



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

October 22, 2003

TVA-SQN-TS-00-14

10 CFR 50.90

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

Gentlemen:

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

**SEQUOYAH NUCLEAR PLANT (SQN) -- UNITS 1 AND 2 -- TECHNICAL SPECIFICATION (TS) CHANGE NO. 00-14, SUPPLEMENTAL CHANGES (TAC NOS. MB6436 AND MB6437)**

- References:
1. TVA Letter to NRC dated September 6, 2002, "Sequoyah Nuclear Plant (SQN) -- Units 1 And 2 - Technical Specification (TS) Change No. 00-14, 'Pressure Temperature Limits Report (PTLR) And Request For Exemption From The Requirements of 10 CFR 50, Appendix G' "
  2. TVA letter to NRC dated September 3, 2003, "Sequoyah Nuclear Plant (SQN) - Units 1 And 2 - Updated Pressure Temperature Limits Reports (PTLRs) and Topical Reports For SQN Technical Specification (TS) Change No. 00-14"

TVA is submitting supplemental changes to SQN TS Change 00-14 as previously provided by Reference 1. These changes provide updates to the TS Change 00-14 pages that result from recent updates to the SQN PTLRs as provided by Reference 2.

The supplemental TS pages provide editorial and administrative changes that are described as follows:

The first change is editorial in nature and removes two Unit 2 TS figures that no longer apply under TS Change 00-14 (the current TS figures are interim figures that show

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pressure temperature [P-T] limits for Unit 2 from SQN TS Change 03-08). The second change is administrative and revises Administrative Controls Section 6.9.1.15 (PTLR) to incorporate a more complete implementation of Technical Specification Task Force Change Traveler (TSTF-419). The third change also revises section 6.9.1.15 to include an additional reference document associated with SQN's PTLR.

The enclosed supplemental changes remain consistent with the proposed changes previously provided in original TS Change 00-14. TVA has determined that the "No Significant Hazards Considerations" provided in TS Change 00-14 remain valid for the supplemental changes and that the change continues to be exempt from environmental review pursuant to the provisions of 10 CFR 51.22(c)(9). There are no new regulatory commitments associated with this proposed change. Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter to the Tennessee State Department of Public Health.

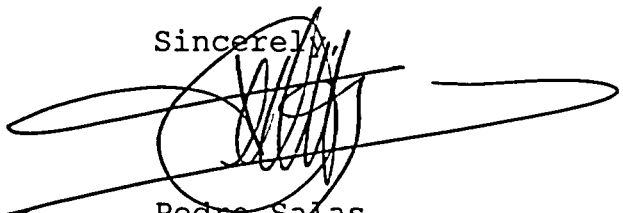
Enclosure 1 provides background and a description of the supplemental changes. Enclosure 2 provides marked-up copies of the revised TS pages for both units.

TVA requests approval of SQN TS Change 00-14 prior to January 2005 since this milestone reflects the projected expiration of SQN's current Unit 1 P-T limits. In addition, TVA requests implementation of the revised TS be within 45 days of NRC approval.

If you have any questions about this change, please telephone me at (423) 843-7170 or J. D. Smith at (423) 843-6672.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 22 day of October, 2003.

Sincerely,



Pedro Salas  
Licensing and Industry Affairs Manager

Enclosures  
cc: See Page 3

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Enclosures

cc (Enclosures):

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ENCLOSURE 1

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

1.0 BACKGROUND

TVA submitted Technical Specification (TS) Change 00-14 for SQN to incorporate a Pressure Temperature Limits Reports (PTLR) format within the SQN TSS using the guidance of NRC Generic Letter 96-03. The PTLRs were developed for each unit and submitted as part of TS Change 00-14 to update the SQN Pressure Temperature (P-T) limits. The PTLR update extended the applicability of the P-T limits for SQN to 32 Effective Full Power Years (EFPYs).

