

**NUCLEAR REGULATORY COMMISSION**  
**Notice of Availability of Model Application Concerning**  
**Technical Specification Improvement To Revise**  
**Moderator Temperature Coefficient (MTC) Surveillance for**  
**Startup Test Activity Reduction (STAR) Program (WCAP-16011)**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Notice of Availability.

**SUMMARY:** Notice is hereby given that the staff of the Nuclear Regulatory Commission (NRC) has prepared a model safety evaluation (SE) and model license amendment request (LAR) relating to the modification of technical specification (TS) moderator temperature coefficient (MTC) surveillance requirements (SR) associated with implementation of WCAP-16011-P-A, "Startup Test Activity Reduction (STAR) Program." The NRC staff has also prepared a model no significant hazards consideration (NSHC) determination relating to this matter. The purpose of these models are to permit the NRC to efficiently process amendments that propose to modify TS MTC surveillance requirements for implementing the STAR Program. Licensees of nuclear power reactors to which the models apply could then request amendments, confirming the applicability of the SE and NSHC determination to their reactors.

**DATES:** The NRC staff issued a **Federal Register** notice (72 FR 41360, July 27, 2007) which provided a model SE, model application, and model NSHC related to modification of TS MTC surveillance requirements. Similarly, the NRC staff herein provides a revised model SE, model LAR, and model NSHC incorporating changes based upon the public comments received. The NRC staff can most efficiently consider applications based upon the model LAR, which references the model SE, if the LAR is submitted within one year of this Federal Register Notice.

**FOR FURTHER INFORMATION CONTACT:** Timothy Kobetz, Mail Stop: O-12H2, Technical Specifications Branch, Division of Inspection & Regional Support, Office of Nuclear Reactor

Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone 301-415-1932.

**SUPPLEMENTARY INFORMATION:**

**Background**

Regulatory Issue Summary 2000-06, "Consolidated Line Item Improvement Process for Adopting Standard Technical Specification Changes for Power Reactors," was issued on March 20, 2000. The consolidated line item improvement process (CLIIP) is intended to improve the efficiency of NRC licensing processes by processing proposed changes to the standard technical specifications (STS) in a manner that supports subsequent license amendment applications. The CLIIP includes an opportunity for the public to comment on proposed changes to the STS following a preliminary assessment by the NRC staff and finding that the change will likely be offered for adoption by licensees. The CLIIP directs the NRC staff to evaluate any comments received for a proposed change to the STS and to either reconsider the change or to proceed with announcing the availability of the change for proposed adoption by licensees. Those licensees opting to apply for the subject change to technical specifications are responsible for reviewing the staff's evaluation, referencing the applicable technical justifications, and providing any necessary plant-specific information. Each amendment application made in response to the notice of availability will be processed and noticed in accordance with applicable rules and NRC procedures.

This notice involves the modification of TS MTC surveillance requirements for implementing the STAR Program. This change was proposed for incorporation into the standard technical specifications by the owners groups participants in the Technical Specification Task Force (TSTF) and is designated TSTF-486, Revision 2. TSTF-486, Revision 2, can be viewed on the NRC's web page at <http://www.nrc.gov/reactors/operating/licensing/techspecs.html>.

## **Applicability**

This proposal to modify TS MTC surveillance requirements for implementing the STAR Program, as proposed in TSTF-486, Revision 2, is applicable to Combustion Engineering (CE) design plants.

To efficiently process the incoming license amendment applications, the staff requests that each licensee applying for the changes proposed in TSTF-486, Revision 2, include TS Bases for the proposed TS consistent with the TS Bases proposed in TSTF-486, Revision 2. The staff is requesting that the TS Bases be included with the proposed license amendments in this case because the changes to the TS and the changes to the associated TS Bases form an integral change to a plant's licensing basis. To ensure that the overall change, including the TS Bases, includes appropriate regulatory controls, the staff plans to condition the issuance of each license amendment on the licensee's incorporation of the changes into the TS Bases document and that the licensee control changes to the TS Bases in accordance with the licensee's TS Bases Control Program. The CLIP does not prevent licensees from requesting an alternative approach or proposing the changes without the requested TS Bases. However, deviations from the approach recommended in this notice may require additional review by the NRC staff and may increase the time and resources needed for the review. Significant variations from the approach, or inclusion of additional changes to the license, will result in staff rejection of the submittal. Instead, licensees desiring significant variations and/or additional changes should submit a LAR that does not request to adopt TSTF-486, Revision 2, under CLIP.

