

NUCLEAR REGULATORY COMMISSION

Notice of Opportunity to Comment on Model Safety Evaluation on  
Technical Specification Improvement to Relocate Surveillance Frequencies to Licensee  
Control – Risk-Informed Technical Specification Task Force (RITSTF) Initiative 5b,  
Technical Specification Task Force - 425, Revision 2

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Request for comment.

**SUMMARY:** The U. S. Nuclear Regulatory Commission (NRC) has prepared a model license amendment request (LAR), model safety evaluation (SE), and model no significant hazards consideration (NSHC) determination. These are related to changes to standard technical specifications (STS) for Technical Specification Task Force (TSTF) – 425, Rev. 2, “Relocate Surveillance Frequencies to Licensee Control – RITSTF Initiative 5b,” (Agencywide Documents Access Management System (ADAMS) Accession No. ML080280275). The purpose of these models is to permit the NRC to efficiently process amendments that propose to relocate TS surveillance frequencies. Licensees of nuclear power reactors could then request amendments, confirming the applicability of the safety evaluation and NSHC determination to their reactors. The NRC staff is requesting comment on the model safety evaluation and model NSHC determination prior to announcing their availability for referencing in license amendment applications.

**DATES:** The comment period expires [insert date 30 days from date of publication in the *Federal Register*]. Comments received after this date will be considered if it is practical to do

so. However, the Commission can only ensure consideration for comments received on or before this date.

**ADDRESSES:** Please submit comments either electronically or through U.S. mail. E-mail comments to [CLIP@nrc.gov](mailto:CLIP@nrc.gov). Mail comments to the Chief, Rules and Directives Branch, Division of Administrative Services, Office of Administration, Mail Stop: T-6 D59, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Hand-deliver comments to: 11545 Rockville Pike, Rockville, MD between 7:45 a.m. and 4:15 p.m. on Federal workdays. Copies of comments received may be examined at the NRC's Public Document Room, 11555 Rockville Pike (Room O-1F21), Rockville, MD. You can submit comments electronically to [CLIP@nrc.gov](mailto:CLIP@nrc.gov).

**FOR FURTHER INFORMATION CONTACT:** Robert Elliott, 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 301-415-8585.

**SUPPLEMENTARY INFORMATION:**

**Background**

This notice provides an opportunity for the public to comment on proposed changes to the STS after a preliminary assessment and finding by the NRC staff that the NRC will likely offer the change for adoption by licensees. This notice solicits comment on a proposed change to the STS that modify surveillance frequencies. NRC staff will evaluate any comments received for the proposed change to the STS and reconsider the change or announce the availability of the change for adoption by licensees. Licensees opting to apply for this change are responsible for reviewing the staff's evaluation, referencing the applicable technical justifications, and providing any necessary plant-specific information. The NRC will process and note each amendment application responding to the notice of availability according to applicable NRC rules and procedures.

This notice involves the relocation of most time-based surveillance frequencies to a licensee-controlled program, the Surveillance Frequency Control Program (SFCP), and provides a reference to the SFCP in the administrative controls section of TS. Exceptions to surveillance frequency relocation are those surveillances frequencies that are event driven, event driven with a time component, reference another established licensee program, or condition-based surveillance frequencies. Revision 2 of TSTF-425 addresses all four reactor vendor types. The owners groups participants proposed this change for incorporation into the standard technical specifications in the technical specification task force (TSTF) and is designated TSTF-425, Rev. 2. TSTF-425, Rev. 2 (ADAMS Accession No. ML080280275), can be viewed on the NRC's Web page at <http://www.nrc.gov/reading-rm/adams.html>.

### **Applicability**

TSTF-425, Rev 2, is applicable to all nuclear power reactors and requires the application of the Nuclear Energy Institute (NEI) 04-10, Rev. 1, "Risk-informed Technical Specifications Initiative 5B, Risk-Informed Method for Control of Surveillance Frequencies," (ADAMS Accession No. ML071360456). The NRC staff reviewed and approved NEI 04-10, Revision 1 (Rev. 1), by letter dated September 19, 2007 (ADAMS Accession No. ML072570267). To efficiently process the incoming license amendment applications, the NRC staff requests that each licensee applying for the changes proposed in TSTF-425 include documentation regarding the probabilistic risk assessment (PRA) technical adequacy consistent with the requirements of Section 4.2 Regulatory Guide (RG) 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities" (ADAMS Accession No. ML070240001). Applicants proposing to use PRA models for which NRC-endorsed standards do not exist must submit documentation that identifies characteristics of those models consistent with Sections 1.2 and 1.3 of RG-1.200 or identify and justify the

methods to be applied for assessing the risk contribution for those sources of risk not addressed by PRA models.

The proposed change to adopt TSTF-425 does not prevent licensees from requesting an alternate approach or proposing changes other than those proposed in TSTF-425, Rev. 2. Significant deviations from the approach recommended in this notice, or inclusion of additional changes to the license, however, require additional review by the NRC staff. This may increase the time and resources needed for the review or result in staff rejection of the LAR. Licensees desiring significant deviations or additional changes should instead submit a license amendment request that does not claim to adopt TSTF-425, Rev 2.

### **Public Notices**

This notice requests comments from interested members of the public within 30 days of the date of publication in the *Federal Register*. After evaluating the comments received as a result of this notice, the NRC staff will either reconsider the proposed change or announce the availability of the change in a subsequent notice (with possible changes to the safety evaluation or the proposed no significant hazards consideration determination as a result of public comments). If NRC staff announces the availability of the change, licensees wishing to adopt the change must submit an application in accordance with applicable rules and other regulatory requirements.

