

TENNESSEE VALLEY AUTHORITY  
CHATTANOOGA, TENNESSEE  
37401



June 19, 1974

Mr. John F. O'Leary, Director  
Directorate of Licensing  
Office of Regulation  
U.S. Atomic Energy Commission  
Washington, DC 20545

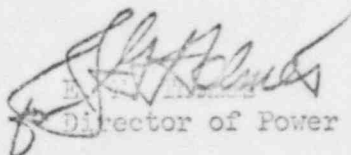
Dear Mr. O'Leary:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT 1 -  
DOCKET NO. 50-259 - FACILITY OPERATING LICENSE DPR-33 - ABNORMAL  
OCCURRENCE REPORT BFAO-7439W

The enclosed report is to provide details concerning HPCI turbine  
which failed to start manually until several attempts were made 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 June 9, 1974.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

  
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

8305040418 740619  
PDR ADDCK 05000259  
S PDR

  
5049  
COPY SENT REGION 2

## ABNORMAL OCCURRENCE REPORT

Report No.: BFAO-7439W  
Report Date: June 19, 1974  
Occurrence Date: June 9, 1974  
Facility: Browns Ferry Nuclear Plant unit 1

### Identification of Occurrence

HPCI turbine failed to start manually until several attempts were made.

### Conditions Prior to Occurrence

The unit was at rated temperature and pressure immediately following a planned turbine trip.

### Description of Occurrence

Startup Test Instruction (STI) 27, Turbine Trip, was being conducted. The turbine was tripped at 1:15 p.m., June 9, 1974. The HPCI system was initiated manually to be available if required to control vessel water level, pressure, and temperature. Several manual starts were attempted before the HPCI turbine started. The HPCI was declared inoperable and the required surveillance on other CSSC systems conducted while the reactor was restarted.

After maintenance and test, the HPCI system was declared operable at 10:00 p.m., June 10, 1974.

### Designation of Apparent Cause of Occurrence

It was observed during each manual start attempt that the turbine stop valve did not fully open and the turbine failed to reach operating speed. When the stop valve did fully open, the unit operated as designed.

A study of the turbine stop and relay valve indicated that, during the start attempts, only the stop pilot valve opened which suggested that the trouble was possibly low operating oil pressure or the oil relay valve was not working properly.

### Analysis of Occurrence

During the brief period of time that the HPCI turbine would not start, all remaining safety systems were available, vessel water level was controlled at all times by other systems, and there were no adverse consequences experienced.

### Corrective Action

An inspection of the oil relay valve piston, piston rings, and compression spring revealed a number of small scratches and scores which could cause the relay valve to stick and not seat properly. This would cause the stop valve to not fully open.

Corrective Action (continued)

The relay valve piston and seat were disassembled and polished; the relay valve body and piping were cleaned and reassembled. The operating oil pressure was checked and found to be satisfactory, and the HPCI started satisfactorily on six consecutive tests.

Failure Data

The valve is a Schutte and Koerting Company inverted oil operated stop valve. There is no record of any previous failures of this nature.