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TENNESSEE VALLEY AUTHORITY  
CHATTANOOGA, TENNESSEE  
37401



September 30, 1974

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

Dear Mr. Case:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT 1 -  
DOCKET NO. 50-259 - FACILITY OPERATING LICENSE DPR-33 - ABNORMAL  
OCCURRENCE REPORT BFAO-50-259/7448W

The enclosed report is to provide details concerning RHR pumps B and D which experienced failure of 1/2-inch size schedule 40 stainless-steel pipe nipples supplying pump seal water and is submitted in accordance with Appendix A to Regulatory Guide 1.16, Revision 1, October 1973. This event occurred on Browns Ferry Nuclear Plant unit 1 on September 20, 1974.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

*E. F. Thomas*  
E. F. Thomas  
Director of Power Production

Enclosure

CC (Enclosure):

Mr. Norman C. Moseley, Director  
Region II Regulatory Operations Office, USAEC  
230 Peachtree Street, NW., Suite 818  
Atlanta, Georgia 30303

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## ABNORMAL OCCURRENCE REPORT

Report No.: BFAO-50-259/7448W  
Report Date: September 30, 1974  
Occurrence Date: September 20, 1974  
Facility: Browns Ferry Nuclear Plant unit 1

### Identification of Occurrence

On September 20, 1974, unit 1 RHR pumps B and D experienced failure of 1/2-inch size schedule 40 stainless-steel pipe nipples supplying pump seal water.

### Conditions Prior to Occurrence

The unit was in the shutdown cooling mode with reactor coolant at approximately 125° F. with RHR pumps A and C out of service for scheduled maintenance.

### Designation of Apparent Cause of Occurrence

Investigation revealed that vibration experienced while operating at high flows in the shutdown cooling mode apparently caused the nipples to crack.

### Analysis of Occurrence

The reactor was in a shutdown cooling mode. There was no damage to any other plant systems, components, or structures. The leakage water was confined to the pump room and elevator pit from which it was directed to the radwaste facility. There were no adverse effects on the health and safety of the public as a result of these failures.

### Corrective Action

Replacement nipples of schedule 40 carbon steel were installed, and the pumps were returned to service. This nipple material was used because of its immediate availability and the desire to restore service promptly. These replacement nipples subsequently failed, and schedule 80 carbon-steel nipples were installed. These heavier nipples performed satisfactorily.

During the period of repairs, the pumps were intermittently operated. Fine water spray or moisture vapor in the pump room caused a ground relay operation, and the D pump motor tripped. The pump motor wiring was meggered and hipotted and found satisfactory. The D pump was returned to service. Also, during this period the local pushbutton switch for the B pump experienced a short circuit due to moisture and tripped the B pump. The switch box was dried out and the B pump returned to service.

Investigation of the system vibration and determination of corrective action, if required, are currently being conducted by design engineers.

### Failure Data

There have been no previous failures of nipples in this application.