Technical Specifications Task Force
Improved Standard Technical Specifications Change Traveler

Remove List of COLR Methods

NUREGs Affected: ☑ 1430 ☑ 1431 ☑ 1432 ☑ 1433 ☑ 1434 ☑ 2194

Classification: 1) Technical Change | Recommended for CLIIP?: Yes

Correction or Improvement: Improvement | NRC Fee Status: Not Exempt

Benefit: Avoids Future Amendments | Changes Marked on ISTS Rev 5.0

PWROG RISD & PA (if applicable): PA-LSC-1756 RS-2019-009

See attached.

Revision History

OG Revision 0 Revision Status: Active

Revision Proposed by: PWROG

Revision Description:
Original Issue

Owners Group Review Information

Date Originated by OG: 24-Mar-21

Owners Group Comments
(No Comments)

Owners Group Resolution: Approved Date: 07-Apr-21

TSTF Review Information

TSTF Received Date: 09-Apr-21 Date Distributed for Review 09-Apr-21

TSTF Comments:
(No Comments)

TSTF Resolution: Approved Date: 26-Apr-21

Affected Technical Specifications

5.6.3 Core Operating Limits Report

1. SUMMARY DESCRIPTION

The proposed change revises Technical Specifications (TS) Section 5.6, "Reporting Requirements," Specification 5.6.3, "Core Operating Limits Report," (COLR) to remove the list of NRC-approved methods from the TS and to evaluate changes to the methods under 10 CFR 50.59. A description of the analytical methods will be in the Updated Final Safety Analysis Report (UFSAR) and the methods will be listed in the licensee-issued COLRs. The proposed change affects the Standard Technical Specifications (STS) in NUREG-1430, NUREG-1431, NUREG-1432, NUREG-1433, NUREG-1434, and NUREG-2194[1].

2. DETAILED DESCRIPTION

2.1. Background

2.1.1. Development of the Core Operating Limits Report

In the 1970's and the 1980's, it was common for a licensee to submit a license amendment request (LAR) to revise TS limits due to core reload design and analysis changes. Changes to TS limits on cycle-specific, core operating parameters were often requested on an expedited basis because determination of some of the limits for the next cycle depended on the core burnup of the current cycle and the LAR could not be submitted until after previous cycle burnup was known. The license amendment was needed prior to the start of the new operating cycle.

As part of the NRC and industry's Technical Specifications Improvement Project (TSIP) following the accident at Three Mile Island, the Atomic Industrial Forum issued a report that included a recommendation to move cycle-specific limits from the TS to licensee control. ("Technical Specification Improvements," AIF Subcommittee on Technical Specification Improvements of the Committee on Reactor Licensing and Safety, October 1, 1985, enclosure to M. R. Edelman (AIF) letter to H.R. Denton (NRC), October 8, 1985.)

From 1985 to 1988, Duke Power Company (DPC) (acting as the lead plant for the Babcock & Wilcox Owners Group) submitted several proposed changes to the Oconee TS to relocate cycle-specific limits to licensee control and responded to NRC comments. A license amendment was approved on January 26, 1989.

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[1] NUREG-1430 provides the STS for Babcock & Wilcox plant designs.
NUREG-1431 provides the STS for Westinghouse plant designs.
NUREG-1432 provides the STS for Combustion Engineering plant designs.
NUREG-1433 provides the STS for BWR/4 plant designs, but is also representative of the BWR/2, BWR/3, and, in this case, BWR/5 design.
NUREG-1434 provides the STS for BWR/6 plant designs, and is representative, in some cases, of the BWR/5 plant design.
NUREG-2194 provides the STS for Westinghouse Advanced Passive (AP) 1000 plant designs.

On October 4, 1988, the NRC issued Generic Letter (GL) 88-16, "Removal of Cycle-Specific Parameter Limits from Technical Specifications." The GL referenced the Oconee LAR as the Babcock & Wilcox Owners Group lead plant submittal. It stated:

> Generally, the methodology for determining cycle-specific parameter limits is documented in an NRC-approved Topical Report or in a plant-specific submittal. As a consequence, the NRC review of proposed changes to TS for these limits is primarily limited to confirmation that the updated limits are calculated using an NRC-approved methodology and consistent with all applicable limits of the safety analysis. These changes also allow the NRC staff to trend the values of these limits relative to past experience. This alternative allows continued trending of these limits without the necessity of prior NRC review and approval.

The GL also stated:

> The current method of controlling reactor physics parameters to assure conformance to 10 CFR 50.36 is to specify the specific value(s) determined to be within specified acceptance criteria (usually the limits of the safety analyses) using an approved calculation methodology. The alternative contained in this guidance controls the values of cycle-specific parameters and assures conformance to 10 CFR 50.36, which calls for specifying the lowest functional performance levels acceptable for continued safe operation, by specifying the calculation methodology and acceptance criteria. This permits operation at any specific value determined by the licensee, using the specified methodology, to be within the acceptance criteria. The Core Operating Limits Report will document the specific values of parameter limits resulting from licensee's calculations including any mid-cycle revisions to such parameter values.

GL 88-16 was incorporated into the original versions of the improved STS. All plants have incorporated the COLR into their TS.

2.1.2. Removal of Revision Numbers and Dates from the TS

TSTF-363-A, Rev. 0, "Revise Topical Report References in ITS 5.6.5, COLR," was submitted on March 13, 2000. It was based on a letter from Mr. Stuart A. Richards (NRC) to Mr. James F. Mallay (Siemens Power Corporation) dated December 15, 1999, entitled "Acceptance for Siemens References to Approved Topical Reports in Technical Specifications," in which the NRC stated that it is acceptable for the references to Topical Reports in the TS to give the Topical Report title and number as long as the complete citation is given in the COLR. The NRC proposed no questions on TSTF-363 and it was approved April 13, 2000.

The NRC Safety Evaluation for adoption of TSTF-363 for Arkansas Nuclear One, Unit 2, dated March 23, 2005, is typical. It states:

> To further avoid the need for TS changes every time a revision to an approved TR is approved, the staff approved TS Task Force (TSTF) Traveler TSTF-363, “Revised Topical Report References in ITS 5.6.5, COLR” (reference 7), which allows for the listing of the TRs in the TS by only the numbers and titles, with the detailed identification of the TR revisions, supplement numbers, and approval dates specified in the COLR.