For each application the NRC staff will publish a notice of consideration of issuance of amendment to facility operating licenses, a proposed no significant hazards consideration determination, and a notice of opportunity for a hearing. The staff will also publish a notice of

issuance of an amendment to the operating license to announce the relocation of surveillance frequencies to licensee-controlled document for each plant that receives the requested change.

Dated at Rockville, MD, this 24<sup>th</sup> day of November 2008.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

---

Robert Elliott, Chief  
Technical Specifications Branch  
Division of Inspection and Regional Support  
Office of Nuclear Reactor Regulation

issuance of an amendment to the operating license to announce the relocation of surveillance frequencies to licensee-controlled document for each plant that receives the requested change.

Dated at Rockville, MD, this 24<sup>th</sup> day of November 2008.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Robert Elliott, Chief  
Technical Specifications Branch  
Division of Inspection and Regional Support  
Office of Nuclear Reactor Regulation

ADAMS Accession Number: ML081360331

OFFICE	ITSB/DIRS	ITSB/DIRS	ITSB/DIRS	DRA/APLA	DSS/SRXB	TechEditor	OGC
NAME	GWaig	CSchulten	RElliott	MRubin	GCranston	HSpencer	DRoth
DATE	5/ 29 /2008	5/ 29 /2008	11/ 24/2008	6/ 03 /08	5/ 29 /08	10/23/08	11/07/08

OFFICIAL RECORD COPY

**THE FOLLOWING EXAMPLE OF AN APPLICATION WAS PREPARED BY THE NRC STAFF. THE MODEL PROVIDES THE EXPECTED LEVEL OF DETAIL AND CONTENT FOR AN APPLICATION TO REVISE TECHNICAL SPECIFICATIONS REGARDING RISK-INFORMED JUSTIFICATION FOR RELOCATION OF SPECIFIC TS SURVEILLANCE FREQUENCIES TO A LICENSEE CONTROLLED PROGRAM CHANGE. LICENSEES REMAIN RESPONSIBLE FOR ENSURING THAT THEIR ACTUAL APPLICATION FULFILLS THEIR ADMINISTRATIVE REQUIREMENTS AS WELL AS NRC REGULATIONS.**

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

SUBJECT: PLANT NAME  
DOCKET NO. 50-

APPLICATION FOR TECHNICAL SPECIFICATION CHANGE REGARDING  
RISK -INFORMED JUSTIFICATION FOR THE RELOCATION OF SPECIFIC  
SURVEILLANCE FREQUENCY REQUIREMENTS TO A LICENSEE  
CONTROLLED PROGRAM

Dear Sir or Madam:

In accordance with the provisions of Title10 of the Code of Federal Regulations (10 CFR Part 50.90), "Application for Amendment License Construction Permit at Request of Holder," [LICENSEE] is submitting a request for an amendment to the technical specifications (TS) for [PLANT NAME, UNIT NOS.].

The proposed amendment would modify [LICNESEE] technical specifications by relocating specific surveillance frequencies to a licensee-controlled program with the implementation of

Nuclear Energy Institute (NEI) 04–10, “Risk-Informed Technical Specification Initiative 5B, Risk-Informed Method for Control of Surveillance Frequencies.”

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 TS Bases changes.

[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, “Notice for Public Comment; State Consultation,” a copy of this application, with attachments, is being provided to the designated [STATE] Official.

I declare [or certify, verify, state] under penalty of perjury that the foregoing is correct and true.

Executed on [Date] [Signature]

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: U. S. Nuclear Regulatory Commission  
Regional Office  
NRC Resident Inspector

## ATTACHMENT 1

### Description and Assessment

#### 1.0 DESCRIPTION

The proposed amendment would modify technical specifications by relocating specific surveillance frequencies to a licensee-controlled program with the adoption of Technical Specification Task Force (TSTF)-425, Revision 2, "Relocate Surveillance Frequencies to Licensee Control-risk Informed Technical Specification Task Force (RITSTF) Initiative 5." Additionally, the change would add a new program, the Surveillance Frequency Control Program, to TS Section [5], Administrative Controls.

The changes are consistent with NRC approved Industry/TSTF STS change TSTF-425, Revision 2, (Rev. 2) (ADAMS Accession No. ML080280275). The *Federal Register* notice published on [DATE] announced the availability of this TS improvement.

#### 2.0 ASSESSMENT

##### 2.1 Applicability of Published Safety Evaluation

[LICENSEE] has reviewed the safety evaluation dated [DATE]. This review included a review of the NRC staff's evaluation, the supporting information provided to support TSTF-425, Rev. 2., and the requirements specified in NEI 04-10, Rev. 1, (ADAMS Accession No. ML071360456).

1. [LICENSEE] LAR submittal includes documentation with regards to PRA technical adequacy consistent with the requirements of RG 1.200 (ADAMS Accession No. ML070240001) Section 4.2., and
2. LICENSEE] proposes to use PRA models without NRC-endorsed standards. The licensee has submitted documentation which identifies the quality characteristics of those models, as described in RG 1.200 (ADAMS Accession No. ML070240001).

[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 to incorporate 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 TSTF-425, Rev. 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*. [LICENSEE] has concluded that the proposed NSHCD presented in the *Federal Register* notice is applicable to [PLANT] and has found it acceptable to incorporate into the amendment request that satisfies the requirements of 10 CFR 50.91(a).

