

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

November 20, 1978

Mr. James P. O'Reilly, Director
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT 1 - DOCKET
NO. 50-259 - FACILITY OPERATING LICENSE DPR-33 - REPORTABLE OCCURRENCE
REPORT BPRO-50-259/788

The following is a supplement to my letter dated March 31, 1978. The subject reportable occurrence described potential adverse conditions on inplant voltages resulting from higher than designed real and reactive loads and the resulting voltage drop across the high impedance common station service transformers.

Interim corrective measures have been taken to alleviate potential adverse inplant voltage conditions. These interim corrective measures consisted of:

1. Connection of unit 3 4-kV unit boards to cooling tower transformers as a source of supply.
2. Installation of a 42-Mvar and a 39-Mvar capacitor bank on the 161-kV system to improve power factors under high inplant load demand situations.
3. Second-level undervoltage protection is to be installed on the 4-kV shutdown boards to ensure that upon a voltage degradation, the shutdown boards are supplied from an onsite power system, i.e., diesel generators.

Items 1 and 2 were completed June 12, 1978, before the unit 2 startup from the refueling outage. Since these modifications were completed, we have had various unit shutdowns including one event with three units shut down at the same time. During these events, all inplant voltages were well above the minimum required. Item 3 is being reviewed and is presently scheduled for installation on unit 3 this outage and on units 1 and 2 during unit 1 outage scheduled for November this year.

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Our Division of Engineering Design is presently evaluating further permanent modifications to ensure that, under all plant conditions, inplant voltages are maintained to acceptable levels. This evaluation is indicating that the installation of generator breakers on the individual units is a viable permanent fix. It is also possible that this evaluation may provide for inplant capacitors on the 4-kV system.

We will continue to keep you advised as to our evaluations of final modifications required to ensure minimum voltage levels.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

H. S. Fox
Director of Power Production

cc: Director (3)
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