## **Public Notices**

The staff issued a Federal Register Notice (72 FR 41360, July 27, 2007) that requested public comment on the NRC's pending action to approve modification of TS MTC surveillance requirements for implementing the STAR Program, as proposed in TSTF-486, Revision 2. The

TSTF-486, Revision 2, can be viewed on the NRC's web page at <http://www.nrc.gov/reactors/operating/licensing/techspecs.html>. TSTF-486, Revision 2, may be examined, and/or copied for a fee, at the NRC's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records are accessible electronically from the ADAMS Public Library component on the NRC Web site, (the Electronic Reading Room) at <http://www.nrc.gov/reading-rm/adams.html>.

In response to the notice soliciting comments from interested members of the public about modifying TS MTC surveillance requirements, the staff received one set of comments (from the TSTF Owners Groups, representing licensees). The specific comments are provided and discussed below:

1. *Comment:* The Summary states that the NRC staff has prepared a model SE, model LAR, and a model NSHC. However, the last sentence of the section requests comments only on the model SE and model NSHC. Comments should also be requested on the model license amendment request as well.

*Response:* The staff agrees with the comment, and has accepted and addressed comments to the model license amendment below.

2. *Comment:* Model SE, Section 2.1, Proposed Change, eighth bullet. This bullet describes changes to digital SR 3.1.3.2 (in STS NUREG-1432), not analog SR 3.1.3.2 as stated.

*Response:* The staff agrees with the comment, and the model SE, Section 2.1, Proposed Change, is corrected in the notice of availability.

3. *Comment:* Model SE, Section 7.0, References, Reference 4. Change "Tevision" to "Revision."

*Response:* The staff agrees with the comment, and the model SE, Section 7.0 References, Reference 4 is corrected in the notice of availability.

4. *Comment:* Model Application, the third paragraph omits Attachment 5, which is shown in the list of Attachments below the signature.

*Response:* The staff agrees with the comment, and Attachment 5 is now added in the third paragraph of the model application.

5. *Comment:* Model Application. The model Application states, "I declare under penalty of perjury under the laws of the United States of America that I am authorized by [LICENSEE] to make this request and that the foregoing is true and correct." This statement is not consistent with the recommended statement given in RIS 2001-18, "Requirements for Oath or Affirmation." RIS 2001-18 recommends the statement, "I declare [or certify, verify, state] under penalty of perjury that the foregoing is true and correct." Note that RIS 2001-18 states that this statement must be used verbatim. We recommend that the model Application be revised to be consistent with RIS 2001-18.

*Response:* The staff agrees with the comment, and the model Application is revised to be consistent with RIS 2001-18.

6. *Comment:* Model Application Attachment 4, the regulatory commitment states "[LICENSEE] will establish the Technical Specification Bases for TS [3.1.3] as adopted with the applicable license amendment." This statement is incorrect as the Bases changes included for information with the license amendment request are not "adopted" with the license amendment. Bases changes are made under licensee control under the Technical Specification Bases Control Program as stated in the model Safety Evaluation. We recommend revising the commitment to state "[LICENSEE] will implement Technical Specification Bases for TS [3.1.3] consistent with those shown in the license amendment."

*Response:* The staff agrees with the comment that the commitments paragraph needs to be reworded. The paragraph now reads, "[LICENSEE] will establish Technical Specification Bases for TS [3.1.3] consistent with those shown in the license amendment."

7. *Comment:* Model NSHC, to be consistent with 10 CFR 50.91(a), the title of Criterion 2 should be revised to add the word “Accident” before “Previously Evaluated.” Specifically, it should state, “The Proposed Change Does Not Create the Possibility of a New or Different Kind of Accident from any Accident Previously Evaluated.”

*Response:* The staff agrees with the comment, and the model NSHC is corrected in the notice of availability.

Dated at Rockville, Maryland, this 29<sup>th</sup> day of August, 2007.