> This method of referencing TRs allows the licensee to use current TRs to support limits in the COLR without having to submit an amendment to the TSs each time the TR is revised. The licensee also notes that future changes to the values of these limits by the licensee may only be developed using NRC approved methodologies, must remain consistent with all applicable plant safety analysis limits addressed in the safety analysis report, and are further controlled by the 10 CFR 50.59 process. The staff concludes that the licensee's amendment conforms to the guidance in NRC GL 88-16 and TSTF-363.

Approximately three-quarters of the operating plants have relocated the methodology revisions and dates from the TS to the licensee-controlled COLR.

2.1.3. NRC Change in Position Regarding TSTF-363

In letters dated November 2, 2009 and December 11, 2009, the NRC described concerns with TSTF-363-A, Rev. 0 and two similar Travelers, TSTF-408-A, Revision 1, "Relocation of LTOP Enable Temperature and PORV Lift Setting to the PTLR (CE NPSD-683)," and TSTF-419-A, Revision 0, "Revise PTLR Definition and References in ISTS 5.6.6, RCS PTLR." The attachment to the November 2 letter (which was not modified by the December 11 letter) made the following statements:

> GL 88-16 and GL 96-03 relocated the numerical values in TS Limiting Condition of Operations and added approved methodologies for calculating operating limits. This approach was considered to be acceptable so long as the Administrative Controls TS for the COLR or PTLR continued to provide a direct link to the specific methodology used to calculate the values previously listed in the TS. This arrangement would allow the actual values, previously listed in the TS, to be consistently reproduced and controlled. The guidance in GL 88-16 and GL 96-03 specifies the inclusion of Topical Report number, title, or other NRC approval document, and date in the TS for those parameters relocated to the COLR/PTLR. This approach links a particular parameter relocated to the COLR/PTLR to the specific analytical methodology that calculates the parameter. Reference to a specific revision of a methodology in the TS was deemed equivalent to listing a particular parameter in the TS that is calculated by the methodology.
>
> ...
>
> Removal of the Topical Report revision numbers or approval dates from the TS in accordance with the subject TSTF Travelers does not provide a direct link to specific TS numerical values relocated to the COLR/PTLR, since there is no reference to a specific methodology. The TSTF Travelers modify the TS removing reference to specific documents and, in effect, allow reference to a range of methodologies represented by various Topical Report revisions. Since the criterion contained in Title 10 of the Code of Federal Regulations Section 50.59(c)(2)(viii) allows licensees to use previously NRC-approved methodologies, this approach is not equivalent to listing a specific parameter in the TS.

On August 4, 2011, the NRC sent a letter to the TSTF stating amendment requests to adopt TSTF-363 would no longer be accepted. The NRC letter stated:

> Maintaining a list of the methodologies in the TSs requires licensees to obtain NRC approval prior to editing the reference list. Among others, one reason that NRC approval is required prior to editing the reference list is so that the NRC staff can review the methodology and ensure that it is applicable to the facility of a given licensee. Additionally, the NRC staff can verify that the licensee has properly satisfied all implementation conditions and limitations associated with a given methodology. Because there is no inherent requirement to ensure that the implementation conditions and limitations associated with methodology revisions are maintained the same as previous revisions to the same methodology, or that the applicability of subsequent methodology revisions remains the same as earlier methodologies, the NRC staff finds that affording licensees the administrative flexibility to transition between or among methodology revisions is inappropriate.

Regarding the TSTF's contention that the change in position was a backfit, the NRC's letter stated:

> The NRC staff does not intend to backfit licensees that have these travelers already in their TS. There is not a substantial increase in the overall protection of the public health and safety to be derived from backfitting licensees that have already adopted these travelers. A desire for additional clarity in the safety analysis is not indicative of an immediate safety concern. Therefore, backfitting would not be justified under Title 10 of the Code of Federal Regulations Section 50.109 because the safety benefit is not supported by the financial costs. As a result, these changes will not impact plants that already have TSTF-363, or previous versions of TSTF-408 or TSTF-419, approved and implemented in their plant-specific TS.

The NRC's position was incorporated into Revision 4 of the STS, as shown in Section 2.2.

2.2. Current Technical Specifications Requirements

STS Specification 5.6.3, "Core Operating Limits Report," in NUREG-1430, 1431, 1432, 1433, and 1434 states:

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

   [The individual specifications that address core operating limits must be referenced here.]

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents:

----------REVIEWER'S NOTE----------
Licensees that have received prior NRC approval to relocate Topical Report revision numbers and dates to licensee control need only list the number and title of the Topical Report, and the COLR will contain the complete identification for each of the Technical Specification referenced Topical Reports used to prepare the COLR (i.e., report number, title, revision, date, and any supplements). See NRC ADAMS Accession No: ML110660285 for details.

[Identify the Topical Report(s) by number, title, date, and NRC staff approval document or identify the staff Safety Evaluation Report for a plant specific methodology by NRC letter and date.]

c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling System (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

In STS Specification 5.6.3 of NUREG-2194, the affected specifications are listed in paragraph "a" of the STS, the methods are listed in paragraph "b" of the STS, and there is no Reviewer's Note.

2.3. Reason for the Proposed Change

The need for a license amendment to change the list of NRC-approved methods in Specification 5.6.3 limits licensee efforts to use new NRC-approved methods. The delay in implementing the new methods can have an unquantifiable but definite impact on plant safety.

The 1999 change to 10 CFR 50.59 that added evaluation criteria for changes to methods of evaluation should have resulted in a change to Specification 5.6.3 to remove the list of NRC-approved methods from the TS to licensee control. The revised 10 CFR 50.59 explicitly gives the responsibility for evaluating the use of new NRC-approved methods to the licensee. Under 10 CFR 50.59, NRC prior approval should only be required if the new method is not NRC-approved for the proposed application or if the limitations and conditions are not met.

Further, the need for NRC prior review of COLR changes is not consistent:

- Half of the BWRs primarily reference the GE GESTAR document in their COLR list without a revision number or date. Use of new methods referenced in the GESTAR are made without a license amendment.

