TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE
37401

September 25, 1974

Mr. Edson G. Case
Acting Director of Licensing
Office of Regulation
U.S. Atomic Energy Commission
Washington, DC 20545

Dear Mr. Case:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT 2 - DOCKET NO. 50-260 - FACILITY OPERATING LICENSE DPR-52 - ABNORMAL OCCURRENCE REPORT BFAO-50-260/7413W

The enclosed report is to provide details concerning Average Power Range Monitor (APRM) channels A, B, and D LPRM input count circuit setpoint drift 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 2 on September 15, 1974.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

for B. 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

50-260 inquiry

9970

COPY SENT REGION II

ABNORMAL OCCURRENCE REPORT

Report No.: BFAO-50-260/7413W
Report Date: September 25, 1974
Occurrence Date: September 15, 1974
Facility: Browns Ferry Nuclear Plant unit 2

Identification of Occurrence

Average Power Range Monitor (APRM) channels A, B, and D LPRM input count circuit setpoint drift.

Conditions Prior to Occurrence

The reactor was operating at approximately 35-percent thermal power.

Description of Occurrence

During routine surveillance testing at approximately 2400 hours on September 15, 1974, the LPRM count/inoperative trip settings for APRM channels A, B, and D were found to operate at less than 13 operable LPRM's. Technical specifications require a trip setpoint of less than 14 operable LPRM's.

Designation of Apparent Cause

The LPRM count/inoperative circuitry for APRM channels A, B, and D was found to trip at one less operable LPRM than required by the technical specifications. This setpoint error is attributed to thermal drift. Also, APRM channel A LPRM averaging card had a bad solder connection.

Analysis of Occurrence

The LPRM count/inoperative circuitry functions to count the number of bypassed LPRM's. When the number of operable LPRM's to a particular APRM channel decreases below its adjusted setpoint, the count/inoperative circuitry initiates an inoperative trip resulting in a reactor half-scram condition. At the time of this occurrence, only one LPRM was bypassed in all three of the APRM channels involved. Each APRM channel has either 21 or 22 LPRM inputs.

Equipment configuration requires exposure of the LPRM count/inoperative circuitry to lower control room temperature when adjusting the trip setpoint. Subsequent testing confirmed that such exposure was sufficient to cause the trip setpoint to function at one less operable LPRM than calibrated for during exposed conditions.

There were no adverse effects on the health or safety of the public as a result of this failure.

Corrective Action

Immediately upon discovery, the affected channels were readjusted and checked. The other channels were tested and found within limits. The surveillance instruction will be revised to adjust the count/inoperative circuit to trip at less than 15 operable LPRM inputs which is one more than required by the technical specifications. This conservative setpoint should prevent similar occurrences.

Failure Data

None