

TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE
37401



December 28, 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-7347W

The enclosed report is to provide details concerning standby emergency diesel generator failure to start an emergency core cooling pump which occurred on Browns Ferry Nuclear Plant unit 1 on December 19, 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.--BFAO-7347W
Report Date--December 28, 1973
Occurrence Date--December 19, 1973
Facility--Browns Ferry Nuclear Plant

Identification of Occurrence

Standby emergency diesel generator failure to start an emergency core cooling pump.

Conditions Prior to Occurrence

The reactor was shut down in the cold depressurized condition for short-term outage maintenance.

Description of Occurrence

During the unit 1 outage, preoperational testing was being conducted on unit 2. In the performance of the preoperational testing, it was discovered that diesel generator A which serves both units 1 and 2 could not start and accelerate residual heat removal pump 2A. The pump motor would trip on overcurrent.

Designation of Apparent Cause of Occurrence

The diesel generator voltage regulator failed permitting the generator output voltage to drop and not recover during the start of the 2,000-horsepower RHR pump.

Analysis of Occurrence

In the cold shutdown condition only two RHR pumps and their associated diesels are required to be operable. Three diesel generators and all other components of the emergency core cooling systems were operable.

Corrective Action

Following the discovery of this occurrence, investigative testing was performed on diesel generator A to prove that the voltage regulator was solely responsible for the failure to accelerate the RHR pump. During the testing, it was proven that the diesel generator could provide its nameplate rating of power when paralleled with the TVA transmission system and that it could properly start and accelerate smaller emergency cooling pumps such as a core spray pump (600 horsepower) and an emergency equipment cooling water pump (400 horsepower).

Following the testing, the voltage regulator was replaced and sufficient tests were performed to prove that diesel generator A would start and accelerate all of its assigned emergency core cooling loads in the required time.

Failure Data

This is the first failure of a diesel generator voltage regulator at Browns Ferry Nuclear Plant. The voltage regulator is manufactured by Basler Electric Company, part No. 90 49000100, serial No. 56.

RO Files

RO:OB:AR:187

All Regional Branch Chiefs except
Region II

- X TENNESSEE VALLEY AUTHORITY (BROWNS FERRY #1)
- X DOCKET NO. 50-259 - ABNORMAL OCCURRENCE
- X REPORT BFAO-7347W
- X The subject report is forwarded for your
general information.

Enclosure:
As Stated

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Inquiry*

RO
R. J. McDermott
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1/14/74