ATTACHMENT 2—PROPOSED TECHNICAL SPECIFICATION CHANGES (MARK-UP)

ATTACHMENT 3—PROPOSED TECHNICAL SPECIFICATION PAGES

ATTACHMENT 4—LIST OF REGULATORY COMMITMENTS

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

<b>REGULATORY COMMITMENTS</b>	<b>DUE DATE</b>
[LICENSEE] commits to implement NEI 04-10, Revision 1, as identified by reference in new TS Administrative Control, "Surveillance Frequency Control Program (SFCP)."	[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:* The change requests the adoption of an approved change to the standard technical specifications (STS) for [Babcock and Wilcox (B&W) Plants (NUREG-1430), Westinghouse Plants (NUREG-1431), Combustion Engineering Plants (NUREG-1432), General Electric Plants, BWR/4 (NUREG-1433), and General Electric Plants, BWR/6 (NUREG-1334)], to allow relocation of specific TS surveillance frequencies to a licensee-controlled program. The proposed change is described in Technical Specification Task Force (TSTF) Traveler, TSTF-425, Revision 2 (Rev. 2) (ADAMS Accession No. ML080280275) related to the Relocation of Surveillance Frequencies to Licensee Control—RITSTF Initiative 5b and was described in the Notice of Availability published in the *Federal Register* on [Date] ([xx FR xxxxx]).

The proposed changes are consistent with NRC-approved Industry/Technical Specification Task Force (TSTF) Traveler, TSTF-425, Rev. 2, “Relocate Surveillance Frequencies to Licensee Control—RITSTF Initiative 5b.” The proposed change relocates surveillance frequencies to a licensee-controlled program, the Surveillance Frequency Control Program (SFCP). This change is applicable to licensees using probabilistic risk guidelines contained in NRC-approved NEI 04-10, “Risk-Informed Technical Specifications Initiative 5b, Risk-Informed Method for Control of Surveillance Frequencies,” (ADAMS Accession No. 071360456).

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

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

Response: No

The proposed change relocates the specified frequencies for periodic surveillance requirements to licensee control under a new Surveillance Frequency Control Program. Surveillance frequencies are not an initiator to any accident previously evaluated. As a result, the probability of any accident previously evaluated is not significantly increased. The systems and components required by the technical specifications for which the surveillance frequencies are relocated are still required to be operable, meet the acceptance criteria for the surveillance requirements, and be capable of performing any mitigation function assumed in the accident analysis. As a result, the consequences of any accident previously evaluated are not significantly increased.

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

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

Response: No

No new or different accidents result from utilizing the proposed change. The changes do not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. In addition, the changes do not impose any new or different requirements. The changes do not alter assumptions made in the safety analysis. The proposed changes are consistent with the safety analysis assumptions and current plant operating practice.

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

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

Response: No

The design, operation, testing methods, and acceptance criteria for systems, structures, and components (SSCs), specified in applicable codes and standards (or alternatives approved for use by the NRC) will continue to be met as described in the plant licensing basis (including the final safety analysis report and bases to TS), since these are not affected by changes to the surveillance frequencies. Similarly, there is no impact to safety analysis acceptance criteria as described in the plant licensing basis. To evaluate a change in the relocated surveillance frequency, [LICENSEE] performed a probabilistic risk evaluation using the guidance contained in NRC approved NEI 04-10, Rev. 1. NEI 04-10, Rev. 1, methodology provides reasonable acceptance guidelines and methods for evaluating the risk increase of proposed changes to surveillance frequencies consistent with Regulatory Guide 1.177.

Therefore, the proposed changes 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 as set forth in 10 CFR 50.92(c), Issuance of Amendment,” and therefore, [LICENSEE] finding of “no significant hazards consideration” is justified.

## **Proposed Safety Evaluation**

U.S. Nuclear Regulatory Commission

Office of Nuclear Reactor Regulation

Technical Specification Task Force (TSTF) Change TSTF-425

Relocate Surveillance Frequencies to Licensee Control

### **1.0 INTRODUCTION**

By letter dated [-----, 20--], [LICENSEE] (the licensee) proposed changes to the technical specifications (TS) for [PLANT NAME]. The requested change is the adoption of NRC-approved TSTF-425, Revision 2, "Relocate Surveillance Frequencies to Licensee Control – RITSTF Initiative 5b" (Reference 1). When implemented, TSTF-425, Revision 2 (Rev. 2) relocates most periodic frequencies of technical specifications (TS) surveillances to a licensee controlled program, the Surveillance Frequency Control Program (SFCP), and provides requirements for the new program in the administrative controls section of TS. All surveillance frequencies can be relocated except:

- Frequencies that reference other approved programs for the specific interval (such as the Inservice Testing Program or the Primary Containment Leakage Rate Testing Program),
- Frequencies that are purely event driven (e.g., "Each time the control rod is withdrawn to the 'full out' position").
- Frequencies that are event-driven but have a time component for performing the surveillance on a one-time basis once the event occurs (e.g., "within 24 hours after thermal power reaching  $\geq 95\%$  RTP")

- Frequencies that are related to specific conditions (e.g., battery degradation, age, and capacity) or conditions for the performance of a surveillance requirement (e.g., “drywell to suppression chamber differential pressure decrease”).

