



831 Power Building  
TENNESSEE VALLEY AUTHORITY  
CHATTANOOGA, TENNESSEE 37401

May 19, 1975

Mr. Donald F. Knuth, Director  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Dear Mr. Knuth:

BROWNS FERRY NUCLEAR PLANT UNIT 3 - REPORTABLE DEFICIENCY -  
CORROSION IN MAIN STEAMLINE ISOLATION VALVE OPERATORS

Initial report of the subject reportable deficiency was made to B. J. Cochran, NRC-IE, Region II, on April 17, 1975. In compliance with paragraph 50.55(e) of 10 CFR Part 50, we submit the enclosed final report of the deficiency.

Very truly yours,

J. E. Gilleland  
Assistant Manager of Power

Enclosure

CC (Enclosure):

Mr. Norman C. Moseley, Director  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Region II - Suite 818  
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ENCLOSURE

BROWNS FERRY NUCLEAR PLANT UNIT 3

CORROSION IN THE MAIN STEAMLINE ISOLATION VALVE OPERATORS

FINAL REPORT

Description of Occurrence

During the process of replacing the seals in the main steamline isolation valve operator (FDI 169-8700-1), it was discovered that the air cylinder on the operator was severely corroded. This condition was found to exist for all the main steamline isolation valves (MSIV) for unit 3. A request was made to the manufacturer of the operators, Hydro-Line, to send a field representative to inspect the corroded cylinders. After examination of the cylinders by the Hydro-Line representative, it was concluded that the corrosion was severe enough to warrant replacement of all eight cylinders.

Cause of Deficiency

Each cylinder contained excessive moisture and rust which has led us to conclude that the cylinders were not properly stored before installation.

Safety Implications

The main steamline isolation valves are part of the protection system of the Browns Ferry Nuclear Plant. Since the operators of all the unit 3 MSIV's were corroded, it is conceivable that a common mode failure could have occurred sometime during the plant lifetime if the problem was not rectified. Failure of the air cylinders would not prevent the MSIV's from closing but would prevent opening them. Since there are no design basis events that require opening the valves, they will fail in a safe condition.

However, such a hypothetical common mode failure of all the valves at the same time would have been exceedingly remote in that the leakage needed to precipitate such a failure would have been detected before such an event occurred due to required periodic testing of the MSIV's.

Description of Corrective Action

The corroded cylinders were replaced by new cylinders ordered from Hydro-Line and immediately installed on the unit 3 MSIV's.

Means Taken to Prevent a Recurrence

The problem should not recur with the new cylinders since they were not stored for any long period of time. Unlike the original cylinders, these were installed immediately. This completes the procurement of these cylinders for Browns Ferry.