The updated PTLR provided P-T limits that are based on topical reports that utilize alternative methodology from the methodology described in 10 CFR 50 Appendix G. Based on the alternative methodology included with TS Change 00-14, TVA requested two exemptions from the requirements of 10 CFR 50, Appendix G. The first exemption requested use of American Society of Mechanical Engineers (ASME) Code Case N-640 and the second exemption requested exclusion of the reactor head flange region. The exclusion of the flange region is described in Westinghouse Electric Company Topical Report WCAP-15315 and is the subject of a petition for a 10 CFR 50 Appendix G rule change. Based on schedule needs associated with expiration of SQN's P-T limits and anticipation of the rule change to Appendix G, the original PTLRs provided with TS Change 00-14 included the analytical exclusion of the flange region. Pending technical issues associated with flange exclusion were discussed with NRC staff and were outlined by the staff in a September 2002 presentation to the ASME Working Group on Operating Plant Criteria. By letter dated February 14, 2003, the staff issued request for additional information (RAI) regarding TS Change 00-14. In response to the RAI, additional technical information was developed to support a site specific flange exemption and to update the SQN PTLRs and associated topical reports. By letter dated March 28, 2003, TVA responded to the RAI questions and provided updated PTLRs and topical reports by separate correspondence in TVA letter dated September 3, 2003.

In conjunction with the updates to SQN's PTLRs and topical reports, several TS pages as previously provided in TS Change 00-14 require updates. The TS page changes are either editorial or administrative in nature and are described as follows:

The first change is editorial and removes two Unit 2 TS figures that no longer apply under TS Change 00-14 (these TS figures provided interim figures for Unit 2 under SQN TS Change 03-08). The second change is an administrative change to Administrative Controls Section 6.9.1.15 that deletes revision levels and dates for two topical reports that were referenced in TS Change 00-14 for SQN's PTLRs (provides a more complete implementation of the Technical Specification Task Force Change Traveler [TSTF-419]). The third change is also administrative and revises section 6.9.1.15 to include an additional topical report reference for SQN's PTLR.

## 2.0 DESCRIPTION OF THE SUPPLEMENTAL CHANGES

The first supplemental change provides for removal of the Unit 2 P-T limits that are currently contained in TS Figures 3.4-2 and 3.4-3. These P-T limits were incorporated into the SQN Unit 2 TSs under TS Change 03-08 for the purpose of replacing SQN's Unit 2 limits that expired July 2003. The TS Change 03-08 limits were developed with no exclusion for the flange region and were approved for use by NRC letter dated July 31, 2003. As discussed with the staff, these limits provide interim limits until the staff completes review of SQN's updated PTLRs (updated PTLRs are based on a site-specific exemption for exclusion of the flange region). Accordingly, the enclosed change removes the Unit 2 figures because these limits are superseded by the limits provided by the updated PTLRs.

The second supplemental change involves a revision to Administrative Controls Section 6.9.1.15 for both units. In TS Change 00-14, section 6.9.1.15 is added as a new PTLR section (see Enclosure 2, Page E2-100, Insert B) and includes references to NRC approved documents that contain analytical methods used to develop the PTLR. The analytical methods submitted by TS Change 00-14 include two topical reports as follows:

1. Westinghouse Topical Report WCAP-14040-NP-A, Revision 2, "Methodology Used to Develop Cold Overpressure Mitigating System Setpoints and RCS Heatup and Cooldown Limit Curves, January 1996."
2. Unit Specific WCAPs (Westinghouse WCAP-15293, Revision 1 for Unit 1 or WCAP-15321, Revision 1 for Unit 2).

TVA's TS Change 00-14 referenced the above topical reports with their associated revision levels and issuance dates. Based on further review of TSTF-419, Revision 0, the PTLR approval documents may reference either of two documents;

(1) NRC staff approval document by date or (2) topical report(s) by number and title. This approach is based on a complete citation of these reference documents within the PTLR (include references to the report number, title, revision level, date, and any supplements). The enclosed supplemental change provides a new Insert B for TS Change 00-14 that removes the revision levels and issuance dates for these topical reports and identifies the topical report by number and title. The complete citation of these documents is provided in the updated PTLRs and topical reports provided by TVA's September 3, 2003 letter. Accordingly, the enclosed TS pages supplement TVA's proposed TS Change 00-14 to more completely follow the content guidance of TSTF-419, Revision 0.

In addition to the above, the revised Insert B for Administrative Controls Section 6.9.1.15 provides reference to a third topical report containing analytical methodology associated with the SQN PTLRs. This reference document is Westinghouse Topical Report WCAP-15984, "Reactor Vessel Closure Head/Vessel Flange Requirements Evaluation for Sequoyah Units 1 and 2." The inclusion of this reference is needed to reflect the analytical methodology provided in this report and the site specific exemption associated with exclusion of the flange region.