The definition of “Staggered Test Basis” in TS Section 1.1, “Definitions,” is placed in brackets. Plants that adopt TSTF-425, Rev. 2, and no longer use this defined term in the technical specifications may remove it from Section 1.1. A new Administrative Controls Program is added to TS section 5 as [Specification 5.5.15 (NUREG-1433 and -1434) or Specification 5.5.18 (NUREG-1430, 1431, and 1432)]. The new program is called the Surveillance Frequency Control Program (SFCP) and describes the requirements for the program to control changes to the relocated surveillance frequencies. The TS Bases for each affected surveillance is revised to state that the frequency is set in accordance with the Surveillance Frequency Control Program. Various editorial changes may be made to the Bases as needed to facilitate the addition of the Bases changes. Some surveillance Bases do not contain a discussion of the frequency. In these cases, Bases describing the current frequency were added to maintain consistency with the Bases for similar surveillances. These instances are noted in the markup along with the source of the text. The proposed changes to the administrative controls of TS to incorporate the SFCP includes a specific reference to NEI 04-10, “Risk-Informed Technical Specifications Initiative 5B, Risk-Informed Method for Control of Surveillance Frequencies,” Revision 1 (Rev. 1), (Reference 2) as the basis for making any changes to the surveillance frequencies once they are relocated out of TS.

In a letter dated September 19, 2007, the NRC staff approved Nuclear Energy Institute (NEI) Topical Report (TR) 04-10, Rev. 1, “ Risk-Informed Technical Specification initiative 5B, Risk Informed Method for Control of Surveillance Frequencies” (ADAMS Accession No. 072570267), as acceptable for referencing in licensing actions to the extent specified and under the

limitations delineated in NEI 04-10, Rev. 1, and the final acceptance SE providing the basis for NRC acceptance of NEI 04-10, Rev 1.

## **2.0 REGULATORY EVALUATION**

In the “Final Policy Statement: Technical Specifications for Nuclear Power Plants” published in the *Federal Register (FR)* (58 FR 39132, 7/22/93) the NRC addressed the use of Probabilistic Safety Analysis (PSA, currently referred to as Probabilistic Risk Analysis or PRA) in STS. In this 1993 *FR* publication, the NRC states, in part, “*The Commission believes that it would be inappropriate at this time to allow requirements which meet one or more of the first three criteria [of 10 CFR 50.36] to be deleted from technical specifications based solely on PSA (Criterion 4). However, if the results of PSA indicate that technical specifications can be relaxed or removed, a deterministic review will be performed.*” Additionally, the NRC states in this publication, “*The Commission Policy in this regard is consistent with its Policy Statement on ‘Safety Goals for the operation of Nuclear Power Plants,’ 51 FR 30028, published on August 21, 1986. The Policy Statement on Safety Goals states in part, \*\*\* probabilistic results should also be reasonably balanced and supported through use of deterministic arguments. In this way, judgments can be made \*\*\* about the degree of confidence to be given these [probabilistic] estimates and assumptions. This is a key part of the process for determining the degree of regulatory conservatism that may be warranted for particular decisions. This ‘defense-in-depth’ approach is expected to continue to ensure the protection of public health and safety.*” The NRC further states in the 1993 publication, “*The Commission will continue to use PSA, consistent with its policy on Safety Goals, as a tool in evaluating specific line-item improvements to Technical Specifications, new requirements, and industry proposals for risk-based Technical Specification changes.*”

Approximately two years later the NRC provided additional detail concerning the use of PRA in the “Final Policy Statement: Use of Probabilistic Risk Assessment in Nuclear Regulatory Activities” published in the *Federal Register (FR)* (60 FR 42622, August 16, 1995) the NRC addressed the use of Probabilistic Risk Assessment. In this FR publication, the NRC’S opening statement states, in-part, *“The Commission believes that an overall policy on the use of PRA methods in nuclear regulatory activities should be established so that the many potential applications of PRA can be implemented in a consistent and predictable manner that would promote regulatory stability and efficiency. In addition, the Commission believes that the use of PRA technology in NRC regulatory activities should be increased to the extent supported by the state-of-the-art in PRA methods and data and in a manner that complements the NRC’s deterministic approach.”*

The following excerpts are taken, in part, from the 1995 Commission Policy Statement:

*“PRA addresses a broad spectrum of initiating events by assessing the event frequency. Mitigating system reliability is then assessed, including the potential for multiple and common-cause failures. The treatment, therefore, goes beyond the single failure requirements in the deterministic approach. The probabilistic approach to regulation is, therefore, considered an extension and enhancement of traditional regulation by considering risk in a more coherent and complete manner.*

*“Therefore, the Commission believes that an overall policy on the use of PRA in nuclear regulatory activities should be established so that the many potential applications of PRA can be implemented in a consistent and predictable manner that promotes regulatory stability and efficiency. This policy statement sets forth the Commission’s intention to encourage the use of PRA and to expand the scope of PRA applications in all nuclear regulatory matters to the extent supported by the state-of-the-art in terms of methods and data.*

*Therefore, the Commission adopts the following policy statement regarding the expanded NRC use of PRA:*

*(1) The use of PRA technology should be increased in all regulatory matters to the extent supported by the state-of-the-art in PRA methods and data and in a manner that complements the NRC's deterministic approach and supports the NRC's traditional defense-in-depth philosophy.*

*(2) PRA and associated analyses (e.g., sensitivity studies, uncertainty analyses, and importance measures) should be used in regulatory matters, where practical within the bounds of the state-of-the-art, to reduce unnecessary conservatism associated with current regulatory requirements, regulatory guides, license commitments, and staff practices. Where appropriate, PRA should be used to support the proposal for additional regulatory requirements in accordance with 10 CFR 50.109 (Backfit Rule). Appropriate procedures for including PRA in the process should be developed and followed. It is, of course, understood that the intent of this policy is that existing rules and regulations shall be complied with unless these rules and regulations are revised.*

