

TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE
37401



March 27, 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-7418

The enclosed report is to provide details concerning the reactor core isolation cooling system that failed to reach rated flow within the required 30 seconds after a manual initiation which occurred on Browns Ferry Nuclear Plant unit 1 on March 18, 1974, 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., Suite 818
Atlanta, Georgia 30303

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ABNORMAL OCCURRENCE REPORT

Report No.: BFAO-7418W
Report Date: March 27, 1974
Occurrence Date: March 18, 1974
Facility: Browns Ferry Nuclear Plant unit 1

Identification of Occurrence

The reactor core isolation cooling system failed to reach rated flow within the required 30 seconds after a manual initiation.

Conditions Prior to Occurrence

The reactor was operating at approximately 68-percent power.

Description of Occurrence

At approximately 2:00 p.m., as part of routine surveillance testing, the RCIC system was manually initiated. The pump failed to reach full flow in the required 30 seconds. The pump did reach full flow in 31.6 seconds. The RCIC system was then declared inoperable.

Designation of Apparent Cause of Occurrence

The slow response to the manual initiation was traced to a malfunction of the EGM control box. Investigation revealed that the power supply voltage within the EGM box was too low for proper operation. The power supply to the EGM box was checked and found to be proper. It was then determined that the EGM box was faulty.

Analysis of Occurrence

Although the RCIC failed to reach full flow in the required time, it did reach full flow. If it had been called on in an emergency, it would have performed its intended function. The HPCI was demonstrated operable immediately following the occurrence and would have been available if needed.

Corrective Action

The EGM box was replaced and the new box calibrated. The surveillance test was run and the RCIC reached full flow in 18.2 seconds following a manual initiation. The RCIC was then declared operable. The faulty EGM box was checked, and the line surge protector on the power supply input was found to have deteriorated to the point where it was adversely affecting the power supply voltage. The surge protector was replaced.

Failure Data

CRI--Klipvolt Transient Voltage Suppressor, Polarized type,
Saskes Tarzian, Part No. S-240.

Failure Data (continued)

There have been two previous failures of the surge protector, one on RCIC and the other on HPCI. The previous failure on RCIC was before plant licensing and was reported by Construction forces on DDN-143 dated July 26, 1973. The surge protector failure on HPCI was reported in BFAO-747W on an occurrence dated January 26, 1974. Both these failures were directly attributable to either a short or a ground on the EGM box. The surge protector in this instance had not failed completely but had deteriorated to the point of affecting governor performance.