FOR THE NUCLEAR REGULATORY COMMISSION  
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Timothy J. Kobetz, Chief  
Technical Specifications Branch  
Division of Inspection and Regional Support  
Office of Nuclear Reactor Regulation

## **Model Safety Evaluation**

U.S. Nuclear Regulatory Commission

Office of Nuclear Reactor Regulation

Consolidated Line Item Improvement

Technical Specification Task Force (TSTF) Change TSTF-486, Revision 2

Modification of Technical Specification Moderator Temperature Coefficient

Surveillance Requirements associated with implementation of the

Startup Test Activity Reduction (STAR) Program

### 1.0 INTRODUCTION

By letter dated June 3, 2005, (Reference 1) the Technical Specifications Task Force (TSTF), a joint owners group activity, submitted TSTF-486, "Revise MTC Surveillance for Startup Test Activity Reduction (STAR) Program (WCAP-16011)," Revision 0, for NRC review. By letter dated February 20, 2007, (Reference 2) the TSTF submitted TSTF-486, Revision 1, for NRC review. By letter dated March 10, 2007, (Reference 3) the TSTF submitted TSTF-486, Revision 2, for NRC review. TSTF-486 is proposing to change NUREG 1432, "Standard Technical Specifications Combustion Engineering Plants," (CE STS) Revision 3.1 (Reference 4), to generically implement moderator temperature coefficient (MTC) surveillance requirement changes associated with implementation of WCAP-16011-P-A, "Startup Test Activity Reduction (STAR) Program," (Reference 5).

WCAP-16011-P-A describes methods to reduce the time required for startup testing. To this end, WCAP-16011-P-A proposes methods to eliminate the control element assembly (CEA) worth and isothermal temperature coefficient (ITC) measurements at hot zero power (HZP).

The measured ITC is used to calculate the HZP MTC. WCAP-16011-P-A includes a method to substitute the measured verification of MTC at HZP with an alternate MTC verification

consisting of the predicted (calculated) MTC and measured critical boron concentration (CBC) at HZP. When this alternate MTC verification is utilized, WCAP-16011-P-A adds the requirement for the early in cycle MTC measurement to verify MTC is not more negative than allowed is also used to verify MTC is not more positive than allowed. WCAP-16011-P-A adds an ITC measurement at intermediate to hot full power (HFP) and applicability requirements for core design, fabrication, refueling, startup testing, and CEA lifetime viability requirements. WCAP-16011-P-A methods can only be applied to cores that are well characterized by an existing database. WCAP-16011-P-A is only applicable to the particular plants that participated in its development, as indicated in the document.

TSTF-486 will provide standardized wording in the CE STS for plants implementing the WCAP-16011-P-A alternate MTC verification at startup.

## 2.0 REGULATORY EVALUATION

In 10 CFR 50.36, the Commission established its regulatory requirements related to the content of TS. Pursuant to 10 CFR 50.36, TS are required to include items in the following five specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) surveillance requirements (SRs); (4) design features; and (5) administrative controls. The regulations do not specify the particular requirements to be included in a plant's TS and do not explicitly prescribe specific post-refueling startup testing. However, the genesis for post-refueling startup testing can be traced to the preoperational testing required to be specified in the Final Safety Analysis Report by 10 CFR 50.34. Additionally, 10 CFR 50.36 specifies SRs relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met. Additionally, 10 CFR Part 50, Appendix A, "General Design Criteria" (GDC) apply, in that the GDC establish the necessary design, fabrication, construction, testing, and



performance requirements for structures, systems, and components important to safety. Additionally, 10 CFR Part 50, Appendix B, “Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants” apply, in that Criterion III “Design Control” requires that “...measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program.” Specifically, MTC is a parameter controlled in the licensee’s TS, including surveillance requirements. As a value in the TS, MTC and the applicable SRs are subject to regulatory oversight.

## 2.1 Proposed Change

TSTF-486 would make the following changes to the CE STS contained in NUREG-1432.