ENCLOSURE 2

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

UPDATED MARKUP PAGES  
FOR TECHNICAL SPECIFICATION (TS) CHANGE 00-14

I. AFFECTED PAGE LIST

Unit 1

6-13a

Unit 2

3/4 4-29

3/4 4-30

6-14

II. MARKED PAGES

See attached.

## ADMINISTRATIVE CONTROLS

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### CORE OPERATING LIMITS REPORT (continued)

6. WCAP-10054-P-A, Westinghouse Small Break ECCS Evaluation Model Using the NOTRUMP Code, August 1985, (W Proprietary)  
(Methodology for Specification 3/4.2.2 - Heat Flux Hot Channel Factor)
7. WCAP-10266-P-A, Rev. 2, "THE 1981 REVISION OF WESTINGHOUSE EVALUATION MODEL USING BASH CODE", March 1987, (W Proprietary).  
(Methodology for Specification 3.2.2 - Heat Flux Hot Channel Factor).
8. BAW-10227P-A, "Evaluation of Advance Cladding and Structural Material (M5) in PWR Reactor Fuel," February 2000, (FCF Proprietary)  
(Methodology for Specification 3/4.2.2 - Heat Flux Hot Channel Factor)

6.9.1.14.b The core operating limits shall be determined so that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met.

6.9.1.14.c THE CORE OPERATING LIMITS REPORT shall be provided within 30 days after cycle start-up (Mode 2) for each reload cycle or within 30 days of issuance of any midcycle revision of the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector.

**INSERT B** ↘

### SPECIAL REPORTS

6.9.2.1 Special reports shall be submitted within the time period specified for each report, in accordance with 10 CFR 50.4.

6.9.2.2 This specification has been deleted.



**INSERT B**

**REACTOR COOLANT SYSTEM (RCS) PRESSURE AND TEMPERATURE LIMITS (PTLR) REPORT**

6.9.1.15 RCS pressure and temperature limits for heatup, cooldown, low temperature operation, criticality, and hydrostatic testing, LTOP arming, and PORV lift settings as well as heatup and cooldown rates shall be established and documented in the PTLR for the following:

Specification 3.4.9.1, "RCS Pressure and Temperature (P/T) Limits"

Specification 3.4.12, "Low Temperature Over Pressure Protection (LTOP) System"

6.9.1.15.a The analytical methods used to determine the RCS pressure and temperature limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents:

1. Westinghouse Topical Report WCAP-14040-NP-A, "Methodology used to Develop Cold Overpressure Mitigating System Setpoints and RCS Heatup and Cooldown Limit Curves."
2. Westinghouse Topical Report WCAP-15293, "Sequoyah Unit 1 Heatup and Cooldown Limit Curves for Normal Operation and PTLR Support Documentation."
3. Westinghouse Topical Report WCAP-15984, "Reactor Vessel Closure Head/Vessel Flange Requirements Evaluation for Sequoyah Units 1 and 2."

6.9.1.15.b The PTLR shall be provided to the NRC within 30 days of issuance of any revision or supplement thereto.

DELETE FIGURE 3.4-2

CURVES APPLICABLE FOR HEATUP RATES UP TO 60°F/HR FOR THE SERVICE PERIOD UP TO 32 EFPY. MARGINS OF 60 PSIG AND 10°F ARE INCLUDED FOR POSSIBLE INSTRUMENT ERRORS.

