



Tennessee Valley Authority, Post Office Box 2000, Soddy-Daisy, Tennessee 37384-2000

August 22, 2007

TVA-SQN-TS-06-03

10 CFR 50.90

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D. C. 20555-0001

Gentlemen:

|                            |   |             |        |
|----------------------------|---|-------------|--------|
| In the Matter of           | ) | Docket Nos. | 50-327 |
| Tennessee Valley Authority | ) |             | 50-328 |

**SEQUOYAH NUCLEAR PLANT (SQN) - UNITS 1 AND 2 - TECHNICAL SPECIFICATIONS (TS) CHANGE 06-03 "ULTIMATE HEAT SINK (UHS) TEMPERATURE INCREASE AND ELEVATION CHANGES - REQUEST FOR INFORMATION (RAI) NO. 2 SUPPLEMENT" (TAC NOS. MD2621 & MD2622)**

- References:
1. TVA letter to NRC dated, July, 12, 2006, "Sequoyah Nuclear Plant (SQN) - Units 1 and 2 - Technical Specifications (TS) Change 06-03 'Ultimate Heat Sink (UHS) Temperature Increase and Elevation Changes' "
  2. TVA letter to NRC dated, December 7, 2006, "Sequoyah Nuclear Plant (SQN) - Units 1 and 2 - Technical Specifications (TS) Change 06-03 'Ultimate Heat Sink (UHS) Temperature Increase and Elevation Changes Supplemental Information' (TAC Nos. MD2621 and MD2622) "
  3. NRC letter to TVA dated November 22, 2006, "Sequoyah Nuclear Plant, Units 1 and 2 - Request for Additional Information Regarding Technical Specification Change Request for Ultimate Heat Sink Temperature (TAC Nos. MD2621 and MD2622) "

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4. TVA letter to NRC dated January 26, 2007, "Sequoyah Nuclear Plant, Units 1 and 2 - Response to Request for Additional Information (RAI) for Technical Specifications (TS) Change 06-03 (TAC Nos. MD2621 and MD2622)"
5. TVA letter to NRC dated May 8, 2007, "Sequoyah Nuclear Plant, Units 1 and 2 - Technical Specifications (TS) Change 06-03 'Ultimate Heat Sink (UHS) Temperature Increase and Elevation Changes - Supplemental Information No. 2' (TAC Nos. MD2621 and MD2622)"
6. NRC letter to TVA dated July 5, 2007, "Sequoyah Nuclear Plant, Units 1 and 2 - Request Regarding Ultimate Heat Sink (TAC Nos. MD2621 and MD2622)"
7. TVA letter to NRC dated July 20, 2007, "Sequoyah Nuclear Plant, Units 1 and 2 - Technical Specifications (TS) Change 06-03 'Ultimate Heat Sink (UHS) Temperature Increase and Elevation Changes - Request for Information (RAI) No. 2 Extension' (TAC Nos. MD2621 and MD2622)"
8. TVA letter to NRC dated August 20, 2007, "Sequoyah Nuclear Plant, Units 1 and 2 - Technical Specifications (TS) Change 06-03 'Ultimate Heat Sink (UHS) Temperature Increase and Elevation Changes - Request for Information (RAI) No. 2' (TAC Nos. MD2621 and MD2622)"

Pursuant to 10 CFR 50.90, Tennessee Valley Authority (TVA) submitted a request for a TS change to Licenses DPR-77 and DPR-79 for SQN Units 1 and 2 by Reference 1. Additional information was requested and/or provided by References 2, 3, 4, 5, 6, 7, and 8. NRC reviewed the TVA response under Reference 8 and the SQN NRC Project Manager requested clarification of the auxiliary building shutdown boardroom chiller unit operating parameter at the proposed UHS temperature limit. This letter provides the clarification.

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The clarification does not change the "No Significant Hazards Considerations" associated with the proposed change in Reference 1.

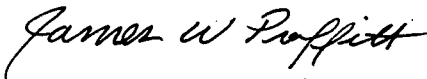
TVA requests that NRC extend the implementation date of the approved TS to be within 90 days of NRC approval.

Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter and enclosures to the Tennessee State Department of Public Health.

If you have any questions about this change, please contact me at (423) 843-7170.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 22nd day of August, 2007.

Sincerely,



James W. Proffitt  
Acting Licensing Supervisor

Enclosure:  
TVA's Clarifying Information

Enclosure

cc (Enclosure):

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**ENCLOSURE**

**TENNESSEE VALLEY AUTHORITY (TVA)  
SEQUOYAH NUCLEAR PLANT (SQN)  
UNITS 1 AND 2**

TVA's Clarifying Information

**NRC Question:**

The auxiliary building (AB) shutdown boardroom (SDBR) open chiller package data sheet, provided in response to Question 19 of the August 14, 2007, submittal, lists an operational point of 85 degrees Fahrenheit (°F). Has this chiller package been evaluated at the proposed ultimate heat sink (UHS) temperature to provide the necessary heat removal for the worst-case condition?

**TVA Response:**

The TVA supplemental response to Question No. 3, dated December 7, 2006, indicated that the SDBR chillers (i.e., SDBR condensers) required additional evaluation as a result of the criteria set for identifying equipment with less than sufficient essential raw cooling water (ERCW) flow margin (i.e., sufficient cooling). It was noted in Table 8 Extract that the SDBR condensers would adequately operate at an ERCW flow rate of 330 gallons per minute (gpm) at less than 91°F. TVA has reviewed additional information in regards to the vendor data and worst heat load event for the main control room (MCR) condensing unit, the electric boardroom (EBR) condensing unit, and the SDBR condenser, provided in the August 14, 2007, request for information submittal. The information provided below, shows that the equipment can provide the necessary heat removal at the proposed UHS temperature.

|                | Design Basis LOCA Heat Load (BTU/hr) | Condensing Temperature (°F) | Condensing Temp. less ERCW Entering Temp. (°F) | TVA Required Design Flow @ 87°F | Lowest Available LOCA Flow (gpm)* | Cooling Tons available vs. required at 87°F |
|----------------|--------------------------------------|-----------------------------|--|---------------------------------|-----------------------------------|---|
| MCR Condenser  | 829,326                              | 110                         | 110 - 87 = 23                                  | 95.4                            | 129.5                             | 117<br>69                                   |
| EBR Condenser  | 1,120,934                            | 105                         | 105 - 87 = 18                                  | 163.9                           | 188.6                             | 127<br>93                                   |
| SDBR Condenser | 2,307,090                            | 105                         | 105 - 87 = 18                                  | 380 <sup>#</sup>                | 374.3                             | 219<br>192                                  |

\* Values include 5 percent flow reduction for measurement uncertainty.

<sup>#</sup> Minimum flow to the SDBR chiller will be increased to at least 380 gpm by re-balancing a portion of the ERCW system before implementing the TS change to retain the existing margins.