

TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE
37401



50 - 259

June 14, 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-7438W

The enclosed report is to provide details concerning a main
steamline isolation valve malfunction 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 6,
1974.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

EFT
for 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-7438W
Report Date: June 14, 1974
Occurrence Date: June 6, 1974
Facility: Browns Ferry Nuclear Plant unit 1

Identification of Occurrence

On June 6, 1974, main steamline "B" outboard isolation valve FCV 1-27 closed in 1.7 seconds. The required closing time for this valve is not less than 3 or more than 5 seconds.

Conditions Prior to Occurrence

The reactor was at approximately 70-percent power. MSIV startup test No. 25 was in progress.

Designation of Apparent Cause of Occurrence

An inspection of the MSIV revealed hydraulic fluid leaking past the lower seals on the valve dashpot cylinder. This resulted in a low fluid level in the dashpot cylinder permitting the valve to close too fast. The cause of the leaking fluid was determined to be a damaged seal.

Analysis of Occurrence

All of the MSIV's were tested at this time and found to close within the 3-to-5-second range except for the "B" outboard isolation valve FCV 1-27. A review of the transient trace number 137 showed the power increase experienced with the slightly faster closure of FCV 1-27 was approximately 10 percent. This was the same increase experienced by the closure of the other MSIV's. Therefore, there was no unsafe operating condition.

Corrective Action

Immediate corrective action was to shut the inboard isolation valve in the "B" steamline.

At about 1,800 hours on June 6, a steam tunnel entry was made and the dashpot on MSIV FCV 1-27 was filled with E. F. Houghton Co. SAE #620 oil and the valve reset to close in 4.7 seconds. This interim corrective action was to permit several hours of testing to be accomplished before a scheduled reactor trip after which permanent corrective action would be taken. At 2,301 hours on June 6, the reactor tripped as a result of a startup test.

On June 7, new seals were installed in the dashpot cylinder. The cylinder was refilled and the valve adjusted to close in 4.8 seconds.

Failure Data

See the following previous abnormal occurrence reports:

1. Report No. BFAO-742W--Two main steam isolation valves (FCV 1-26 and FCV 1-51) failed to meet the 3-to-5-second closing time on January 8, 1974, on unit 1.
2. Report No. BFAO-7412W--Main steam isolation valve FCV 1-27 failed to meet the 3-to-5-second closing time on March 8, 1974, on unit 1.

Valve Data:

1. 3/4" auto-ponent flow control valve, knob-type; auto-ponent drawing No. FK-750.
2. 26" main steam isolation valve:

Manufacturer: Atwood and Morrill Company
Salem, Massachusetts

Valve Drawing No.: 20851-H, Sheets 1 and 2.