TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
1630 Chestnut Street Tower II

September 19, 1985

BLRD-50-438/85-25
BLRD-50-439/85-22

U.S. Nuclear Regulatory Commission
Region II
Attn: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Dr. Grace:

BELLEFONTE NUCLEAR PLANTS UNITS 1 AND 2 - UNDERVOLTAGE OF THE 125V DC VITAL POWER DISTRIBUTION SYSTEM TO AUXILIARY FEEDWATER TURBINE PUMP ROOM COOLING FANS - BLRD-50 439/85-25, BLRD-50-439/85-22 - FIRST INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector Al Ignatonis on August 6, 1985 in accordance with 10 CFR 50.55(e) as Significant Condition Report (SCR) BLN EEB 8510. Enclosed is our first interim report. We expect to submit our next report on or about March 21, 1986.

If you have any questions, please get in touch with R. H. Shell at FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Domer

for O. W. Hufham, Manager
Licensing and Risk Protection

Enclosure
cc: Mr. James Taylor, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Records Center (Enclosure)
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

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ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
UNDERVOLTAGE OF THE 125V DC VITAL POWER DISTRIBUTION SYSTEM
TO AUXILIARY FEEDWATER TURBINE PUMP ROOM COOLING FANS
BLRD-50-438/85-25 AND BLRD-50-439/85-22
SCR BLN EEB 8510
10 CFR 50.55(e)
FIRST INTERIM REPORT

Description of Deficiency

The design configuration of the 125V dc vital power distribution system (EU) provides a 104.5V dc terminal voltage. This low source voltage coupled with the existing cable voltage drop results in insufficient voltage to the auxiliary feedwater turbine pump (AFTP) room cooling fan motors. The insufficient voltage reduces the cooling capacity of the fans and could result in a high temperature environment for the AFTP controls.

The apparent cause of this deficiency appears to be a failure to consider the effects of cable voltage drop in the design of the feeder cable circuits to the AFTP room cooling fans.

Interim Progress

TVA is evaluating the subject condition to determine a shorter path for cable installation between the 125V dc vital power distribution system and the AFTP room cooling fans motors. A shorter cable route would result in a smaller cable voltage drop and restore the required cooling capacity of the AFTP room cooling fans.

All design work on this deficiency will be complete in January 1986 for unit 1 and February 1986 for unit 2. Construction corrective action on this deficiency is scheduled to be complete by February 14, 1986, for unit 1 and August 30, 1992, for unit 2.

In order to prevent a recurrence of problems of this nature, TVA has performed voltage drop calculations for all safety-related cables at Bellefonte Nuclear Plant.

Additional information will be provided to the NRC on or about March 21, 1986.