DRAFT SAFETY EVALUATION
BY THE OFFICE OF NUCLEAR REACTOR REGULATION
TECHNICAL SPECIFICATIONS TASK FORCE TRAVELER
TSTF-567, REVISION 1
"ADD CONTAINMENT SUMP TS TO ADDRESS GSI-191 ISSUES"
USING THE CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS
(CAC NO. MF9568, EPID L-2017-PMP-0005)

1.0 INTRODUCTION

By letter dated August 2, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17214A813), the Technical Specifications Task Force (TSTF) submitted Traveler TSTF-567, Revision 1, "Add Containment Sump TS [Technical Specification] to Address GSI [Generic Safety Issue]-191 Issues." Traveler TSTF-567, Revision 1, proposes changes to the Standard Technical Specifications (STSs) for pressurized-water reactor (PWR) designs.[1] These changes would be incorporated into future revisions of NUREG-1430, Volume 1, NUREG-1431, Volume 1, and NUREG-1432, Volume 1. There were no bases changes proposed.

The proposed changes would revise STS Limiting Condition for Operation (LCO) 3.5.2, "ECCS [Emergency Core Cooling System]-Operating," LCO 3.5.3, "ECCS-Shutdown," and TS Section 5.5.15, "Safety Function Determination Program (SFDP)." The proposed changes would also add a TS LCO, "Containment Sump," to Section 3.6, "Containment Systems." This STS change will be made available to licensees through the consolidated line item improvement process (CLIIP).

Revision 1 of TSTF-567 is not applicable to non-STS plants due to its dependence on LCO 3.0.6 and the SFDP.

2.0 REGULATORY EVALUATION

2.1 DESCRIPTION OF STS SECTIONS

LCOs specify minimum requirements for ensuring safe operation of the plant. The actions associated with an LCO state conditions that typically describe the ways in which the

[1] U.S. Nuclear Regulatory Commission, "Standard Technical Specifications, Babcock and Wilcox Plants," NUREG-1430, Volume 1, "Specifications," Revision 4.0, April 2012 (ADAMS Accession No. ML12100A177).

U.S. Nuclear Regulatory Commission, "Standard Technical Specifications, Westinghouse Plants," NUREG-1431, Volume 1, "Specifications," Revision 4.0, April 2012 (ADAMS Accession No. ML12100A222).

U.S. Nuclear Regulatory Commission, "Standard Technical Specifications, Combustion Engineering Plants," NUREG-1432, Volume 1, "Specifications," Revision 4.0, April 2012 (ADAMS Accession No. ML12102A165).

requirements of the LCO can fail to be met. Specified with each stated condition are required action(s) and completion time(s).

2.1.1 LCO 3.5.2, "ECCS-Operating"

The function of the ECCS is to provide core cooling and negative reactivity to ensure the reactor core is protected after any of the following accidents:

a. Loss-of-coolant accident (LOCA), coolant leakage greater than the capability of the normal charging system,

b. Rod ejection accident,

c. Loss of secondary coolant accident, including uncontrolled steam release or loss of feedwater, and

d. Steam generator tube rupture.

LCO 3.5.2 is applicable in Modes 1, 2, and 3 and requires that two ECCS trains be operable to ensure that sufficient ECCS flow is available, assuming a single failure affecting either train.

LCO 3.5.2 helps ensure the following acceptance criteria for ECCS, established by Title 10 of the *Code of Federal Regulations* (10 CFR) 50.46, will be met following a LOCA:

a. Maximum fuel element cladding temperature is ≤ 2200 degrees Fahrenheit (°F),

b. Maximum cladding oxidation is ≤ 0.17 times the total cladding thickness before oxidation,

c. Maximum hydrogen generation from a zirconium water reaction is ≤ 0.01 times the hypothetical amount generated if all of the metal in the cladding cylinders surrounding the fuel, excluding the cladding surrounding the plenum volume, were to react,

d. Core is maintained in a coolable geometry, and

e. Adequate long-term core cooling capability is maintained.

LCO 3.5.2 also limits the potential for a post-trip return to power following a main steam line break event and ensures that containment temperature limits are met.

2.1.2 LCO 3.5.3, "ECCS-Shutdown"

LCO 3.5.3 is applicable in Mode 4 and requires one of the two ECCS trains to be operable to ensure that sufficient ECCS flow is available to the core following a design-basis accident.

2.1.3 TS Section 5.5.15, "Safety Function Determination Program (SFDP)"

Section 5.5.15 establishes the SFDP which implements the requirements of LCO 3.0.6. The SFDP ensures loss of safety function is detected and appropriate actions are taken. Upon entry into LCO 3.0.6, an evaluation shall be made to determine if loss of safety function exists. Additionally, other appropriate actions may be taken as a result of the support system inoperability and corresponding exception to entering supported system(s) condition(s) and required action(s).