- Approximately two-thirds of US plants have removed the revision numbers and approval dates from the list of approved methods in the TS. Adoption of a different revision may be evaluated under 50.59 for those plants, but not for the remaining third of the fleet.

Removing the list of methods from the TS would permit a consistent regulatory position across all licensees.

2.4. Description of the Proposed Change

In NUREG-1430 through -1434, the following changes are proposed to Specification 5.6.3 (additions are in italics, deletions are struck through):

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, *and shall be documented in the COLR.* ~~specifically those described in the following documents:~~

~~---------- REVIEWER'S NOTE ----------~~

~~Licensees that have received prior NRC approval to relocate Topical Report revision numbers and dates to licensee control need only list the number and title of the Topical Report, and the COLR will contain the complete identification for each of the Technical Specification referenced Topical Reports used to prepare the COLR (i.e., report number, title, revision, date, and any supplements). See NRC ADAMS Accession No: ML110660285 for details.~~

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~~[Identify the Topical Report(s) by number, title, date, and NRC staff approval document or identify the staff Safety Evaluation Report for a plant specific methodology by NRC letter and date.]~~

c. Licensees may change the analytical methods used to determine the core operating limits without prior NRC approval provided the change does not require either of the following:

1. A change in the TS incorporated in the license or

2. A change to the analytical methods that requires NRC approval pursuant to 10 CFR 50.59.

d~~c~~. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling System (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

e~~d~~. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

In NUREG-2194, the list of methods in paragraph b are deleted and the phrase "and shall be documented in the COLR" is added. The other changes are the same.

The TS Bases are not affected by the proposed change.

A model application is attached. The model may be used by licensees desiring to adopt the traveler following NRC approval.

3. TECHNICAL EVALUATION

The proposed change removes the list of NRC-approved methods used to calculate COLR values from the TS. The licensee will verify that a description of the analytical methods is in the Updated Final Safety Analysis Report (UFSAR) or a description will be added. A list of the methods (including revision numbers and dates) will be included in the licensee-issued COLRs. Changes to the NRC-approved analytical methods will be evaluated under 10 CFR 50.59. If the licensee's evaluation of the change determines that NRC prior review is required, a license amendment will be submitted.

The proposed change is justified because:

- Evaluating Changes to COLR Methods Under 10 CFR 50.59 Protects Plant Safety.
- Evaluating Changes to COLR Methods Under 10 CFR 50.59 Is Consistent with the Regulations.

3.1. Evaluating Changes to COLR Methods under 10 CFR 50.59 Protects Plant Safety

Licensee UFSARs describe many NRC-approved methods that are used to perform calculations that assure plant safety. Most of those methods are not listed in TS 5.6.3 because the results of the calculations are not TS limits that appear in the COLR. For example, containment overpressure analyses, turbine missile analyses, and dose assessment methods utilize NRC-approved methods and verify that safety limits and design basis assumptions are met. Revision or replacement of those methods is evaluated under 10 CFR 50.59. If prior NRC review is required, a license amendment is submitted. If not, the licensee may make the change under the authority given in 10 CFR 50.59.

The use of 10 CFR 50.59 to evaluate method changes has been in use for over 20 years and is understood by licensees. Changes to the methods used for establishing core operating limits will be made using the process described in 10 CFR 50.59. If it is determined that a proposed change is a departure from a method of evaluation as defined in paragraph (a)(2), the licensee will submit a license amendment pursuant to 10 CFR 50.90 prior to implementing the proposed change. It is incumbent upon the licensee to ensure the methods have been approved by the NRC for the intended application and the applicable conditions and limitations are satisfied. The NRC is provided a summary of completed 10 CFR 50.59 evaluations periodically by each licensee. In addition, the NRC periodically reviews the licensee's implementation of 10 CFR 50.59 as part of the NRC inspections conducted under the Reactor Oversight Program.

The methods listed in TS 5.6.3 are no more safety significant or complex than other NRC-approved methods used by licensees that are not cited in the TS, but the ability to evaluate changes under 10 CFR 50.59 is precluded only because they are listed in the TS. Submitting a license amendment to obtain NRC prior approval of the use of an NRC-approved method does not have a significant effect on safety because the information provided to the NRC in the license amendment request is similar to the information that a licensee is required to evaluate when applying 10 CFR 50.59. The NRC-approved method is not changed, the determination of applicability does not change, and the implementation of the conditions and limitations does not change. The only change is that the NRC no longer performs a prior review of this information

for every change to a COLR method and instead performs a prior review only for those changes that cannot be adopted under 10 CFR 50.59.

Currently, many changes to COLR methods are made without NRC prior review. The TS for approximately half of the BWR fleet primarily reference the GE GESTAR document in their COLR list without a revision number or date. Use of new or revised methods referenced in the GESTAR are made without a license amendment. Also, approximately two-thirds of US plants have removed the revision numbers and approval dates from the list of approved methods in the TS. That permits the use of a different revision of the methods for those plants without prior NRC approval, but not for the remaining third of the fleet. There is no evidence that those allowances have a negative effect on plant safety.

There are other regulatory changes that have resulted in items controlled in the TS being moved to licensee control. The 1993 addition of 10 CFR 50.36, "Technical Specifications," paragraph (c)(2)(ii) criteria resulted in approximately one-third of the TS being removed and placed under licensee control with changes being evaluated under 10 CFR 50.59. GL 93-08, "Relocation of Technical Specification Tables of Instrument Response Time Limits," and GL 95-10, "Relocation of Selected Technical Specifications Requirements Related to Instrumentation," also moved information from the TS to licensee control under 10 CFR 50.59. There is no evidence that those changes had a negative effect on plant safety.

In summary, removing the list of COLR methods from the TS and placing them under licensee control under 10 CFR 50.59 and requiring NRC prior approval of method changes only when required under that regulation will maintain plant safety and reduce unnecessary regulatory burden.

3.2. Evaluating Changes to COLR Methods under 10 CFR 50.59 is Consistent with the Regulations

When GL 88-16 was issued, 10 CFR 50.59 had no specific controls related to methods of evaluation and the questions to determine if a change was an "unreviewed safety question" did not relate to methods. The proposed TS in the GL contained a list of NRC-approved methods and a license amendment was required to use a new method because there was no other regulatory control method available.

