TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

February 13, 1981

80-007-03L ✓
80-006-03L ✓

Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 3100
101 Marietta Street
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - BORG-WARNER 3" MOTOR OPERATED GATE VALVES - NCR'S 0020 AND BLN MEB 8005 - SECOND SUPPLEMENTAL REPORT

On March 17, 1980, R. W. Wright, NRC-OIE Region II, was informed that NCR 0020 was determined to be reportable in accordance with 10 CFR 50.55(e). This was followed by our final report dated April 16, 1980. As a result of new information received subsequent to the final report, related NCR BLN MEB 8005 was determined to be reportable in accordance with 10 CFR 50.55(e). This was followed by our supplemental report dated November 6, 1980. Enclosed is our second supplemental report. We consider 10 CFR Part 21 to be applicable to this deficiency. We expect to submit our next report by May 7, 1981.

If you have any questions concerning this matter, please get in touch with D. L. Lambert at FTS 857-2581.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills by

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure
cc: Mr. Victor Stello, Jr., Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
BORG-WARNER 3" MOTOR OPERATED GATE VALVES
NCR'S 0020 AND BLN MEB 8005
10 CFR 50.55(e)
SECOND SUPPLEMENTAL REPORT

Description of Deficiency

During a test program conducted by Duke Power Company at Marshaltown Steam Station, Borg-Warner's standard 3", 1500-pound motor operating gate valve failed to fully close when actuated under operating conditions. The operating conditions were 2485 lb/in^2 at 650°F with a flow rate of 220,000 pounds per hour of steam, which is equivalent to a velocity of approximately 40 feet per second. Under these conditions, the valve closed to within 10 percent of full closure.

Through a number of subsequent tests, the problem was resolved to be a lack of proper guiding, combined with very high bearing stresses between the gates and the seats which caused binding just before full closure.

Similar valves are used at Bellefonte in the Component Cooling Water System, Reactor Coolant System, Makeup and Purification System, and Decay Heat Removal System.

Interim Progress

Although Borg-Warner believes the valves at Bellefonte may not be susceptible to the deficiency as described, they have proposed a program to test the valves at Bellefonte. One 3" valve has been returned to Borg-Warner for testing. Borg-Warner will weld flanges to the valve and then ship the valve to Approved Engineering Test Laboratory (AETL) in Chatsworth, California. The valve will be subjected to the worst case TVA system flow and pressure. Results will be made available to TVA upon completion of test.