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

July 24, 1984

Director of Nuclear Reactor Regulation
Attention: Ms. E. Adensam, Chief
Licensing Branch No. 4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Ms. Adensam:

In the Matter of the Application of) Docket Nos. 50-390
Tennessee Valley Authority) 50-391

Please refer to TVA's letter dated June 11, 1984 which, as requested by NRC, provided supplemental information on various audit findings identified by NRC during the February 14-16, 1984 audit of the Watts Bar Nuclear Plant (WBN) electrical equipment qualification files. This request for additional information was a result of an informal TVA/NRC meeting of April 18, 1984 held to discuss TVA's responses to the previously mentioned audit findings.

During the April 18, 1984 meeting NRC, as a follow-up to TVA's response to an audit finding concerning the calculation of head temperature for the resistance temperature detectors (RTD) installed at WBN, requested that TVA investigate the applicability of Sandia National Laboratory's observation of a 50° F increase above ambient temperature for the RTD head. NRC requested that TVA provide a response detailing the results of its investigation.

TVA has completed its investigation into the applicability of Sandia's observations. Enclosed is TVA's response to NRC's request for additional information.

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Director of Nuclear Reactor Regulation July 24, 1984

If you have any questions concerning this matter, please get in touch with D. B. Ellis at FTS 858-2681.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills

L. M. Mills, Manager
Nuclear Licensing

Sworn to and subscribed before me
this 24th day of July 1984

Paulette T. White
Notary Public
My Commission Expires 9-5-84

Enclosure
cc: U.S. Nuclear Regulatory Commission (Enclosure)
Region II
Attn: Mr. James P. O'Reilly Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

ENCLOSURE

WATTS BAR NUCLEAR PLANT
NRC AUDIT FINDINGS
ROSEMOUNT RTDs
ELECTRICAL EQUIPMENT QUALIFICATION PROGRAM

COMPONENT-SPECIFIC FINDING - NEB-68-24, ROSEMOUNT RTDs

Question 6

Sandia National Laboratory has observed a 50°F increase above ambient temperature for the RTD head. TVA should initiate discussions with Westinghouse on this issue and provide a more detailed response accounting for the discrepancies.

Response

TVA has reviewed the Sandia report, "Test to Determine Typical Service Temperature Inside RTD Connection Heads," dated March 25, 1983 and have the following comments relative to its applicability to the RTDs used at WBN.

1. The RTDs used at Watts Bar have insulated RTD caps while those tested by Sandia had uninsulated caps.

2. The Watts Bar system has vents above and around the RTDs which provide cool air over the RTD. This air velocity has been analyzed to show that the temperature will not rise more than 200°F. The RTDs used in the Sandia test did not have air vents around them.

3. TVA bases its conclusion on actual operating experience at Sequoyah and other Westinghouse plants. The Sandia test extrapolated their results to the 600°F (reactor coolant temperature) condition.

TVA believes that it is justified in its use of the 200°F temperature for the RTD heads based on the observations outlined above. The EQS contained in the Environmental Qualification Report has been revised and the RTDs qualified for a temperature rise to approximately 200°F.