February 27, 2006

Mr. Karl W. Singer
Chief Nuclear Officer and
Executive Vice President
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 1 — REQUEST FOR ADDITIONAL INFORMATION REGARDING TECHNICAL SPECIFICATION CHANGE TO MODIFY AUXILIARY FEEDWATER START SIGNAL UPON TRIP OF MAIN FEEDWATER PUMPS (TAC NO. MC4586)

Dear Mr. Singer:

By letter dated September 23, 2004, Tennessee Valley Authority (TVA), the licensee for the Watts Bar Nuclear Plant, Unit 1, submitted a proposed change to Technical Specification Table 3.3.2-1, Engineered Safety Feature Actuation System Instrumentation, that would restrict the applicability of item 6.e to those conditions when one or more turbine-driven main feedwater pumps are operating (WBN-TS-04-013).

In order for the Nuclear Regulatory Commission staff to complete its review of the proposal, we request that TVA respond to the enclosed request for additional information (RAI). Based on discussions with your staff, we understand that you plan to respond to the enclosed RAI within 60 days of receipt of this letter.

Sincerely,

/RA/

Douglas V. Pickett, Senior Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-390

Enclosure: Request for Additional Information

cc w/enclosure: See next page

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REQUEST FOR ADDITIONAL INFORMATION

OFFICE OF NUCLEAR REACTOR REGULATION

WATTS BAR NUCLEAR PLANT, UNIT 1

DOCKET NO. 50-390

The operability requirement that is specified by Technical Specification (TS) Table 3.3.2-1, "Engineered Safety Feature Actuation System Instrumentation," Item 6.e, "Trip of All Turbine Driven Main Feedwater Pumps," provides defense-in-depth for the low-low steam generator water level setpoint that is relied upon by the accident analyses for actuating the auxiliary feedwater system. This circuitry is required to be operable in Modes 1 and 2 because, as explained in the Basis for this Technical Specification requirement: "In MODES 3, 4, and 5, the RCPs and MFW pumps may be normally shut down, and thus neither pump trip is indicative of a condition requiring automatic AFW initiation." Note that the TS Basis indicates that a loss of all main feedwater while operating in Modes 1 and 2 will automatically initiate AFW flow to the steam generators for decay heat and sensible heat removal without the need to rely upon operator actions. The practice of using the standby main feedwater pump until the plant is operating at around 18 percent power before starting a turbine driven main feedwater pump renders this AFW initiation circuitry incapable of performing its function in Mode 2 (as well as in Mode 1 below 18 percent power) and does not appear to satisfy the intent of the TS requirement that was established. In order to satisfy the intent of the TS requirement, the AFW automatic initiation circuitry would also have to apply to the standby main feedwater pump when it is being used in Modes 1 and 2 for providing steam generator makeup water. The fact that the turbine driven main feedwater pumps are not normally started until the plant reaches 18 percent power does not justify the proposed change; the intent of the existing TS requirement must be considered and addressed. Therefore, the following additional information is required:

1. Please explain why the existing TS requirement should not be applicable to operation of the standby main feedwater pump when it is being used in lieu of a turbine driven main feedwater pump when the plant is operating in Modes 1 or 2 (up to about 18 percent power) so that a loss of the standby main feedwater pump will automatically actuate the AFW system, consistent with the discussion that is provided in the TS Basis.

2. Please explain why the defense-in-depth capability that is intended by the existing TS requirement is not considered to be necessary for decay heat and sensible heat removal below a power level of 18 percent, considering the maximum heat load that can exist following full power operation. Note that the NRC typically does not allow automatic safety features to be replaced by manual operator actions and therefore, any credit that is taken for manual operator actions in lieu of automatic protective features must be fully explained and justified.

3. Please revise the proposed TS and/or TS Basis (as appropriate) to establish requirements that are consistent with the responses to Questions 1 and 2, above.

Enclosure

Mr. Karl W. Singer
Tennessee Valley Authority
cc:

Mr. Ashok S. Bhatnagar, Senior Vice President
Nuclear Operations
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Larry S. Bryant, Vice President
Nuclear Engineering & Technical Services
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Robert J. Beecken, Vice President
Nuclear Support
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Michael D. Skaggs
Site Vice President
Watts Bar Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Spring City, TN 37381

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

Mr. John C. Fornicola, Manager
Nuclear Assurance and Licensing
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Glenn W. Morris, Manager
Corporate Nuclear Licensing
and Industry Affairs
Tennessee Valley Authority
4X Blue Ridge
1101 Market Street
Chattanooga, TN 37402-2801

WATTS BAR NUCLEAR PLANT

Mr. Paul L. Pace, Manager
Licensing and Industry Affairs
Watts Bar Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Spring City, TN 37381

Mr. Jay Laughlin, Plant Manager
Watts Bar Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Spring City, TN 37381

Senior Resident Inspector
Watts Bar Nuclear Plant
U.S. Nuclear Regulatory Commission
1260 Nuclear Plant Road
Spring City, TN 37381

County Executive
375 Church Street
Suite 215
Dayton, TN 37321

County Mayor
P. O. Box 156
Decatur, TN 37322

Mr. Lawrence E. Nanney, Director
Division of Radiological Health
Dept. of Environment & Conservation
Third Floor, L and C Annex
401 Church Street
Nashville, TN 37243-1532

Ms. Ann P. Harris
341 Swing Loop Road
Rockwood, Tennessee 37854