*(3) PRA evaluations in support of regulatory decisions should be as realistic as practicable and appropriate supporting data should be publicly available for review.*

*(4) The Commission's safety goals for nuclear power plants and subsidiary numerical objectives are to be used with appropriate consideration of uncertainties in making regulatory judgments on the need for proposing and backfitting new generic requirements on nuclear power plant licensees."*

In 10 CFR 50.36, the NRC 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; (3) surveillance requirements; (4) design features; and (5) administrative controls. As stated in 10 CFR 50.36(c)(3),

“Surveillance requirements 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 limiting conditions for operation will be met.” The surveillance requirements are required by 10 CFR 50.36(c)(3) to reside in TS and will remain in TS. The new TS SFCP will provide the necessary surveillance frequency programmatic controls and is located in the TS Administrative Controls Section (STS Section 5.0).

Changes to surveillance frequencies in the SFCP are made using the methodology contained in NEI 04-10, Rev. 1, including qualitative considerations, results of risk analyses, sensitivity studies and any bounding analyses, and recommended monitoring of SSCs, are required to be documented. Changes to frequencies are subject to regulatory review and oversight of the SFCP implementation through the rigorous NRC review of safety related SSC performance provided by the reactor oversight program (ROP).

[LICENSEE] SFCP ensures that surveillance requirements specified in the TS are performed at intervals sufficient to assure the above regulatory requirements are met. Existing regulatory requirements, such as 10 CFR 50.65, “Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants” and 10 CFR 50 Appendix B (corrective action program), require licensee monitoring of surveillance test failures and implementing corrective actions to address such failures. One of these actions may be to consider increasing the frequency at which a surveillance test is performed. In addition, the SFCP implementation guidance in NEI 04-10, Rev. 1, requires monitoring of the performance of structures, systems, and components (SSCs) for which surveillance frequencies are decreased to assure reduced testing does not adversely impact the SSCs.

This change is analogous with other NRC-approved TS changes in which the surveillance requirements are retained in technical specifications but the related surveillance frequencies are relocated to licensee-controlled documents, such as surveillances performed in accordance with the In-Service Testing Program and the Primary Containment Leakage Rate Testing Program. Thus, this proposed change complies with 10 CFR 50.36(c)(3) by retaining the 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 limiting conditions for operation will be met and meets the first key safety principle articulated in Regulatory Guide (RG) 1.177 (Reference 3) for plant-specific, risk-informed TS changes by complying with current regulations.

Licensees are required by TS to perform surveillance test, calibration, or inspection on specific safety related system equipment such as reactivity control, power distribution, electrical, instrumentation, and others to verify system operability. Surveillance frequencies, currently identified in TS, are based primarily upon deterministic methods such as engineering judgment, operating experience, and manufacturer's recommendations. The licensee's use of NRC-approved PRA methodologies identified in NEI 04-10, Rev. 1, provides a way to establish risk-informed Surveillance frequencies that complements the deterministic approach and supports the NRC's traditional defense-in-depth philosophy.

These regulatory requirements, and the monitoring required by NEI 04-10, Rev. 1, ensure that surveillance frequencies are sufficient to assure that the requirements of 10 CFR 50.36 are satisfied and that any performance deficiencies will be identified and appropriate corrective actions taken.

### **3.0 TECHNICAL EVALUATION**

[LICENSEE] adoption of TSTF-425, Rev. 2, provides for administrative relocation of applicable surveillance frequencies, and provides for the addition of the SFCP to the administrative controls of TS. TSTF-425, Rev. 2, also requires the application of NEI 04-10, Rev. 1, for any changes to surveillance frequencies within the SFCP. The licensee's application for the changes proposed in TSTF-425, Rev 2, included documentation regarding the probabilistic risk assessment (PRA) technical adequacy consistent with the requirements of Regulatory Guide 1.200 (RG-1.200) (Reference 4), "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities", Section 4.2. In accordance with NEI 04-10, Rev. 1, probabilistic risk assessment (PRA) methods are used, in combination with plant performance data and other considerations, to identify and justify modifications to the surveillance frequencies of equipment at nuclear power plants. This is in accordance with guidance provided in RG 1.174 (Reference 5) and RG 1.177 in support of changes to surveillance test intervals.

RG 1.177 identifies five key safety principles required for risk-informed changes to TS. Each of these principles is addressed by the industry methodology document, NEI 04-10, Rev. 1. Four of the five principles, which relate to the technical aspects of the proposed change, are discussed below in Sections 3.1 through 3.4.

#### **3.1 The proposed change is consistent with the defense-in-depth philosophy.**

Consistency with the defense-in-depth philosophy is maintained if:

- A reasonable balance is preserved among prevention of core damage, prevention of containment failure, and consequence mitigation.
- Over-reliance on programmatic activities to compensate for weaknesses in plant design is avoided.

- System redundancy, independence, and diversity are preserved commensurate with the expected frequency, consequences of challenges to the system, and uncertainties (e.g., no risk outliers). Because the scope of the proposed methodology is limited to revision of surveillance frequencies, the redundancy, independence, and diversity of plant systems are not impacted.
- Defenses against potential common cause failures are preserved, and the potential for the introduction of new common cause failure mechanisms is assessed.
- Independence of barriers is not degraded.
- Defenses against human errors are preserved.
- The intent of the General Design Criteria in 10 CFR Part 50, Appendix A, is maintained.