In 1999, a new version of 10 CFR 50.59 was issued (64FR53582, October 4, 1999), and a new set of criteria was introduced, including Criterion viii, which stated:

> "(c)(2) A licensee shall obtain a license amendment pursuant to Sec. 50.90 prior to implementing a proposed change, test, or experiment if the change, test, or experiment would: …
>
> (viii) Result in a departure from a method of evaluation described in the FSAR (as updated) used in establishing the design bases or in the safety analyses."

The Statements of Consideration for the rule change (64FR53599) explained, "The rule requirements for evaluation methods would allow for use of generic topical reports as not being a

'departure,' provided that the topical report is applicable to the facility, and is used within the terms and conditions specified in the approved topical report."

The Statements of Consideration also included an example of application of Criterion viii:

> Example 3: The licensee wishes to change a non-LOCA FSAR Chapter 15 transient methodology. The methodology is being changed to a different vendor's NRC approved method. The new vendor's method has been approved generically for the particular reactor type (e.g., 2 loop PWR) and for the particular transient being analyzed. The analysis is being performed in accordance with all the applicable limitations and restrictions. The licensee can make this change without prior NRC approval because using a generically approved method for the purpose it was approved, while meeting all the limitations and restrictions, is not a "departure." Subsequent plant changes can then be evaluated using this new method and the other seven criteria in Sec. 50.59.

NEI 96-07, Revision 1, "Guidelines for 10 CFR 50.59 Implementation," (November 2000), which is endorsed by NRC Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59, 'Changes, Tests, And Experiments'," Section 4.3.8.2, "Guidance for Changing from One Method of Evaluation to Another," states:

> The definition of 'departure…' provides licensees with the flexibility to make changes under 10 CFR 50.59 from one method of evaluation to another provided that the new method is approved by the NRC for the intended application. A new method is approved by the NRC for intended application if it is approved for the type of analysis being conducted, and applicable terms, conditions and limitations for its use are satisfied.
>
> NRC approval has typically followed one of two paths. Most reactor or fuel vendors and several utilities have prepared and obtained NRC approval of topical reports that describe methodologies for the performance of a given type or class of analysis. Through a safety evaluation report (SER), NRC approved the use of the methodologies for a given class of power plants. In some cases, the NRC has accorded “generic” approval of analysis methodologies. Terms, conditions and limitations relating to the application of the methodologies are usually documented in the topical reports, the SER, and correspondence between the NRC and the methodology owner that is referenced in the SER or associated transmittal letter.
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> …
>
> When considering the application of a methodology, it is necessary to adopt the methodology *en toto* and apply it consistent with applicable terms, conditions and limitations. Mixing attributes of new and existing methodologies is considered a revision to a methodology and must be evaluated as such per the guidance in Section 4.3.8.1.

Regulatory Guide 1.187 did not take exception to this section of NEI 96-07.

In an August 4, 2011 letter to the TSTF, the NRC stated, "Maintaining a list of the methodologies in the TSs requires licensees to obtain NRC approval prior to editing the reference list. Among others, one reason that NRC approval is required prior to editing the

reference list is so that the NRC staff can review the methodology and ensure that it is applicable to the facility of a given licensee. Additionally, the NRC staff can verify that the licensee has properly satisfied all implementation conditions and limitations associated with a given methodology." (Emphasis added.)

The 1999 rule change to 10 CFR 50.59 specifically addressed these items.

- NEI 96-07, Section 4.3.8.2, states that a licensee may make changes under 50.59 from one method of evaluation to another provided the new method is approved by the NRC for the intended application and the applicable terms, conditions, and limitations are satisfied.

- NEI 96-07 requires these criteria to be documented in the evaluation:

  – "The licensee should address these and similar considerations, as applicable, and document in the 10 CFR 50.59 evaluation the basis for determining that a method is appropriate and approved for the intended application." (emphasis added)

  – "Use of a new NRC-approved methodology (e.g., new or upgraded computer code) to reduce uncertainty, provide more precise results or other reason, provided such use is (a) based on sound engineering practice, (b) appropriate for the intended application and (c) within the limitations of the applicable SER. The basis for this determination should be documented in the licensee evaluation." (emphasis added)

The 1999 change to 10 CFR 50.59 gave licensees the responsibility for evaluating changes to methods to determine if the changes are applicable and that the conditions and limitations are met. Requiring NRC prior review of these items is inconsistent with 10 CFR 50.59.

3.3. Control of COLR Analytical Methods

Under the proposed change, the licensee will remove the list of methods from the TS. Further, the licensee will verify that a description of each removed method is in the UFSAR, or will add a description, such that 10 CFR 50.59 may be applied to changes to the method.

In order to be explicit regarding the control of the COLR analytical methods, a new paragraph "c" is added to the TS which states that licensees may change the analytical methods used to determine the core operating limits without prior NRC approval provided the change does not require a change in the TS or NRC approval pursuant to 10 CFR 50.59.

Removal of the list of COLR methods from the TS and adding a description to the UFSAR would not eliminate the need for a license amendment for a change to a COLR method in some circumstances. Criterion viii would require a license amendment prior to implementation if:

(a) implementation of the activity changes a method of evaluation described in the UFSAR to another method (i.e., replaces or adopts a new method of evaluation) and the new method of evaluation had not been previously approved by the NRC for the intended application; or

(b) implementation of the activity changes any of the elements of the currently specified method of evaluation described in the UFSAR (i.e., revises an existing UFSAR method of evaluation) and the results of the revised method are neither conservative nor essentially the same.

3.4. Change to Inspection in lieu of Prior Approval

The current COLR implementation has been in use for over 30 years. It is recognized that the NRC's processes for review and approval of some topical reports assumed NRC prior approval would be required for a licensee to adopt the approved method. The TSTF proposes to discuss with the NRC the transition of control of COLR methods to 10 CFR 50.59.

3.5. Applicability to Other Specifications

The proposed change is applicable to other TS requirements, such as the Pressure/Temperature Limits Report (PTLR). The proposed change focuses on COLR methods, as the list of methods is typically much longer and more frequently changed than the PTLR. Whether changes to other TS are warranted will be considered after completion of this proposed change.

3.6. Conclusion

The proposed change will revise the TS requirements to be consistent with the regulations and to eliminate unnecessary NRC prior review when adopting NRC-approved methods.

