

TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE
37401



September 4, 1974

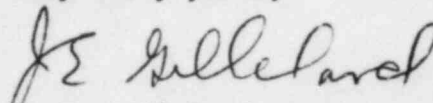
Mr. Donald F. Knuth, Director
Directorate of Regulatory Operations
U.S. Atomic Energy Commission
Washington, DC 20545

Dear Mr. Knuth:

BROWNS FERRY NUCLEAR PLANT UNIT 3 - DEFECTIVE SEISMIC SUPPORTS IN
BRACES FOR REACTOR LEVEL INSTRUMENT PIPING

Initial report of the subject potential deficiency was made on
August 6, 1974. 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 to the Manager of Power

Enclosure

CC (Enclosure):

Mr. Norman C. Moseley, Director
Directorate of Regulatory Operations
U.S. Atomic Energy Commission
Region II - Suite 818
230 Peachtree Street, NW.
Atlanta, Georgia 30303

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ENCLOSURE

BROWNS FERRY NUCLEAR PLANT UNIT 3

DEFECTIVE SEISMIC SUPPORT

FINAL REPORT

On August 6, 1974, an initial report was made regarding the subject deficiency on Unit 3 to Richard Lewis, AEC-DRO Inspector. Re: on II. This report was made during a telephone conversation between Robert Bradley, Dan DeFord, Dan Bolinger, J. J. Wilder, and Richard Lewis, in compliance with Paragraph 50.55(e) of 10CFR50. This is the final report for this occurrence.

Description of Occurrence

During the startup testing program on Unit 2, an obstruction to one of the subject supports on a Yarway water column was discovered. While in the process of removing the obstruction it became necessary to unpin one of the supports. It was then discovered that the unpinned support, which was now extended, could not be retracted into its proper position. As reported in Abnormal Occurrence Report BFAO-50-260/741W the rest of the supports were then tested and a total of 11 out of 14 were found to be defective. The supports for Unit 3 were then tested and 5 of 14 were found inoperative.

Cause of Deficiency

The cause of this deficiency was a breakdown of QA at the vendor's plant. Inspection of the Unit 3 supports in storage revealed that they were not lubricated during assembly at the factory.

Safety Implications

The mechanical seismic supports for the Yarway water columns perform two functions. First, they secure the piping, preventing its collapse during the unlikely occurrence of an earthquake. Second, they allow the piping the freedom to expand or contract under the cyclic thermal loads for which they were designed.

In the latter case, had the defective supports been installed and subsequently locked up, sufficient thermal stress cycles could have developed over the life of the plant to cause the failure of the Yarway water columns. Vibration

alone, however, would not adversely affect the supports or the water columns. Only the combination of thermal cycling preceded by vibrations could have detrimental results.

Description of Corrective Action

Three steps were taken to correct this deficiency. First, all the seismic supports were replaced with new ones obtained from the factory. Second, QA documentation was received on each of the new supports certifying that they were inspected at each step of their assembly. Third, each new support was functionally tested upon receipt.

Means Taken to Prevent a Recurrence

The equipment was replaced with all new supports that had been checked to guarantee they were fully functional. TVA is presently investigating new equipment and/or a better means for performing the same function. Additionally, on all future contract awards for this type seismic support, selected vendors shall be required to provide evidence of a Quality Assurance Program which shall assure adequate inspection prior to shipment.