TSTF-425, Rev. 2, requires the application of NEI 04-10, Rev. 1, for any changes to surveillance frequencies within the SFCP. NEI 04-10, Rev. 1, uses both the core damage frequency (CDF) and the large early release frequency (LERF) metrics to evaluate the impact of proposed changes to surveillance frequencies. The guidance of RG 1.174 and RG 1.177 for changes to CDF and LERF is achieved by evaluation using a comprehensive risk analysis, which assesses the impact of proposed changes including contributions from human errors and common cause failures. Defense-in-depth is also included in the methodology explicitly as a qualitative consideration outside of the risk analysis, as is the potential impact on detection of component degradation that could lead to increased likelihood of common cause failures. Both the quantitative risk analysis and the qualitative considerations assure a reasonable balance of defense-in-depth is maintained to ensure protection of public health and safety, satisfying the second key safety principle of RG 1.177.

### **3.2 The proposed change maintains sufficient safety margins**

The engineering evaluation conducted by the licensee assessed the impact of the proposed TS change with the principle that sufficient safety margins are maintained. The guidelines used for making that assessment included ensuring the proposed TS Surveillance test frequency change is not in conflict with approved industry codes and standards or adversely affect any assumptions or inputs to the safety analysis, or, if such inputs are affected, justification is provided to ensure sufficient safety margin will continue to exist.

The design, operation, testing methods, and acceptance criteria for SSCs, specified in applicable codes and standards (or alternatives approved for use by the NRC) will continue to be met as described in the plant licensing basis (including the Final Safety Analysis Report and bases to TS), since these are not affected by changes to the surveillance frequencies.

Similarly, there is no impact to safety analysis acceptance criteria as described in the plant licensing basis.

Thus, safety margins are maintained by the proposed methodology, and the third key safety principle of RG 1.177 is satisfied.

### **3.3 When proposed changes result in an increase in core damage frequency or risk, the increases should be small and consistent with the intent of the Commission's Safety Goal Policy Statement.**

RG 1.177 provides a framework for risk evaluation of proposed changes to surveillance frequencies, which requires identification of the risk contribution from impacted surveillances, determination of the risk impact from the change to the proposed surveillance frequency, and performance of sensitivity and uncertainty evaluations. TSTF-425, Rev. 2, requires application of NEI 04-10, Rev. 1, in the SFCP. NEI 04-10, Rev. 1, satisfies the intent of RG 1.177

requirements for evaluation of the change in risk, and for assuring that such changes are small by providing the technical methodology to support risk informed technical specifications for control of surveillance frequencies.

### **3.4.1 Quality of the PRA**

The quality of the [LICENSEE] PRA is compatible with the safety implications of the proposed TS change and the role the PRA plays in justifying the change. That is, the more the potential change in risk or the greater the uncertainty in that risk from the requested TS change, or both, the more rigor that must go into ensuring the quality of the PRA.

[LICENSEE] used RG 1.200 to address the plant PRA technical adequacy. RG 1.200 is NRC developed regulatory guidance, which addresses the use of the American Society of Mechanical Engineers (ASME) RA-Sb-2005, Addenda to ASME RA-S-2002 Standard for Probabilistic Risk Assessment for Nuclear Power Plant Applications (Reference 6), and the NEI peer review process NEI 00-02, PRA Peer Review Process Guidance (Reference 7). The licensee has performed an assessment of the PRA models used to support the SFCP against the requirements of RG 1.200 to assure that the PRA models are capable of determining the change in risk due to changes to surveillance frequencies of SSCs, using plant specific data and models. Capability category II of ASME RA-Sb-2005 is applied as the standard, and any identified deficiencies to those requirements are assessed further in sensitivity studies to determine any impacts to proposed decreases to surveillance frequencies. This level of PRA quality, combined with the proposed sensitivity studies, is sufficient to support the evaluation of changes proposed to surveillance frequencies within the SFCP, and is consistent with regulatory position 2.3.1 of RG 1.177.

### **3.4.2 Scope of the PRA**

[LICENSEE] is required to evaluate each proposed change to a relocated surveillance frequency using the guidance contained in NEI 04-10, Rev. 1, to determine its potential impact on risk, due to impacts from internal events, fires, seismic, other external events, and from shutdown conditions. Consideration is made of both CDF and LERF metrics. In cases where a PRA of sufficient scope or where quantitative risk models were unavailable, [LICENSEE] uses bounding analyses, or other conservative quantitative evaluations. A qualitative screening analysis may be used when the surveillance frequency impact on plant risk is shown to be negligible or zero. The licensee's evaluation methodology is sufficient to ensure the scope of the risk contribution of each surveillance frequency change is properly identified for evaluation, and is consistent with regulatory position 2.3.2 of RG 1.177.

### **3.4.3 PRA Modeling**

The [LICENSEE] determines whether the SSCs affected by a proposed change to a surveillance frequency are modeled in the PRA. Where the SSC is directly or implicitly modeled, a quantitative evaluation of the risk impact may be carried out. The methodology adjusts the failure probability of the impacted SSCs, including any impacted common cause failure modes, based on the proposed change to the surveillance frequency. Where the SSC is not modeled in the PRA, bounding analyses are performed to characterize the impact of the proposed change to surveillance frequency. Potential impacts on the risk analyses due to screening criteria and truncation levels are addressed by the requirements for PRA technical adequacy consistent with guidance contained in RG 1.200, and by sensitivity studies identified in NEI 04-10, Rev. 1.