4. REGULATORY EVALUATION

Section IV, "The Commission Policy," of the "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors" (58FR39132), dated July 22, 1993, states in part:

> The purpose of Technical Specifications is to impose those conditions or limitations upon reactor operation necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety by identifying those features that are of controlling importance to safety and establishing on them certain conditions of operation which cannot be changed without prior Commission approval.
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> …[T]he Commission will also entertain requests to adopt portions of the improved STS, even if the licensee does not adopt all STS improvements.
>
> …The Commission encourages all licensees who submit Technical Specification related submittals based on this Policy Statement to emphasize human factors principles.
>
> …In accordance with this Policy Statement, improved STS have been developed and will be maintained for [BWR designs]. The Commission encourages licensees to use the improved STS as the basis for plant-specific Technical Specifications.
>
> …[I]t is the Commission intent that the wording and Bases of the improved STS be used … to the extent practicable.

As described in the Commission's policy statement, recommendations were made by NRC and industry groups for new STS that include greater emphasis on human factors principles in order to add clarity and understanding to the text of the STS, and provide improvements to the Bases of STS, which provides the purpose for each requirement in the specification. Improved vendor-specific STS were developed and issued by the NRC in September 1992.

The regulation at Title 10 of the Code of Federal Regulations (10 CFR) Section 50.36(a)(1) requires an applicant for an operating license to include in the application proposed TS in accordance with the requirements of 10 CFR 50.36. The applicant must include in the application a "summary statement of the bases or reasons for such specifications, other than those covering administrative controls…." However, per 10 CFR 50.36(a)(1), these technical specification bases "shall not become part of the technical specifications." The Final Policy Statement provides the following description of the scope and the purpose of the Technical Specification Bases:

> Appropriate Surveillance Requirements and Actions should be retained for each LCO [limiting condition for operation] which remains or is included in the Technical Specifications. Each LCO, Action, and Surveillance Requirement should have supporting Bases. The Bases should at a minimum address the following questions and cite references to appropriate licensing documentation (e.g., FSAR, Topical Report) to support the Bases.
>
> 1. What is the justification for the Technical Specification, i.e., which Policy Statement criterion requires it to be in the Technical Specifications?
>
>   The proposed change does not affect the TS Bases description of any TS.
>
> 2. What are the Bases for each LCO, i.e., why was it determined to be the lowest functional capability or performance level for the system or component in question necessary for safe operation of the facility and, what are the reasons for the Applicability of the LCO?
>
>   The proposed change does not affect the TS Bases for any LCO.
>
> 3. What are the Bases for each Action, i.e., why should this remedial action be taken if the associated LCO cannot be met; how does this Action relate to other Actions associated with the LCO; and what justifies continued operation of the system or component at the reduced state from the state specified in the LCO for the allowed time period?
>
>   The proposed change does not affect the TS Bases for any Action.
>
> 4. What are the Bases for each Safety Limit?
>
>   The proposed change does not affect the TS Bases for any Safety Limit.
>
> 5. What are the Bases for each Surveillance Requirement and Surveillance Frequency; i.e., what specific functional requirement is the surveillance designed

> to verify? Why is this surveillance necessary at the specified frequency to assure that the system or component function is maintained, that facility operation will be within the Safety Limits, and that the LCO will be met?
>
> > The proposed change does not affect the TS Bases for any Surveillance Requirement or Surveillance Frequency.
>
> Note: In answering these questions the Bases for each number (e.g., Allowable Value, Response Time, Completion Time, Surveillance Frequency), state, condition, and definition (e.g., operability) should be clearly specified. As an example, a number might be based on engineering judgment, past experience, or PSA [probabilistic safety assessment] insights; but this should be clearly stated.

Additionally, 10 CFR 50.36(b) requires:

> Each license authorizing operation of a … utilization facility … will include technical specifications. The technical specifications will be derived from the analyses and evaluation included in the safety analysis report, and amendments thereto, submitted pursuant to [10 CFR] 50.34 ["Contents of applications; technical information"]. The Commission may include such additional technical specifications as the Commission finds appropriate.

The categories of items required to be in the TS are provided in 10 CFR 50.36(c). As required by 10 CFR 50.36(c)(2)(i), the TS will include LCOs, which are the lowest functional capability or performance levels of equipment required for safe operation of the facility. Per 10 CFR 50.36(c)(2)(i), when an LCO of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TS until the condition can be met.

The regulation at 10 CFR 50.36(c)(3) requires TS to include items in the category of SRs, which are requirements 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 LCOs will be met.

Per 10 CFR 50.90, whenever a holder of a license desires to amend the license, application for an amendment must be filed with the Commission, fully describing the changes desired, and following as far as applicable, the form prescribed for original applications.

Per 10 CFR 50.92(a), in determining whether an amendment to a license will be issued to the applicant, the Commission will be guided by the considerations which govern the issuance of initial licenses to the extent applicable and appropriate.

The NRC’s guidance for the review of TS is in Chapter 16, "Technical Specifications," of NUREG-0800, Revision 3, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants" (SRP), dated March 2010 (ADAMS Accession No. ML100351425). As described therein, as part of the regulatory standardization effort, the NRC has prepared STS for each of the light-water reactor nuclear designs.

In conclusion, based on the considerations discussed above, the proposed revision does not alter the current manner of operation and (1) there is reasonable assurance that the health and safety of the public will not be endangered by continued operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the approval of the proposed change will not be inimical to the common defense and security or to the health and safety of the public.

5. REFERENCES

1. Generic Letter 88-16, "Removal of Cycle-Specific Parameter Limits from Technical Specifications," October 4, 1988.

2. TSTF-363-A, Rev. 0, "Revise Topical Report references in ITS 5.6.5, COLR," April 13, 2000.

3. Letter from John R. Jolicoeur (NRC) to Technical Specifications Task Force, "Implementation of Travelers TSTF-363, Revision 0, "Revise Topical Report References In ITS 5.6.5, COLR [Core Operating Limits Report]," TSTF-408, Revision 1, "Relocation Of LTOP [Low Temperature Overpressure Protection] Enable Temperature And PORV [Power-Operated Relief Valve] Lift Setting To The PTLR [Pressure-Temperature Limits Report]," And TSTF-419, Revision 0, "Revise PTLR Definition And References In ISTS [Improved Standard Technical Specification] 5.6.6, RCS [Reactor Coolant System] PTLR", August 4, 2011 (ADAMS Accession No. ML110660285).