- The proposed change revises the MTC (Analog) Surveillance Requirement (SR) 3.1.3.1, Surveillance, to indicate the MTC upper limit is specified in the Core Operating Limits Report (COLR).
- The proposed change revises the MTC (Analog) SR 3.1.3.1, Frequency, to add a requirement to verify MTC is within the upper limit within seven (7) effective full power days (EFPD) of reaching 40 EFPD of core burnup. This verification would only be required if the MTC determined prior to entering Mode 1 is determined using an adjusted, predicted MTC.
- The proposed change revises MTC (Analog) surveillance requirement (SR) 3.1.3.2, Note, to indicate the MTC lower limit is specified in the COLR.
- The proposed change revises MTC (Analog) SR 3.1.3.2, Frequency, to replace the phrase ‘effective full power days’ with the acronym ‘EFPD.’
- The proposed change revises MTC (Digital) SR 3.1.3.1, Surveillance, to indicate the MTC upper limit is specified in the Core Operating Limits Report (COLR).
- The proposed change revises MTC (Digital) SR 3.1.3.1, Frequency, to add a requirement to verify MTC is within the upper limit within seven (7) EFPD of reaching 40 EFPD of core

burnup. This verification would only be required if the MTC determined prior to entering Mode 1 is determined using an adjusted predicted MTC.

- The proposed change revises MTC (Digital) SR 3.1.3.2, Surveillance, and accompanying Note to indicate the MTC lower limit is specified in the COLR.
- The proposed change revises MTC (Digital) SR 3.1.3.2, Frequency, to replace the phrase 'effective full power days' with the acronym 'EFPD.' TSTF-486 includes changes to the CE STS Bases B 3.1.3 contained in NUREG-1432.
- Deletes the last sentence of the second paragraph of the Background section. (Analog) (Digital)
- Modifies the first sentence of the first paragraph in the LCO section to state that the COLR contains both positive and negative MTC limits. Modifies the third sentence of the first paragraph in the LCO section to state the purpose of the positive MTC limit in the COLR. (Analog) (Digital)
- Inserts a new paragraph in the LCO section, between the existing first and second paragraphs, into the LCO section to explain the positive MTC limits contained in CE STS LCO 3.1.3. (Analog) (Digital)
- Modifies the current second paragraph in the LCO section to include a discussion of how MTC may be controlled using CEA position and boron concentration. (Analog) (Digital)
- Modifies the Surveillance Requirements section by adding a Reviewer Note describing the use of the Alternate MTC verification method contained in WCAP-16011-P-A. (Analog) (Digital)
- Modifies the first paragraph of the Surveillance Requirements section breaking it into three paragraphs. The new first paragraph consists of the first and second sentences and precedes the Reviewer's Note; the text is otherwise unchanged. The new second paragraph is the third sentence of the current first paragraph; the text is otherwise unchanged. The new

third paragraph is the remainder of the current first paragraph, it is modified to state the MTC verification must occur within seven (7) effective full power days of reaching 40 effective full power days and that the MTC limits are in the COLR. (Analog) (Digital)

- The existing second paragraph of the Surveillance Requirements section becomes the fourth paragraph and is modified to state the end of cycle MTC limit is specified in the COLR. (Analog) (Digital)
- The References section is modified to add, in brackets, WCAP-16011-P-A. (Analog) (Digital)

### 3.0 TECHNICAL EVALUATION

As stated previously WCAP-16011-P-A describes methods to reduce the time required for startup testing. The NRC approved WCAP-16011-P-A on January 14, 2005, for referencing in license applications to the extent specified and under the limitations stated in the topical report and NRC evaluation.

CE STS SR 3.1.3.1 (Analog) and SR 3.1.3.1 (Digital) are being revised to add a frequency that is required by WCAP-16011-P-A when the alternate MTC verification method is used to verify MTC is within the upper limit during startup testing. That frequency coincides with the SR 3.1.3.2 verification that MTC is within the lower limit at 40 EFPD. This frequency is consistent with WCAP-16011-P-A and therefore acceptable.