The licensee performs quantitative evaluations of the impact of selected testing strategy (i.e., staggered testing or sequential testing) consistent with the guidance of NUREG/CR-6141 and NUREG/CR-5497, as discussed in NEI 04-10 Rev. 1.

Thus, through the application of NEI 04-10, Rev. 1, the [LICENSEE] PRA modeling is sufficient to ensure an acceptable evaluation of risk for the proposed changes in surveillance frequency, and is consistent with regulatory position 2.3.3 of RG 1.177.

#### **3.4.4 Assumptions for Time Related Failure Contributions**

The failure probabilities of SSCs modeled in the [LICENSEE] PRA [include] a standby time-related contribution and a cyclic demand-related contribution. NEI 04-10, Rev. 1, criteria adjust the time-related failure contribution of SSCs affected by the proposed change to surveillance frequency. This is consistent with RG 1.177 Section 2.3.3 which permits separation of the failure rate contributions into demand and standby for evaluation of surveillance requirements. If the available data do not support distinguishing between the time-related failures and demand failures, then the change to surveillance frequency is conservatively assumed to impact the total failure probability of the SSC, including both standby and demand contributions. The SSC failure rate (per unit time) is assumed to be unaffected by the change in test frequency, and will be confirmed by the required monitoring and feedback implemented after the change in surveillance frequency is implemented. The process requires consideration of qualitative sources of information with regards to potential impacts of test frequency on SSC performance, including industry and plant-specific operating experience, vendor recommendations, industry standards, and code-specified test intervals. Thus the process is not reliant upon risk analyses as the sole basis for the proposed changes.

The potential beneficial risk impacts of reduced surveillance frequency, including reduced downtime, lesser potential for restoration errors, reduction of potential for test caused transients, and reduced test-caused wear of equipment, are identified qualitatively, but are conservatively not required to be quantitatively assessed. Thus, through the application of NEI 04-10, Rev. 1, [LICENSEE] has employed reasonable assumptions with regard to extensions of surveillance test intervals, and is consistent with regulatory position 2.3.4 of RG 1.177.

### **3.4.5 Sensitivity and Uncertainty Analyses**

NEI 04-10, Rev. 1, requires sensitivity studies to assess the impact of uncertainties from key assumptions of the PRA, uncertainty in the failure probabilities of the affected SSCs, impact to the frequency of initiating events, and of any identified deviations from capability category II of ASME PRA Standard (ASME RA-Sb-2005) (Reference 4). Where the sensitivity analyses identify a potential impact on the proposed change, revised surveillance frequencies are considered, along with any qualitative considerations that may bear on the results of such sensitivity studies. Required monitoring and feedback of SSC performance once the revised surveillance frequencies are implemented will also be performed. Thus, through the application of NEI 04-10, Rev. 1, [LICENSEE] has appropriately considered the possible impact of PRA model uncertainty and sensitivity to key assumptions and model limitations, consistent with regulatory position 2.3.5 of RG 1.177.

### **3.4.6 Acceptance Guidelines**

[LICENSEE] quantitatively evaluates the change in total risk (including internal and external events contributions) in terms of core damage frequency (CDF) and large early release fraction (LERF) for both the individual risk impact of a proposed change in surveillance frequency and the cumulative impact from all individual changes to surveillance frequencies. Each individual change to surveillance frequency must show a risk impact below 1E-6 per year for change to

CDF, and below  $1E-7$  per year for change to LERF. These are consistent with the limits of RG 1.174 for very small changes in risk. Where the RG 1.174 limits are not met, the process either considers revised surveillance frequencies which are consistent with RG 1.174, or the process terminates without permitting the proposed changes. Where quantitative results are unavailable to permit comparison to acceptance guidelines, appropriate qualitative analyses are required to demonstrate that the associated risk impact of a proposed change to surveillance frequency is negligible or zero. Otherwise, bounding quantitative analyses are required which demonstrate the risk impact is at least one order of magnitude lower than the RG 1.174 acceptance guidelines for very small changes in risk. In addition to assessing each individual SSC surveillance frequency change, the cumulative impact of all changes must result in a risk impact below  $1E-5$  per year for change to CDF, and below  $1E-6$  per year for change to LERF, and the total CDF and total LERF must be reasonably shown to be less than  $1E-4$  per year and  $1E-5$  per year, respectively. These are consistent with the limits of RG 1.174 for acceptable changes in risk, as referenced by RG 1.177 for changes to surveillance frequencies. The staff interprets this assessment of cumulative risk as a requirement to calculate the change in risk from a baseline model utilizing failure probabilities based on the surveillance frequencies prior to implementation of the SFCP, compared to a revised model with failure probabilities based on changed surveillance frequencies. The staff further notes that [LICENSEE] includes a provision to exclude the contribution to cumulative risk from individual changes to surveillance frequencies associated with small risk increases (less than  $5E-8$  CDF and  $5E-9$  LERF) once the baseline PRA models are updated to include the effects of the revised surveillance frequencies.

The quantitative acceptance guidance of RG 1.174 is necessary but not sufficient to accept decreases in surveillance frequencies. The process also considers qualitative information to evaluate the proposed changes to surveillance frequencies, including industry and plant-specific

operating experience, vendor recommendations, industry standards, the results of sensitivity studies, and SSC performance data and test history.