4. NEI 96-07, Revision 1, "Guidelines for 10 CFR 50.59 Implementation," November 2000 (ADAMS Accession No. ML00377115).

5. NRC Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59, 'Changes, Tests, And Experiments'," Revision 2, June 2020.

Model Application

[DATE] 10 CFR 50.90

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

DOCKET NO.PLANT NAME
[50/52]-[xxx]
SUBJECT: Application to Revise Technical Specifications to Adopt TSTF-588, "Remove List of COLR Methods"

Pursuant to 10 CFR 50.90, [LICENSEE] is submitting a request for an amendment to the Technical Specifications (TS) for [PLANT NAME, UNIT NOS.].

[LICENSEE] requests adoption of TSTF-588, "Remove List of COLR Methods," which is an approved change to the Standard Technical Specifications (STS), into the [PLANT NAME, UNIT NOS] TS. TSTF-588 removes the list of NRC-approved methods from TS 5.6.3, "Core Operating Limits Report," (COLR). A description of the analytical methods will be in the Updated Final Safety Analysis Report (UFSAR) and will be controlled under 10 CFR 50.59.

The enclosure provides a description and assessment of the proposed changes. Attachment 1 provides the existing TS pages marked to show the proposed changes. Attachment 2 provides revised (clean) TS pages.

[LICENSEE] requests that the amendment be reviewed under the Consolidated Line Item Improvement Process (CLIIP). Approval of the proposed amendment is requested within 6 months of completion of the NRC's acceptance review. Once approved, the amendment shall be implemented within [90] days.

[LICENSEE] commits to verifying a description of each of the analytical methods previously listed in TS [5.6.3] is in the UFSAR or will be added to the UFSAR.

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

[In accordance with 10 CFR 50.30(b), a license amendment request must be executed in a signed original under oath or affirmation. This can be accomplished by attaching a notarized affidavit confirming the signature authority of the signatory, or by including the following statement in the cover letter: "I declare under penalty of perjury that the foregoing is true and correct. Executed on (date)." The alternative statement is pursuant to 28 USC 1746. It does not require notarization.]

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

Sincerely,

[Name, Title]

Enclosure: Description and Assessment

Attachments: 1. List of Regulatory Commitments
2. Proposed Technical Specification Changes (Mark-Up)

[Attachments 2 and 3 are to be provided by the licensee and are not included in the model application.]

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

ENCLOSURE

DESCRIPTION AND ASSESSMENT

1.0 DESCRIPTION

[LICENSEE] requests adoption of TSTF-588, "Remove List of COLR Methods," which is an approved change to the Standard Technical Specifications (STS), into the [PLANT NAME, UNIT NOS] Technical Specifications (TS). TSTF-588 removes the list of NRC-approved methods from TS 5.6.3, "Core Operating Limits Report," (COLR) and incorporates a description of the listed methods into the Updated Final Safety Analysis Report (UFSAR) for control under 10 CFR 50.59.

2.0 ASSESSMENT

2.1 Applicability of Safety Evaluation

[LICENSEE] has reviewed the safety evaluation for TSTF-588 provided to the Technical Specifications Task Force in a letter dated [DATE]. This review included a review of the NRC staff's evaluation, as well as the information provided in TSTF-588. [As described herein,] [LICENSEE] has concluded that the justifications presented in TSTF-588 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 Variations

[LICENSEE is not proposing any variations from the TS changes described in TSTF-588 or the applicable parts of the NRC staff's safety evaluation dated [DATE.] [LICENSEE is proposing the following variations from the TS changes described in TSTF-588 or the applicable parts of the NRC staff's safety evaluation: describe the variations.]

[The [PLANT] TS utilize different [numbering][and][titles] than the STS on which TSTF-588 was based. Specifically, [describe differences between the plant-specific TS numbering and/or titles and the TSTF-588 numbering and titles.] These differences are administrative and do not affect the applicability of TSTF-588 to the [PLANT] TS.]

[The [PLANT] TS contain requirements that differ from the STS on which TSTF-588 was based but are encompassed in the TSTF-588 justification. [Describe differences and why TSTF-588 is still applicable.]

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Analysis

[LICENSEE] requests adoption of TSTF-588, "Remove List of COLR Methods," which is an approved change to the Standard Technical Specifications (STS), into the [PLANT NAME, UNIT NOS] Technical Specifications (TS). TSTF-588 removes the list of NRC-approved methods from TS 5.6.3, "Core Operating Limits Report," (COLR) and incorporates a description

of the listed methods into the Updated Final Safety Analysis Report (UFSAR) for control under 10 CFR 50.59.

[LICENSEE] has evaluated if a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No

   The proposed change removes the list of NRC-approved methods from the TS and incorporates a description of the listed methods into the UFSAR for control under 10 CFR 50.59.

   The proposed change has no effect on plant structures, systems, and components (SSCs) and does not affect plant operation. As a result, the probability of any accident previously evaluated is not significantly increased. The TS continues to require that the core operating limits ensure all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling System (ECCS) limits, nuclear limits, transient analysis limits, and accident analysis limits) of the safety analysis are met. As a result, the consequences of accidents previously evaluated are not significantly increased. The analytical methods used to determine the consequences of previously evaluated accidents will be controlled under the applicable regulations, and any significant increase in consequences would require prior NRC approval.

   Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No

   The proposed change removes the list of NRC-approved methods from the TS and incorporates a description of the listed methods into the UFSAR for control under 10 CFR 50.59.

   The proposed change will not change the design function or operation of the plant SSCs. As a result, no new credible failure mechanisms, malfunctions, or accident initiators are introduced. The analytical methods used to determine core operating limits will be controlled in accordance with the regulations, and NRC prior approval of a change to an analytical method will be obtained if required.

   Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No

The proposed change removes the list of NRC-approved methods from the TS and incorporates a description of the listed methods into the UFSAR for control under 10 CFR 50.59.

