UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 8, 2010

Mr. R. M. Krich
Vice President, Nuclear Licensing
Tennessee Valley Authority
3R Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 1 – REQUEST FOR ADDITIONAL INFORMATION REGARDING THE PROPOSED ALLOWED OUTAGE TIME ONE-TIME EXTENSION FOR THE CHILLER UPGRADE PROJECT (TAC NO. ME3429)

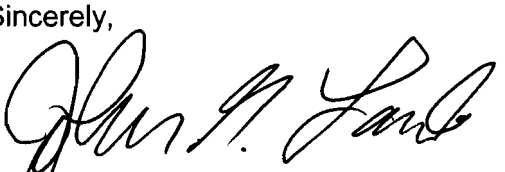
Dear Mr. Krich:

By letter dated February 24, 2010 (Agencywide Document and Access Management System Accession No. ML100570414), as supplemented September 20, 2010 (ML102650043), Tennessee Valley Authority (TVA) submitted a license amendment request for Watts Bar Nuclear Plant, Unit 1. The proposed amendment request would revise Technical Specification (TS) 3.7.11 "Control Room Emergency Air Temperature Control System (CREATCS)." The proposed change would only be applicable during plant modifications to upgrade the CREATCS chillers. This "one-time" TS change would be implemented during WBN Unit 1 Cycles 10 and 11 beginning December 1, 2010, and ending January 29, 2012. TVA has requested the U.S. Nuclear Regulatory Commission (NRC) staff complete its review by December 1, 2010.

In order to complete its review, the NRC staff requires additional information. Enclosed is the NRC staff's request for additional information (RAI) concerning the proposed allowed outage time one-time extension for the chiller upgrade project. Based on discussions with your staff on October 5, 2010, we understand that you plan to respond to the enclosed RAI by October 29, 2010.

If you have any questions regarding this issue, please feel free to contact me at (301) 415-3100.

Sincerely,



John G. Lamb, Senior Project Manager
Watts Bar Special Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-390

Enclosure: RAI

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REQUEST FOR ADDITIONAL INFORMATION

REGARDING THE PROPOSED ALLOWED OUTAGE TIME ONE-TIME EXTENSION FOR

THE CHILLER UPGRADE PROJECT

WATTS BAR NUCLEAR PLANT, UNIT 1

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-390

By letter dated February 24, 2010 (Agencywide Document and Access Management System Accession No. ML100570414), as supplemented September 20, 2010 (ML102650043), Tennessee Valley Authority (TVA) submitted a license amendment request for Watts Bar Nuclear Plant (WBN), Unit 1. The proposed amendment request would revise Technical Specification (TS) 3.7.11 "Control Room Emergency Air Temperature Control System (CREATCS)." The proposed change would only be applicable during plant modifications to upgrade the CREATCS chillers. This "one-time" TS change would be implemented during WBN Unit 1 Cycles 10 and 11 beginning December 1, 2010, and ending January 29, 2012. TVA has requested the U.S. Nuclear Regulatory Commission (NRC) staff complete its review by December 1, 2010.

In order to complete its review, the NRC staff requires additional information. Below is the NRC staff's request for additional information (RAI) concerning the proposed allowed outage time one-time extension for the chiller upgrade project.

RAI

1. In your application dated February 24, 2010, the Note associated with TS 3.7.11 could potentially allow one CREATCS train to be taken out of service multiple times. Do you intend to remove one CREATCS train from service multiple times? If not, please revise the Note to limit each train to be out of service one time only.