CE STS SR 3.1.3.1 (Analog), and SR 3.1.3.1 (Digital) are also being revised to state the upper MTC limit is in the COLR. Currently, the location of the upper limit is not specified in either Analog or Digital CE STS SR. CE STS 3.1.3 (Analog) LCO states, "The MTC shall be maintained within the limits specified in the COLR. The maximum positive limit shall be that specified in Figure 3.1.3-1." Figure 3.1.3-1 is contained in the CE STS. CE STS 3.1.3 (Digital) LCO states, "The MTC shall be maintained within the limits specified in the COLR, and a maximum positive limit as specified below:" Two equations then follow for determining the maximum positive limit. The use of the plural in the LCO statements indicate the STS expect

there to be upper and lower limits in the COLR, of which the upper limit would be bounded by the value in the TS. Therefore, specifying in the SR that the upper limit be within the COLR limit is consistent with the CE STS. The specific wording is also consistent with current phrasing in the CE STS. Therefore, this change is acceptable.

CE STS SR 3.1.3.2 (Digital) is also being revised to state the lower MTC limit is in the COLR. Currently, the location of the lower limit is specified in the Note. This change makes the CE STS SR 3.1.3.2 (Digital) consistent with the analog equivalent. The specific wording is also consistent with current phrasing in the CE STS. Therefore, this change is acceptable.

The first sentence of the Note in CE STS SR 3.1.3.2 (Analog) and SR 3.1.3.2 (Digital) is being revised from, "If the MTC is more negative than the COLR limit..." to "If the MTC is more negative than the limit specified in the COLR ..." SR 3.1.3.2 (Digital) is being revised from "Verify MTC is within the lower limit." to "Verify MTC is within the lower limit specified in the COLR." In all instances the MTC lower limit is specified in the COLR. The revised wording is consistent with other CE STS references to the COLR. Therefore, this change is acceptable.

The revision to the CE STS Bases for B 3.1.3 (Analog) and B 3.1.3 (Digital) Background section is removing an incorrect statement in the CE STS that was identified during the staff's review associated with Reference 1. The TSTF has agreed to remove the sentence as part of TSTF-486 Revision 2. Therefore, this change is acceptable.

The modification of the first paragraph in the CE STS Bases for B 3.1.3 (Analog) and B 3.1.3 (Digital) LCO section is intended to identify the location of the upper and lower MTC limits. This change is consistent with the proposed changes to CE STS described above and therefore acceptable.

The addition of a new second paragraph in the CE STS Bases for B 3.1.3 (Analog) and B 3.1.3 (Digital) LCO section is intended to describe the purpose of the limits and reinforce that the

upper MTC limit in the COLR must be bounded by that in the TS. This change is consistent with the proposed changes to CE STS described above and therefore acceptable.

The modification to the current second paragraph in the LCO section adds a discussion of how MTC may be controlled using CEA position and boron concentration. While staff acknowledges that the combination of CEA position and boron concentration can be used to control MTC, the staff believes it is an incomplete discussion that ignores the effects of temperature, pressure, and power level. However, there is no intention that the STS Basis become a tutorial.

Therefore, while the discussion is incomplete it is not detrimental to safety and the change is acceptable.

The Reviewer's Note added to the Surveillance Requirements section describes the restrictions on the use of the Alternate MTC surveillance. The Reviewer's Note is consistent with WCAP-16011-P-A and therefore acceptable.

The current first paragraph of the Surveillance Requirements section is being modified by breaking it into three paragraphs.

- The new first paragraph consists of the first and second sentences and precedes the Reviewer Note, the text is otherwise unchanged. This is an editorial change and acceptable.
- The new second paragraph is the third sentence of the current first paragraph, the text is otherwise unchanged. Making the sentence a separate paragraph is an editorial change and acceptable.
- The new third paragraph is the remainder of the current first paragraph; it is modified to state the MTC verification must occur within seven (7) effective full power days of reaching 40 effective full power days and that the MTC limits are in the COLR. These changes are editorial and acceptable.

Moving the existing second paragraph of the Surveillance Requirements section to become the fourth paragraph and modifying it to state the end of cycle MTC limit is specified in the COLR are editorial changes. These changes are acceptable.

Adding WCAP-16011-P-A, in brackets, to the References section is appropriate. The brackets indicate WCAP-16011-P-A is an optional reference. It would only be included on plants that have implemented the Alternate MTC surveillance. This change is acceptable.

### 3.1 Summary

TSTF-486 would provide standardized wording in the CE STS for plants implementing the WCAP-16011-P-A alternate MTC verification at startup. The changes to NUREG-1432 proposed by TSTF-486 have been reviewed for consistency with the current NUREG-1432 and WCAP-16011-P-A. The proposed changes have been found to be consistent with NUREG-1432 and WCAP-16011-P-A, therefore the proposed changes are acceptable.

### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the [ ] State official was notified of the proposed issuance of the amendment. The State official had [(1) no comments or (2) the following comments - with subsequent disposition by the staff].

### 5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. [For licensees adding a TS Bases Control Program: The amendment also changes record keeping, reporting, or administrative procedures or requirements.] The NRC staff has determined that the amendments involve no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the

amendments involve no significant hazards considerations, and there has been no public comment on the finding [FR ]. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) [and (c)(10)]. Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

## 6.0 CONCLUSION

The Commission has concluded, on the basis of the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

## 7.0 REFERENCES

1. Letter from the Technical Specifications Task Force (TSTF), a joint owners group activity, re: "TSTF-486, "Revise MTC Surveillance for Startup Test Activity Reduction (STAR) Program (WCAP-16011)," " dated June 3, 2005. (ADAMS ML051580191)
2. Letter from the Technical Specifications Task Force (TSTF), a joint owners group activity, re: "Response to NRC Request for Additional Information Regarding TSTF-486, Revision 0, "Revise MTC Surveillance for Startup Test Activity Reduction (STAR) Program (WCAP-16011)," and Submittal of Revision 1," dated February 20, 2007. (ADAMS ML070510667)
3. Letter from the Technical Specifications Task Force (TSTF), a joint owners group activity, re: "TSTF-486, Revision 2, "Revise MTC Surveillance for Startup Test Activity Reduction (STAR) Program (WCAP-16011)," dated March 10, 2007. (ADAMS ML071300267)
4. NUREG 1432, "Standard Technical Specifications Combustion Engineering Plants," Revision 3.1. (ADAMS ML062510040 and ML062510042)

5. WCAP-16011-P-A, "Startup Test Activity Reduction Program," dated February 2005.  
(ADAMS ML050660127)



**THE FOLLOWING EXAMPLE OF AN APPLICATION WAS PREPARED BY THE NRC STAFF TO FACILITATE USE OF THE CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS (CLIIP). THE MODEL PROVIDES THE EXPECTED LEVEL OF DETAIL AND CONTENT FOR AN APPLICATION TO REVISE TECHNICAL SPECIFICATIONS REGARDING MODERATOR TEMPERATURE COEFFICIENT SURVEILLANCE FOR STARTUP TEST ACTIVITY REDUCTION (STAR) PROGRAM USING CLIIP. LICENSEES REMAIN RESPONSIBLE FOR ENSURING THAT THEIR ACTUAL APPLICATION FULFILLS THEIR ADMINISTRATIVE REQUIREMENTS AS WELL AS NUCLEAR REGULATORY COMMISSION REGULATIONS.**

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U. S. Nuclear Regular Commission  
Document Control Desk  
Washington, D.C. 20555

SUBJECT: PLANT NAME  
DOCKET NO. 50-  
APPLICATION FOR TECHNICAL SPECIFICATION CHANGE REGARDING  
MODERATOR TEMPERATURE COEFFICIENT (MTC) SURVEILLANCE FOR  
STARTUP TEST ACTIVITY REDUCTION (STAR) PROGRAM USING THE  
CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS

Gentleman:

In accordance with th provisions of 10 CFR 50.90 [LICENSEE] is submitting a request for an amendment to the technical specifications (TS) for [PLANT NAME, UNIT NOS.].

The proposed amendment would modify TS requirements for moderator temperature coefficient (MTC) surveillance requirements (SR) associated with implementation of WCAP-16011-P-A, "Startup Test Activity Reduction (STAR) Program."

Attachment 1 provides a description of the proposed change, the requested confirmation of applicability, and plant-specific verifications. Attachment 2 provides the existing TS pages marked up to show the proposed change. Attachment 3 provides revised (clean) TS pages. Attachment 4 provides a summary of the regulatory commitments made in this submittal. Attachment 5 provides the proposed changes to Technical Specification Bases pages.

[LICENSEE] requests approval of the proposed License Amendment by [DATE], with the amendment being implemented [BY DATE OR WITHIN X DAYS].

In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated [STATE] Official.