The calculated values in the COLR include controlling values of parameters that avoid exceeding regulatory or licensing limits. However, the TS continues to require that the calculated core operating limits ensure that all applicable limits of the safety analysis are met. Changes to any analytical methods used to determine COLR values are controlled by the regulations, and prior NRC approval will be obtained if required by the regulations. The TS Safety Limit values are not included in the COLR and are not affected by the proposed change.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, [LICENSEE] concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

3.2 Conclusion

In conclusion, based on the considerations discussed above, (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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

4.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

Attachment 1

List of Regulatory Commitments

The following table identifies the regulatory commitments in this document. Any other statements in this submittal represent intended or planned actions. They are provided for information purposes and are not considered to be regulatory commitments.

COMMITMENT	TYPE		SCHEDULED COMPLETION DATE
	One-Time	Continuing Compliance	
A description of each of the analytical methods previously listed in TS [5.6.3] shall be verified to be in the UFSAR or will be added to the UFSAR.	X		Prior to implementation of the license amendment.

Technical Specifications Changes

5.6 Reporting Requirements

5.6.3 CORE OPERATING LIMITS REPORT (COLR)

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

[The individual specifications that address core operating limits must be referenced here.]

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, **and shall be documented in the COLR.** ~~specifically those described in the following documents:~~

~~REVIEWER'S NOTE~~
~~Licensees that have received prior NRC approval to relocate Topical Report revision numbers and dates to licensee control need only list the number and title of the Topical Report, and the COLR will contain the complete identification for each of the Technical Specification referenced Topical Reports used to prepare the COLR (i.e., report number, title, revision, date, and any supplements). See NRC ADAMS Accession No: ML110660285 for details.~~

~~[Identify the Topical Report(s) by number, title, date, and NRC staff approval document or identify the staff Safety Evaluation Report for a plant specific methodology by NRC letter and date.]~~

c. Licensees may change the analytical methods used to determine the core operating limits without prior NRC approval provided the change does not require either of the following:

1. A change in the TS incorporated in the license or

2. A change to the analytical methods that requires NRC approval pursuant to 10 CFR 50.59.

d~~c~~. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling System (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

e~~d~~. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.4 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT

5.6 Reporting Requirements

5.6.3 CORE OPERATING LIMITS REPORT

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

[The individual specifications that address core operating limits must be referenced here.]

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, **and shall be documented in the COLR.** ~~specifically those described in the following documents:~~

~~REVIEWER'S NOTE~~
~~Licensees that have received prior NRC approval to relocate Topical Report revision numbers and dates to licensee control need only list the number and title of the Topical Report, and the COLR will contain the complete identification for each of the Technical Specification referenced Topical Reports used to prepare the COLR (i.e., report number, title, revision, date, and any supplements). See NRC ADAMS Accession No: ML110660285 for details.~~

~~[Identify the Topical Report(s) by number, title, date, and NRC staff approval document or identify the staff Safety Evaluation Report for a plant specific methodology by NRC letter and date.]~~

c. Licensees may change the analytical methods used to determine the core operating limits without prior NRC approval provided the change does not require either of the following:

1. A change in the TS incorporated in the license or

2. A change to the analytical methods that requires NRC approval pursuant to 10 CFR 50.59.

~~d~~c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

~~e~~d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.4 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT

5.6 Reporting Requirements

5.6.3 CORE OPERATING LIMITS REPORT

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

[The individual specifications that address core operating limits must be referenced here.]

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, **and shall be documented in the COLR.** ~~specifically those described in the following documents:~~

~~REVIEWER'S NOTE~~
~~Licensees that have received prior NRC approval to relocate Topical Report revision numbers and dates to licensee control need only list the number and title of the Topical Report, and the COLR will contain the complete identification for each of the Technical Specification referenced Topical Reports used to prepare the COLR (i.e., report number, title, revision, date, and any supplements). See NRC ADAMS Accession No: ML110660285 for details.~~

~~[Identify the Topical Report(s) by number, title, date, and NRC staff approval document or identify the staff Safety Evaluation Report for a plant specific methodology by NRC letter and date.]~~

c. Licensees may change the analytical methods used to determine the core operating limits without prior NRC approval provided the change does not require either of the following:

1. A change in the TS incorporated in the license or

2. A change to the analytical methods that requires NRC approval pursuant to 10 CFR 50.59.

d~~c~~. The core operating limits shall be determined assuming operation up to RATED THERMAL POWER such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling System (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

e~~d~~. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.4 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT

5.6 Reporting Requirements

5.6.3 CORE OPERATING LIMITS REPORT

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

[The individual specifications that address core operating limits must be referenced here. The $MCPR_{99.9\%}$ value used to calculate the LCO 3.2.2, "MCPR," limit shall be specified in the COLR.]

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, **and shall be documented in the COLR.** ~~specifically those described in the following documents:~~

~~REVIEWER'S NOTE~~
~~Licensees that have received prior NRC approval to relocate Topical Report revision numbers and dates to licensee control need only list the number and title of the Topical Report, and the COLR will contain the complete identification for each of the Technical Specification referenced Topical Reports used to prepare the COLR (i.e., report number, title, revision, date, and any supplements). See NRC ADAMS Accession No: ML110660285 for details.~~

~~[Identify the Topical Report(s) by number, title, date, and NRC staff approval document or identify the staff Safety Evaluation Report for a plant specific methodology by NRC letter and date.]~~

c. Licensees may change the analytical methods used to determine the core operating limits without prior NRC approval provided the change does not require either of the following:

1. A change in the TS incorporated in the license or

2. A change to the analytical methods that requires NRC approval pursuant to 10 CFR 50.59.

d~~c~~. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

e~~d~~. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.4 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT

5.6 Reporting Requirements

5.6.3 CORE OPERATING LIMITS REPORT (COLR)

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

[The individual specifications that address core operating limits must be referenced here. The $MCPR_{99.9\%}$ value used to calculate the LCO 3.2.2, "MCPR," limit shall be specified in the COLR.]