2. Section 1.0 (4th paragraph) indicates that one main control room (MCR) chiller train can maintain the ambient temperature in the MCR and its associated spaces below their design limit (less than 104 °F). Section 2.1.2 (1st paragraph) indicates that the temporary chilled water package will also maintain the personnel comfort temperature less than or equal to 90 °F. Section 3.2 (1st paragraph) makes a reference to WBN Calculation MDQ00003120090157 and states that "The calculation concluded that with the initial ambient temperature at 75 °F, it would take at least 7 hours upon the loss of cooling before the maximum environmental temperature of 104 °F would be exceeded in the MCR." From this statement, it appears that the MCR cooling system normally maintains the MCR at 75 °F. Since the nominal rating of the temporary chiller is considerably larger than the loss-of-coolant accident (LOCA) heat load (as indicated in Section 3.1.4, Table 4), it also appears that the temporary chilled water system can also maintain the control room below all the temperature criteria discussed above. But, Table 1 also references a calculated room temperature of less than 85 °F with the temporary equipment. Please provide a perspective of all the different temperatures

noted above and clarify if the temporary chilled water system is capable of fulfilling all the cooling functions of the permanent system.

3. Please explain if the temporary chilled water system for the MCR has any impact on the control room habitability. Include in your response, a discussion of the control room envelope boundary, control room emergency filtration system and postaccident radiological protection, fire and flood, and how they might be impacted. Also, include a discussion on the precautions taken to protect other equipment in the plant from fire, physical damage, movement of portable equipment, etc. during construction activities.

4. There is a statement in the second paragraph of Section 3.1.3, "Compensatory Measures" that reads "Qualified personnel will be provided with informal training on these instructions." Explain the difference between "informal training" and any other types of training at WBN Unit 1 and provide your justification why "informal training" is deemed to be adequate, keeping in context that the temporary cooling equipment performs important safety-related function if it is called upon to operate during postaccident conditions.

5. The statement in Requirement 2 under Section 3.1.3 indicates that qualified personnel will be stationed in the area whenever the valves are in the "Open" position and the temporary cooling system is in service. Confirm that qualified personnel will be stationed throughout the 60-day period, even when the temporary system is not operating during this period. Also, provide details about the additional areas where qualified personnel will be stationed and the purpose of their presence during this period.

6. The statement in Requirement 4 under Section 3.1.3 states that no planned maintenance activity, except for Surveillance Requirements (SRs) 3.8.1.2, 3.8.1.3, and 3.8.1.7, that could impact the operability of the diesel generators (DGs) that provide emergency power to the operable MCR chiller train will be performed. Based on TS 3.7.11, Condition A, if the only qualified MCR cooling system available during the 60-day period becomes inoperable, WBN Unit 1 will enter limiting condition of operation (LCO) 3.0.3 immediately. If the DG SRs result in immediate maintenance to the DGs, explain the impact on the operability of the MCR cooling system in TS 3.7.11. Include in your response, any other systems that support the MCR cooling system and how their maintenance or surveillance could also impact TS 3.7.11.

7. The shutdown board room (SDBR) cooling system is not a TS support system. However, in Section 4.1, "Applicable Regulatory Requirements/Criteria," there is a reference made to 6.9 KiloVolts (kV) SDBR TSs. Further, in Section 2.1.3 "Phase 3 – SDBR Chiller A and MCR Chiller A Replacement," it is stated that "If train – B SDBR chiller were to fail during installation of the new train – A SDBR chiller package, the plant will evaluate the impact and enter the appropriate TS action if required." Please explain how the 6.9 kV SDBR or any other TSs is impacted by the SDBR cooling system failures. Include in your response, a discussion of the processes in place that would lead you from the time the failures are discovered to when the determination is made that TSs are impacted.

8. The temporary chillers will be located outside in the yard. The License Amendment Request did not provide any discussion on how the plant deals with adverse weather

conditions such as thunderstorms, tornado watches or tornado warnings, hurricanes, high winds, etc. Provide a discussion of how the temporary equipment could be affected under these conditions, and the processes in place at WBN Unit 1 to address these conditions, and how the temporary equipment is protected and downtime minimized.

If you have any questions regarding this issue, please feel free to contact me at (301) 415-3100.

Sincerely,

/RA/

John G. Lamb, Senior Project Manager
Watts Bar Special Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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Enclosure: RAI

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