The final acceptability of the proposed change is based on all of these considerations and not solely on the PRA results compared to numerical acceptance guidelines. Post implementation performance monitoring and feedback are also required to assure continued reliability of the components. The licensee's application of NEI 04-10, Rev. 1, provides reasonable acceptance guidelines and methods for evaluating the risk increase of proposed changes to surveillance frequencies, consistent with Regulatory Position 2.4 of RG 1.177. Therefore, the proposed [LICENSEE] methodology satisfies the fourth key safety principle of RG 1.177 by assuring any increase in risk is small consistent with the intent of the Commission's Safety Goal Policy Statement.

**3.4.7 The impact of the proposed change should be monitored using performance measurement strategies.**

[LICENSEE] adoption of TSTF-425, Rev. 2, requires application of NEI 04-10, Rev. 1, in the SFCP. NEI 04-10, Rev. 1, requires performance monitoring of SSCs whose surveillance frequency has been revised as part of a feedback process to assure that the change in test frequency has not resulted in degradation of equipment performance and operational safety. The monitoring and feedback includes consideration of maintenance rule monitoring of equipment performance. In the event of degradation of SSC performance, the surveillance frequency will be reassessed in accordance with the methodology, in addition to any corrective actions which may apply as part of the maintenance rule requirements. The performance monitoring and feedback specified in NEI 04-10, Rev. 1, is sufficient to reasonably assure acceptable SSC performance and is consistent with regulatory position 3.2 of RG 1.177. Thus, the fifth key safety principle of RG 1.177 is satisfied.

### **3.4.8 Addition of Surveillance Frequency Control Program to TS Section 5**

[LICENSEE] has included the SFCP and specific requirements into TS Section [5.5.15 or 5.5.18], administrative controls, as follows:

This program provides controls for surveillance frequencies. The program ensures that surveillance requirements specified in the technical specifications are performed at intervals (frequencies) sufficient to assure that the associated limiting conditions for operation are met.

- a. The Surveillance Frequency Control Program contains a list of frequencies of those surveillance requirements for which the frequency is controlled by the program.
- b. Changes to the frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.
- c. The provisions of surveillance requirements 3.0.2 and 3.0.3 are applicable to the frequencies established in the Surveillance Frequency Control Program.

### **SUMMARY AND CONCLUSIONS**

The staff has reviewed the [LICENSEE] proposed relocation of surveillance frequencies to a licensee controlled document, and controlling changes to surveillance frequencies in accordance with a new program, the SFCP, identified in the administrative controls of TS. The SFCP and TS Section [5.5.15, 5.5.18] references NEI 04-10, Rev. 1, which provides a risk-informed methodology using plant-specific risk insights and performance data to revise surveillance frequencies within the SFCP. This methodology supports relocating surveillance frequencies from TS to a licensee-controlled document, provided those frequencies are changed in accordance with NEI 04-10, Rev. 1, as referenced in the administrative controls of the TS.

The proposed [LICENSEE] adoption of TSTF-425, Rev. 2, and risk-informed methodology of NEI 04-10, Rev. 1, as referenced in the administrative controls of TS, satisfies the key principles of risk-informed decision making applied to changes to TS as delineated in RG 1.177 and RG 1.174, in that:

- The proposed change meets current regulations;
- The proposed change is consistent with defense-in-depth philosophy;
- The proposed change maintains sufficient safety margins;
- Increases in risk resulting from the proposed change are small and consistent with the Commission's Safety Goal Policy Statement; and
- The impact of the proposed change is monitored with performance measurement strategies.

10 CFR 50.36(c)(3) states "Technical specifications will include items in the following categories: Surveillance Requirements. Surveillance Requirements 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 limiting conditions for operation will be met." The NRC staff finds that with the proposed relocation of surveillance frequencies to an owner-controlled document and administratively controlled in accordance with the TS SFCP, [LICENSEE] continues to meet the regulatory requirement of 10 CFR 50.36, and specifically, 10 CFR 50.36(c)(3), surveillance requirements.

The NRC 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 NRC'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.

#### **4.0 STATE CONSULTATION**

In accordance with the NRC'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 amendment[s] change[s] 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 or surveillance requirements. The NRC staff has determined that the amendment involves 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 NRC has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding published [DATE] ([ ] FR [ ]). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

## **6.0 REFERENCES**

1. TSTF-425, Revision 2, "Relocate Surveillance Frequencies to Licensee Control – RITSTF Initiative 5b," January 17, 2008 (ADAMS Accession Number: ML080280275).
2. NEI 04-10, "Risk-Informed Technical Specifications Initiative 5B, Risk-Informed Method for Control of Surveillance Frequencies," April 2007 (ADAMS Accession Number: ML071360456).
3. Regulatory Guide 1.177, "An Approach for Plant-Specific, Risk-Informed Decision-making: Technical Specifications," August 1998 (ADAMS Accession Number: ML003740176).
4. Regulatory Guide 1.200, Rev. 1 "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," Revision 1, January 2007 (ADAMS Accession Number: ML070240001).
5. Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," NRC, August 1998 (ADAMS Accession Number: ML003740133).
6. ASME PRA Standard ASME RA-Sb-2005, Addenda to ASME RA-S-2002, "Standard for Probabilistic Risk Assessment for Nuclear Power Plant Application."
7. NEI 00-02, Rev. 1 "Probabilistic Risk Assessment (PRA) Peer Review Process Guidance, Rev. 1, May 2006 (ADAMS Accession Number: ML061510621).