I declare [or clarify, verify, state] under penalty of perjury that the foregoing is true and correct.  
(Note that request may be notarized in lieu of using this oath or affirmation statement).

If you should have any questions regarding this submittal, please contact [NAME, TELEPHONE NUMBER]

Sincerely,

[Name, Title]

Attachments: 1. Description and Assessment  
2. Proposed Technical Specification Changes  
3. Revised Technical Specification Pages  
4. Regulatory Commitments  
5. Proposed Technical Specification Bases Changes

cc: NRC Project Manager  
NRC Regional Office  
NRC Resident Inspector  
State Contact

## **ATTACHMENT 1**

### **Description and Assessment**

#### **1.0 DESCRIPTION**

The proposed amendment would modify TS requirements for moderator temperature coefficient (MTC) surveillance requirements (SR) associated with implementation of WCAP-16011-P-A, "Startup Test Activity Reduction (STAR) Program."

The changes are consistent with Nuclear Regulatory Commission (NRC) approved Industry/Technical Specification Task Force (TSTF) STS change TSTF-486 Revision 2. The *Federal Register* notice published on [DATE] announced the availability of this TS improvement through the consolidated line item improvement process (CLIIP).

#### **2.0 ASSESSMENT**

##### **2.1 Applicability of Published Safety Evaluation**

[LICENSEE] has reviewed the safety evaluation dated [DATE] as part of the CLIIP. This review included a review of the NRC staff's evaluation, as well as the supporting information provided to support TSTF-486 Revision 2. [LICENSEE] has concluded that the justifications presented in the TSTF proposal and the safety evaluation prepared by the NRC staff are applicable to [PLANT, UNIT NOS.] and justify this amendment for the incorporation of the changes to the [PLANT] TS.

##### **2.2 Optional Changes and Variations**

[LICENSEE] is not proposing any variations or deviations from the TS changes described in the modified TSTF-486 Revision 2 and the NRC staff's model safety evaluation dated [DATE].

#### **3.0 REGULATORY ANALYSIS**

##### **3.1 No Significant Hazards Consideration Determination**

[LICENSEE] has reviewed the proposed no significant hazards consideration determination (NSHCD) published in the *Federal Register* as part of the CLIIP. [LICENSEE] has concluded that the proposed NSHCD presented in the Federal Register notice is applicable to [PLANT] and is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

##### **3.2 Verification and Commitments**

As discussed in the notice of availability published in the *Federal Register* on [DATE] for this TS improvement, the [LICENSEE] verifies the applicability of TSTF-486 to [PLANT], and commits to establishing Technical Specification Bases for TS [3.1.3] as proposed in TSTF-486, Revision 2.

The proposed TSTF-486 change revises SR 3.1.3.1 in the digital and analog Combustion Engineering STS (NUREG-1432) by adding a second Frequency. This second Frequency

requires verifying that MTC is within the upper limit each fuel cycle within 7 EFPD after reaching 40 EFPD of core burnup, but only when the MTC determined prior to entering MODE 1 is verified using predicted MTC as adjusted for actual RCS boron concentration. The Frequency is consistent with the existing MODE 1 MTC Surveillance Frequency. The Bases are revised to describe the new requirements and to clarify the analytical basis of the MTC utilizing the suggested changes in WCAP-16011-P. The Bases modifications clarify the relationship between the MTC limits specified in the Core Operating Limits Report (COLR) and the maximum positive MTC value specified in the LCO.

#### **4.0 ENVIRONMENTAL EVALUATION**

[LICENSEE] has reviewed the environmental evaluation included in the model safety evaluation dated [DATE] as part of the CLIIP. [LICENSEE] has concluded that the staff's findings presented in that evaluation are applicable to [PLANT] and the evaluation is hereby incorporated by reference for this application.

**ATTACHMENT 2**

**PROPOSED TECHNICAL SPECIFICATION CHANGES (MARK-UP)**

**ATTACHMENT 3**  
**PROPOSED TECHNICAL SPECIFICATION PAGES**

## ATTACHMENT 4

### LIST OF REGULATORY COMMITMENTS

The following table identifies those actions committed to by [LICENSEE] in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments. Please direct questions regarding these commitments to [CONTACT NAME].