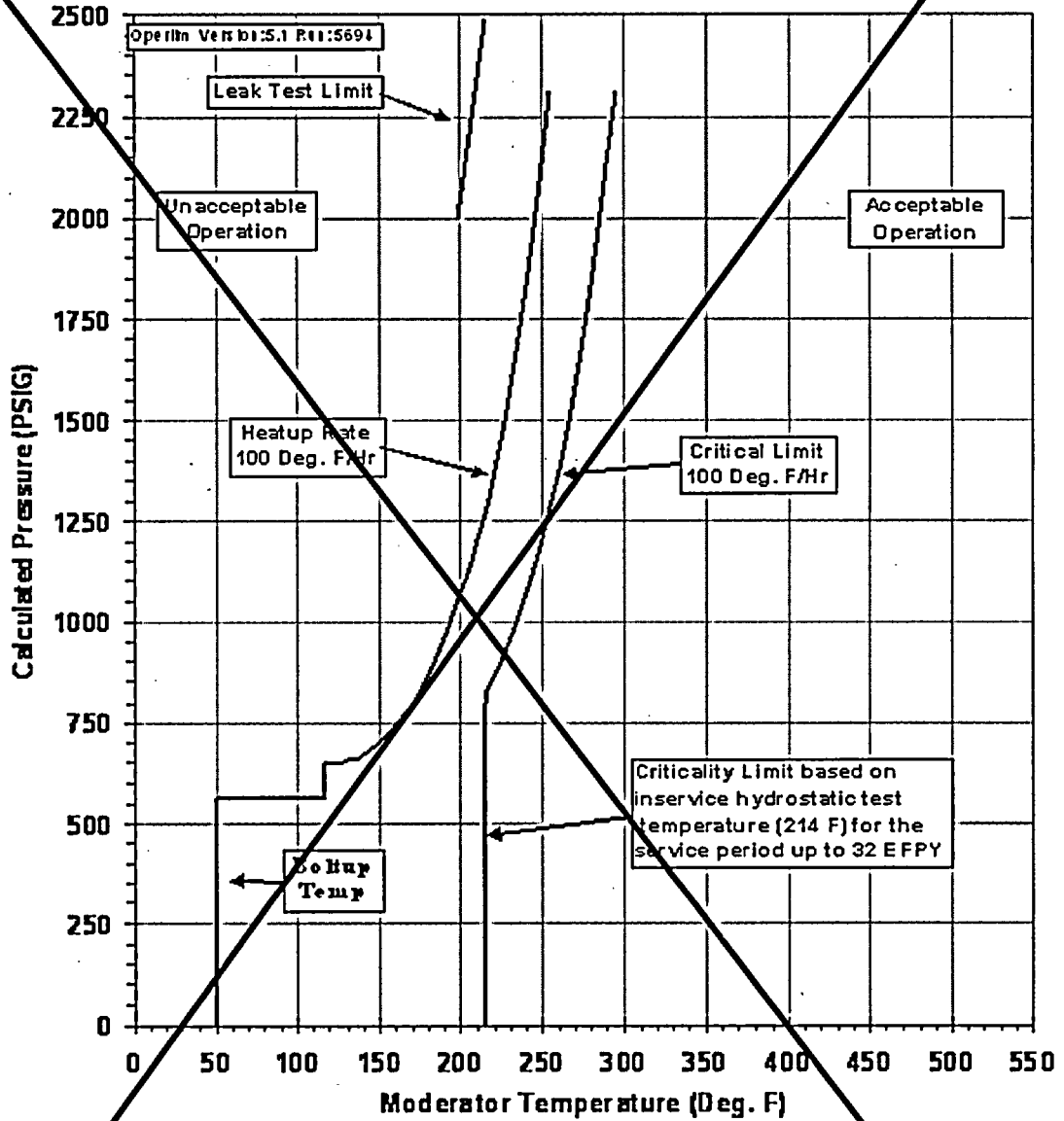


FIGURE 3.4-2

SEQUOYAH UNIT 2 REACTOR COOLANT SYSTEM HEATUP LIMITATIONS APPLICABLE UP TO 32 EFPY

DELETE FIGURE 3.4-3

CURVES APPLICABLE FOR COOLDOWN RATES UP TO 100°F/HR FOR THE SERVICE PERIOD UP TO 32 EFY. MARGINS OF 60 PSIG AND 10°F ARE INCLUDED FOR POSSIBLE INSTRUMENT ERRORS.