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, **and shall be documented in the COLR.** ~~specifically those described in the following documents:~~

~~REVIEWER'S NOTE~~
~~Licensees that have received prior NRC approval to relocate Topical Report revision numbers and dates to licensee control need only list the number and title of the Topical Report, and the COLR will contain the complete identification for each of the Technical Specification referenced Topical Reports used to prepare the COLR (i.e., report number, title, revision, date, and any supplements). See NRC ADAMS Accession No: ML110660285 for details.~~

~~[Identify the Topical Report(s) by number, title, date, and NRC staff approval document or identify the staff Safety Evaluation Report for a plant specific methodology by NRC letter and date.]~~

c. Licensees may change the analytical methods used to determine the core operating limits without prior NRC approval provided the change does not require either of the following:

1. A change in the TS incorporated in the license or

2. A change to the analytical methods that requires NRC approval pursuant to 10 CFR 50.59.

d~~c~~. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

e~~d~~. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.4 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT

5.6 Reporting Requirements

5.6.3 CORE OPERATING LIMITS REPORT (COLR)

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

2.1.1, “Reactor Core SLs”
3.1.1, “SHUTDOWN MARGIN (SDM)”
3.1.3, “Moderator Temperature Coefficient (MTC)”
3.1.5, “Shutdown Bank Insertion Limits”
3.1.6, “Control Bank Insertion Limits”
3.2.1, “Heat Flux Hot Channel Factor ($F_Q(Z)$) (F_Q Methodology)”
3.2.2, “Nuclear Enthalpy Rise Hot Channel Factor ($F^N_{\Delta H}$)”
3.2.3, “AXIAL FLUX DIFFERENCE (AFD) (Relaxed Axial Offset Control (RAOC) Methodology)”
3.2.5, “On-line Power Distribution Monitoring System (OPDMS)-Monitored Parameters”
3.3.1, “Reactor Trip System (RTS) Instrumentation”
3.4.1, “RCS Pressure, Temperature, and Flow Departure from Nucleate Boiling (DNB) Limits”
3.9.1, “Boron Concentration”

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, **and shall be documented in the COLR.** ~~specifically those described in the following documents:~~

~~1. WCAP-9272-NP-A, “Westinghouse Reload Safety Evaluation Methodology,” July 1985 (Westinghouse Non-Proprietary).~~

~~(Methodology for Specifications 3.1.3 - Moderator Temperature Coefficient, 3.1.5 - Shutdown Bank Insertion Limits, 3.1.6 - Control Bank Insertion Limits, 3.2.1 - Heat Flux Hot Channel Factor, 3.2.2 - Nuclear Enthalpy Rise Hot Channel Factor, 3.2.3 - AXIAL FLUX DIFFERENCE, and 3.9.1 - Boron Concentration.)~~

~~2a. WCAP-8403, “Power Distribution Control and Load Following Procedures - Topical Report,” September 1974 (Westinghouse Non-Proprietary).~~

~~(Methodology for Specification 3.2.3 - AXIAL FLUX DIFFERENCE (Constant Axial Offset Control).)~~

5.6 Reporting Requirements

5.6.3 CORE OPERATING LIMITS REPORT (COLR) (continued)

~~2b. T. M. Anderson to K. Kniel (Chief of Core Performance Branch, NRC) January 31, 1980 - Attachment: Operation and Safety Analysis Aspects of an Improved Load Follow Package.~~

~~(Methodology for Specification 3.2.3 - AXIAL FLUX DIFFERENCE (Constant Axial Offset Control).)~~

~~2c. NUREG-0800, Standard Review Plan, U.S. Nuclear Regulatory Commission, Section 4.3, Nuclear Design, July 1981. Branch Technical Position CPB 4.3-1, Westinghouse Constant Axial Offset Control (CAOC), Rev. 2, July 1981.~~

~~(Methodology for Specification 3.2.3 - AXIAL FLUX DIFFERENCE (Constant Axial Offset Control).)~~

~~3. WCAP-10217-A, Revision 1A, "Relaxation of Constant Axial Offset Control F_Q Surveillance Technical Specification," February 1994 (Westinghouse Non-Proprietary).~~

~~(Methodology for Specifications 3.2.3 - AXIAL FLUX DIFFERENCE (Relaxed Axial Offset Control) and 3.2.1 - Heat Flux Hot Channel Factor (W(Z) surveillance requirements for F_Q Methodology).)~~

~~4. WCAP-114747, Volumes 1-5, "Westinghouse Code Qualification Document for Best Estimate Loss of Coolant Accident Analysis," Revision 2, March 1998 (Westinghouse Non-Proprietary).~~

~~(Methodology for Specification 3.2.1 - Heat Flux Hot Channel Factor.)~~

~~5. WCAP-12473-A, "BEACON Core Monitoring and Operations Support System," August 1994, Addendum 1, May 1996 (Westinghouse Non-Proprietary), and Addendum 2, March 2001 (Westinghouse Non-Proprietary).~~

~~(Methodology for Specification 3.2.5 - OPDMS - Monitored Parameters.)~~

~~6. APP-GW-GLR-137, Revision 1, "Bases of Digital Overpower and Overtemperature Delta-T (OPΔT/OTΔT) Reactor Trips," Westinghouse Electric Company LLC.~~

5.6 Reporting Requirements

5.6.3 CORE OPERATING LIMITS REPORT (COLR) (continued)

~~(Methodology for Specification 2.1.1 - Reactor Core Safety Limits, and Specification 3.3.1 - Reactor Trip System (RTS) Instrumentation.)~~

c. Licensees may change the analytical methods used to determine the core operating limits without prior NRC approval provided the change does not require either of the following:

1. A change in the TS incorporated in the license or

2. A change to the analytical methods that requires NRC approval pursuant to 10 CFR 50.59.

d~~c~~. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Passive Core Cooling Systems limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

e~~d~~. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.4 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)

a. RCS pressure and temperature limits for heat up, cooldown, low temperature operation, criticality, and hydrostatic testing as well as heatup and cooldown rates shall be established and documented in the PTLR for the following:

3.4.3, “RCS Pressure and Temperature (P/T) Limits”
3.4.14, “Low Temperature Overpressure Protection (LTOP)”

b. 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 document:

WCAP-14040-A, “Methodology Used to Develop Cold Overpressure Mitigating System Setpoints and RCS Heatup and Cooldown Limit Curves.” (Limits for LCO 3.4.3 and LCO 3.4.14).

c. The PTLR shall be provided to the NRC upon issuance for each reactor vessel fluency period and for any revision or supplement thereto.

5.6.5 Post Accident Monitoring Report