REGULATORY COMMITMENTS	DUE DATE/EVENT
[LICENSEE] will establish Technical Specification Bases for TS [3.1.3] consistent with those shown in the license amendment.	[Complete, implemented with amendment OR within X days of implementation of amendment]

**ATTACHMENT 5**

**PROPOSED CHANGES TO TECHNICAL SPECIFICATION BASES PAGES**



## **Proposed No Significant Hazards Consideration Determination**

*Description of Amendment Request:* [Plant Name] requests adoption of an approved change to the standard technical specifications (STS) for Combustion Engineering (CE) Plants (NUREG-1432) and plant specific technical specifications (TS), to allow modification of TS moderator temperature coefficient (MTC) surveillance requirements (SR) associated with implementation of WCAP-16011-P-A, "Startup Test Activity Reduction (STAR) Program," dated February 2005." The changes are consistent with NRC approved Industry/Technical Specification Task Force (TSTF) STS Traveler, TSTF-486, Revision 2, "Revise MTC Surveillance for Startup Test Activity Reduction (STAR) Program (WCAP-16011)." WCAP-16011-P-A describes methods to reduce the time required for startup testing. To this end, WCAP-16011-P-A proposes methods to eliminate the control element assembly (CEA) worth and isothermal temperature coefficient (ITC) measurements at hot zero power (HZP). The measured ITC is then use to calculated the HZP MTC. WCAP-16011-P-A includes a method to substitute the measured verification of MTC at HZP with an alternate MTC verification consisting of the predicted (calculated) MTC and measured critical boron concentration (CBC) at HZP. When this alternate MTC verification is utilized, WCAP-16011-P-A adds the requirement for the early in cycle MTC measurement to verify MTC is not more negative than allowed is also used to verify MTC is not more positive than allowed. WCAP-16011-P-A adds an ITC measurement at intermediate to hot full power (HFP) and applicability requirements for core design, fabrication, refueling, startup testing, and CEA lifetime viability requirements. WCAP-16011-P-A methods can only be applied to cores that are well characterized by an existing database.

*Basis for proposed no significant hazards consideration determination:* As required by 10 CFR 50.91(a), an analysis of the issue of no significant hazards consideration is presented below:

**Criterion 1—The Proposed Change Does Not Involve a Significant Increase in the Probability or Consequences of an Accident Previously Evaluated**

The proposed change generically implements MTC SR changes associated with implementation of WCAP-16011-P-A, STAR Program. WCAP-16011-P-A describes methods to reduce the time required for startup testing. The consequences of an accident after adopting TSTF-486 are no different than the consequences of an accident prior to adoption. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

**Criterion 2—The Proposed Change Does Not Create the Possibility of a New or Different Kind of Accident from any Accident Previously Evaluated**

The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. The proposed change will not introduce new failure modes or effects and will not, in the absence of other unrelated failures, lead to an accident whose consequences exceed the consequences of accidents previously analyzed. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

**Criterion 3—The Proposed Change Does Not Involve a Significant Reduction in the Margin of Safety**

TSTF-486 provides the means and standardized wording for CE STS plants implementing the previously approved WCAP-16011-P-A alternate MTC verification at startup. MTC is a parameter controlled in the licensee's TS, including surveillance requirements. As stated previously WCAP-16011-P-A describes methods to reduce the time required for startup testing. The changes to NUREG-1432 proposed by TSTF-486 have been reviewed for and found to be consistent with the current NUREG-1432 and WCAP-16011-P-A, and therefore the proposed changes are acceptable and do not involve a significant reduction in a margin of safety.

Based upon the reasoning presented above and the previous discussion of the amendment request, the requested change does not involve a significant hazards consideration.

Dated at Rockville, Maryland, this 29<sup>th</sup> day of August, 2007.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Timothy J. Kobetz, Section Chief  
Technical Specifications Branch  
Division of Inspection & Regional Support  
Office of Nuclear Reactor Regulation

Based upon the reasoning presented above and the previous discussion of the amendment request, the requested change does not involve a significant hazards consideration.

Dated at Rockville, Maryland, this 29<sup>th</sup> day of August, 2007.

FOR THE NUCLEAR REGULATORY COMMISSION

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