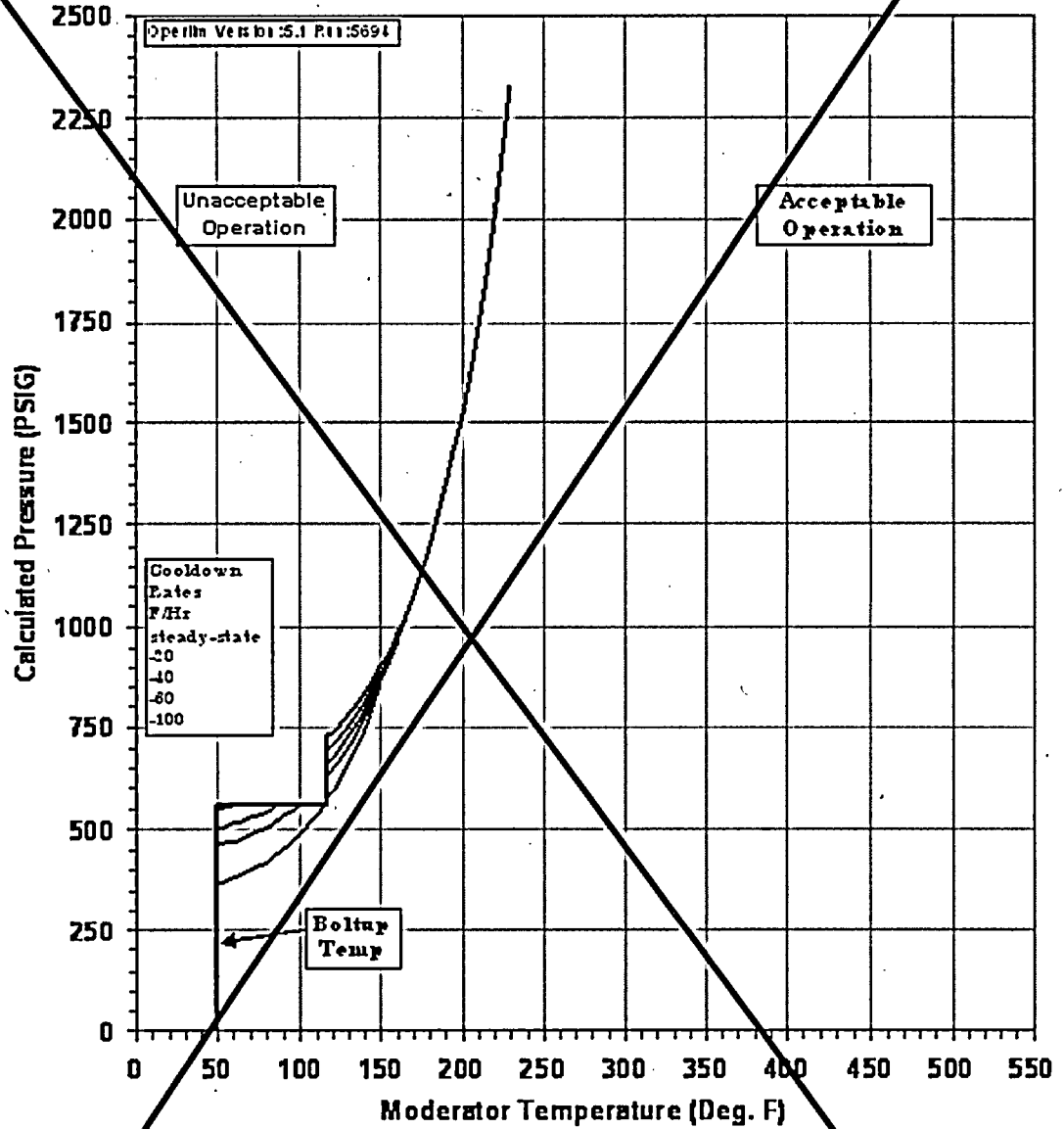


FIGURE 3.4-3

SEQUOYAH UNIT 2 REACTOR COOLANT SYSTEM COOLDOWN LIMITATIONS APPLICABLE UP TO 32 EFY

## ADMINISTRATIVE CONTROLS

### CORE OPERATING LIMITS REPORT (continued)

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(Methodology for Specification 3/4.2.2 - Heat Flux Hot Channel Factor)
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(Methodology for Specification 3.2.2 - Heat Flux Hot Channel Factor).
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(Methodology for Specification 3/4.2.2 - Heat Flux Hot Channel Factor)

6.9.1.14.b The core operating limits shall be determined so that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met.

6.9.1.14.c THE CORE OPERATING LIMITS REPORT shall be provided within 30 days after cycle start-up (Mode 2) for each reload cycle or within 30 days of issuance of any midcycle revision of the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector.

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2. Westinghouse Topical Report WCAP-15321, "Sequoyah Unit 2 Heatup and Cooldown Limit Curves for Normal Operation and PTLR Support Documentation."
3. Westinghouse Topical Report WCAP-15984, "Reactor Vessel Closure Head/Vessel Flange Requirements Evaluation for Sequoyah Units 1 and 2."

6.9.1.15.b The PTLR shall be provided to the NRC within 30 days of issuance of any revision or supplement thereto.