OCT 17 1994

Mr. Oliver D. Kingsley, Jr.
President TVA Nuclear and
Chief Nuclear Officer
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT - SEVERE ACCIDENT MITIGATION DESIGN ALTERNATIVES (TAC NOs. M77222 AND M77223)

Dear Mr. Kingsley:

By letter dated September 20, 1994, the staff requested the Tennessee Valley Authority (TVA) to provide additional information on the Watts Bar Severe Accident Mitigation Design Alternatives (SAMDA) analysis. By letter dated September 27, 1994, the staff supplemented their request for additional information. On September 29, 1994, a meeting was held to discuss TVA's proposed response to the staff's request for additional information. During the meeting the staff identified additional issues which they requested TVA to include in their response. By letter dated October 7, 1994, TVA responded to the staff's original and supplemental requests for additional information. The staff has reviewed TVA's response and identified a few issues that need further clarification. Enclosed is a list of questions which identifies the additional information the staff is requesting TVA to provide.

This requirement affects less than ten (10) respondents, and therefore, is not subject to Office of Management and Budget review under Public Law 96-511.

Sincerely,

/s/

Scott F. Newberry, Director
License Renewal and Environmental Review
Project Directorate
Associate Directorate for Advanced Reactors
and License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-390 and 50-391

Enclosure: Watts Bar
SAMDA RAI

cc w/enclosures: See next page

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ENCLOSURE

Watts Bar SAMDA RAI

1. Provide documentation regarding the following:

   a. why option III.3 (independent RCP seal cooling system with new EDG) has less risk reduction potential than option IV.2 (independent RCP seal cooling system without new EDG),

   b. why option IV.3 (modify charging pump cooling from CCS to ERCW) has much more risk reduction potential than either of the above,

   c. whether the risk reduction for options III.5 and III.6 is associated with eliminating the same risk contributors.

2. Identify the total risk associated with events involving RCP seal LOCAs, and the distribution of this risk by APB and by type of initiator (i.e, station blackout, loss of component cooling water, loss of service water). Based on the June 1994 submittal, most of the risk reduction for RCP seal improvements appears to come from APB 7 and KRC R-20. However, R20 is associated with small bypass (pp. 3-31 and 2-29). Explain this apparent discrepancy and whether this situation still exists in the updated analysis.

3. Based on the screening in Appendix B, firewater cooling to PD charging pumps (p. B-13) and firewater cooling to CCPs (p. B-15) were classified as having medium to high importance, yet, these improvements were not further assessed. Justify why these improvements were not considered in the more detailed analysis and why they would not be more cost effective than the options that were considered in detail.

4. Provide updated versions of the following Tables to reflect the results of the revised analysis:

   - Tables 3-8, 3-9, and 3-10,

   - Tables 4-XXa and 4-XXb for the following design options: II.2, III.2, III.3, III.4, III.5, III.6, IV.2, IV.3

5. Provide a detailed description of the RCP seal LOCA model on which the latest core damage frequency estimates are based. Include a description of how the Watts Bar RCP seal LOCA model differs from: (a) the Westinghouse model, and (b) the RCP seal LOCA model utilized in the Sequoyah NUREG-1150 analysis. If the NUREG-1150 model was used, describe whether any modifications or corrections to the model were made. Describe how the model was implemented in the Watts Bar IPE, and discuss any supporting analyses performed to validate or adapt this model for Watts Bar.

Mr. Oliver D. Kingsley, Jr.
Tennessee Valley Authority

cc:
Mr. Craven Crowell, Chairman
Tennessee Valley Authority
ET 12A
400 West Summit Hill Drive
Knoxville, TN 37902

Mr. W. H. Kennoy, Director
Tennessee Valley Authority
ET 12A
400 West Summit Hill Drive
Knoxville, TN 37902

Mr. Johnny H. Hayes, Director
Tennessee Valley Authority
ET 12A
400 West Summit Hill Drive
Knoxville, TN 37902

Dr. Mark O. Medford, Vice President
Engineering & Technical Services
Tennessee Valley Authority
3B Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. D. E. Nunn, Vice President
New Plant Completion
Tennessee Valley Authority
3B Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. J. A. Scalice, Vice President
Watts Bar Nuclear Plant
Tennessee Valley Authority
Route 2, P.O. Box 2000
Spring City, TN 37381

General Counsel
Tennessee Valley Authority
ET 11H
400 West Summit Hill Drive
Knoxville, TN 37902

Mr. Roger W. Huston, Manager
Nuclear Licensing and Regulatory Affairs
Tennessee Valley Authority
4G Blue Ridge
1101 Market Street
Chattanooga, TN 37402-2801

WATTS BAR NUCLEAR PLANT

Mr. B. S. Schofield
Site Licensing Manager
Watts Bar Nuclear Plant
Tennessee Valley Authority
Route 2, P.O. Box 2000
Spring City, TN 37381

TVA Representative
Tennessee Valley Authority
11921 Rockville Pike
Suite 402
Rockville, MD 20852

Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW., Suite 2900
Atlanta, GA 30323

Senior Resident Inspector
Watts Bar Nuclear Plant
U.S. Nuclear Regulatory Commission
Route 2, Box 700
Spring City, TN 37381

The Honorable Robert Aikman
County Executive
Rhea County Courthouse
Dayton, TN 37321

The Honorable Garland Lanksford
County Executive
Meigs County Courthouse
Decatur, TN 37322

Mr. Michael H. Mobley, Director
Division of Radiological Health
3rd Floor, L and C Annex
401 Church Street
Nashville, TN 37243-1532

Ms. Danielle Droitsch
Energy Project
The Foundation for
Global Sustainability
P.O. Box 1101
Knoxville, TN 37901

Mr. Bill Harris
Route 1, Box 26
Ten Mile, TN 37880

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