

TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE
37401



January 3, 1975

Mr. Edson G. Case
Acting Director of Licensing
Office of Regulation
U.S. Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. Case:

Subject: TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT
1 - DOCKET NO. 50-259 - FACILITY OPERATING LICENSE DPR-33 -
ABNORMAL OCCURRENCE REPORT BFAO-50-259/7449W

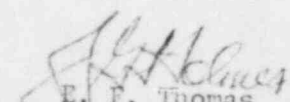
The abnormal occurrence report referenced above stated that a metallurgical examination would be performed on a removed section of pipe to determine the mechanism of this failure. The metallurgical examination has been completed, and the following conclusion is quoted from the report:

"Evidence of the transgranular route of the crack, which grew from the outside in, and the cold working contiguous to the crack and the crack tip indicate the complete fissure developed due to fatigue loading. Small branch cracks leading from the main fissure suggest that aggravated corrosion conditions may have developed in the fissure. A secondary fissure was also detected at the fusion line of the weld joining the pipe to ell. This fissure could have developed at the same time as the fissure that produced the leak, but lower stress retarded the penetration into the weldment and ell. The greater amount of branching in the crevice fissure from the water side indicates corrosion may have played a more significant role in the propagation of the crack than the one that caused the leak."

A copy of the complete report is on file at the plant and available for your review at any time.

Very truly yours,

TENNESSEE VALLEY AUTHORITY


E. F. Thomas
for Director of Power Production

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Mr. Edson G. Case
January 3, 1975

CC: Mr. Norman C. Moseley, Director
Region II Regulatory Operations Office
U.S. Atomic Energy Commission
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