was S/N 12429 which is identical to 1KC230A. The test showed that valves oriented $\pm 67\ 1/2^\circ$ from horizontal could fail. The failures were caused by sharp leading edges on the disc guides. It was also noted that closing the gap between the two guides would also aid in solving the problem.

Borg-Warner informed Duke of three other valve items and serial numbers of similar design that should be investigated if installed between $\pm 67\ 1/2^\circ$ from horizontal. Attached is a list of the items and serial numbers recommended to inspect. All valves on this list were inspected, including vertically mounted valves and spare valves with the indicated serial numbers. The valves were inspected by Duke personnel and a Borg-Warner representative.

Corrective Action: (Continue)

Borg-Warner agreed to modify all valves investigated. Discs from all the valves were returned to Borg-Warner for modifications. Borg-Warner completed modifications and returned the discs to Duke. Discs were replaced and checked for fit using bluing test. Six of the discs did not pass bluing test. These six discs and the valve bodies were returned to Borg-Warner to have discs matched to seats. Valves have been repaired and returned to Duke. All modifications and repairs have been completed.

All referenced valves were purchased for Catawba. McGuire and Ocone were not affected by this modification. Two of the repaired valves have been transferred to Ocone.

Borg-Warner Corporation
Nuclear Valve Division

<u>NVD P/N</u>	<u>Serial Nos.</u>	<u>Item No.</u>
401KBC3-001	31755-31764	2B-393
401KBC4-001	35557 & 35558	2B-396
76110	12428-12431	2B-216
401MBC3-001	35559-35562 & 35564	2B-394