

TENNESSEE VALLEY AUTHORITY  
CHATTANOOGA, TENNESSEE  
37401



November 9, 1973



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-7332W

The enclosed report is to provide details concerning an HPCI condensate header low level switch malfunction which occurred on Browns Ferry Nuclear Plant unit 1 on October 31, 1973, and is submitted in accordance with Appendix A to Regulatory Guide 1.16, Revision 1, October 1973.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

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.  
Atlanta, Georgia 30303

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## ABNORMAL OCCURRENCE REPORT

Report No.--EFAO-7332W  
Report Date--November 9, 1973  
Occurrence Date--October 31, 1973  
Facility--Browns Ferry Nuclear Plant

### Identification of Occurrence

Unit 1 HPCI condensate header low level switch malfunction.

### Conditions Prior to Occurrence

Reactor at 30-percent power, 300 MWe, during startup test program.

### Description of Occurrence

During accelerated surveillance testing on October 31, 1973, level switch LS-73-56A was found to operate outside technical specification trip level setting, Table 3.2.B, of equal to or greater than elevation 551 feet. Level switch B was tested immediately and operated properly. A simple adjustment of spring tension made switch LS-73-56A operable. The switches are Robertshaw Model 83481 Levelac level switches.

### Analysis of Occurrence

The level switches are arranged in a one out of two logic. Either switch will initiate transfer of the HPCI suction from the condensate storage tank to the suppression chamber. If required, transfer would have been initiated by the redundant switch.

### Corrective Action

The vendor representative was called in to determine the cause of the continued switch malfunctions. The initial switches were rated at 1/4 ampere/250V d-c. They were replaced with switches rated at 1/2 ampere/250V d-c. (See letter from J. E. Gilleland to F. E. Kruesi, Director, Directorate of Regulatory Operations, AEC, dated July 18, 1973.)

Investigation indicated that the 1/2-ampere switch contacts were not compatible with the trip mechanism. Specifically, the new switch required a greater travel and greater pressure by the mechanism to operate the contacts. The original type of switches will be installed as soon as they can be obtained and arc suppressors installed around the level switch load to prevent arcing of these contacts. An accelerated testing frequency of once a week has been initiated for both switches. This test frequency will apply to the interim period with

the 1/2-ampere switches and to the 1/4-ampere switches until three consecutive tests have been accomplished satisfactorily on a weekly basis. The testing frequency will then be increased to biweekly and the original test schedule of once a month will be resumed after three consecutive tests have been satisfactorily performed on the biweekly frequency.

Failure Data

Robertshaw Model 83481 Levelac level switch. Serial numbers: Switch A--D-73-L0176; Switch B--D-73-L0180

<u>Switch</u>	<u>Date</u>	<u>Failure</u>	<u>Corrective Action</u>
LS-73-56B	6/18/73	Switch contacts failed	Installed higher current rating contacts
LS-73-56B	8/16/73	Failed to operate	Readjusted switch mechanism
LS-73-56A and B	10/17/73	Failed to operate	Readjusted switch mechanism