2.2 PROPOSED CHANGES TO THE STSs

The proposed changes would revise LCO 3.5.2, "ECCS-Operating," LCO 3.5.3, "ECCS-Shutdown," and Section 5.5.15, "Safety Function Determination Program (SFDP)." The proposed changes would also add a new STS LCO, "Containment Sump," to Section 3.6, "Containment Systems." The proposed changes are described below.

2.2.1 Proposed Changes to LCO 3.5.2, "ECCS-Operating"

STS LCO 3.5.2 for Babcock and Wilcox (B&W) plants currently contains Surveillance Requirement (SR) 3.5.2.9 (SR 3.5.2.8 for Westinghouse (W) plants and SR 3.5.2.10 for Combustion Engineering (CE) plants). This SR requires the following at a frequency of 18 months or in accordance with the Surveillance Frequency Control Program (SFCP):

> Verify, by visual inspection, each ECCS train containment sump suction inlet is not restricted by debris and suction inlet trash racks and screens show no evidence of structural distress or abnormal corrosion.

Traveler TSTF-567, Revision 1, proposed to modify and move this SR (B&W SR 3.5.2.9, W SR 3.5.2.8, and CE SR 3.5.2.10) from LCO 3.5.2 and include it in the new containment sump LCO.

This change is evaluated in Section 3.1 of this safety evaluation (SE).

2.2.2 Proposed Changes to LCO 3.5.3, "ECCS-Shutdown"

STS LCO 3.5.3 currently contains SR 3.5.3.1 which refers to applicable SRs under LCO 3.5.2. The applicable SRs are B&W SR 3.5.2.9, W SR 3.5.2.8, and CE SR 3.5.2.10, as described in Section 2.2.1 of this SE.

Because TSTF-567, Revision 1, proposed to modify and move the referenced SRs (B&W SR 3.5.2.9, W SR 3.5.2.8, and CE SR 3.5.2.10) from LCO 3.5.2 and include it in the new containment sump LCO, the references to these SRs (B&W SR 3.5.2.9, W SR 3.5.2.8, and CE SR 3.5.2.10), in SR 3.5.3.1 would be deleted.

This change is evaluated in Section 3.2 of this SE.

2.2.3 Proposed Changes to Section 5.5.15, "Safety Function Determination Program (SFDP)"

Traveler TSTF-567, Revision 1, proposed to add the following sentence at the end of TS Section 5.5.15:

> When a loss of safety function is caused by the inoperability of a single Technical Specification support system, the appropriate Conditions and Required Actions to enter are those of the support system.

This change is evaluated in Section 3.3 of this SE.

2.2.4 Proposed Addition of a New Containment Sump LCO

Traveler TSTF-567, Revision 1, proposed to add an LCO (LCO 3.6.8 for B&W plants, LCO 3.6.19 for W plants, and LCO 3.6.13 for CE plants) requiring the containment sump to be operable during Modes 1, 2, 3, and 4. Condition A specifies that if the containment sump is inoperable due to containment accident generated and transported debris exceeding the analyzed limits, Required Actions A.1, A.2, and A.3 require initiation of action to mitigate containment accident generated and transported debris immediately, perform SR 3.4.13.1 once per 24 hours, and restore the containment sump to operable status in 90 days, respectively. SR 3.4.13.1 requires verification of reactor coolant system (RCS) operational leakage within limits by performance of RCS water inventory balance.

Condition B specifies that if the containment sump is inoperable for reasons other than Condition A, Required Action B.1 requires restoration of the containment sump to operable status within 72 hours or in accordance with the Risk Informed Completion Time (RICT) Program. Required Action B.1 is modified by two notes which direct entering applicable conditions and required actions of LCO 3.5.2, "ECCS-Operating," and LCO 3.5.3, "ECCS-Shutdown," for ECCS trains made inoperable by the containment sump and entering applicable conditions and required actions of LCO 3.6.6, "Containment Spray and Cooling Systems," for CSS trains made inoperable by the containment sump.

Condition C specifies that if required actions and associated completion times (CTs) under Condition A and B are not met, Required Actions C.1 and C.2 require licensees to be in Mode 3 in 6 hours and Mode 5 in 36 hours, respectively.

Traveler TSTF-567, Revision 1, proposed to expand and relocate an SR currently located in LCO 3.5.2. The new SR would require licensees to verify, by visual inspection, that the containment sump does not show structural damage, abnormal corrosion, or debris blockage every 18 months or in accordance with the SFCP.

Some plant designs have more than one containment sump. The new containment sump LCO proposed in TSTF-567, Revision 1, is also applicable to plants that have more than one containment sump.

Traveler TSTF-567, Revision 1, also proposed a conforming change to the STSs Table of Contents to reflect the addition of the new containment sump LCO.

This change is evaluated in Section 3.4 of this SE.

2.3 APPLICABLE REGULATORY REQUIREMENTS AND GUIDANCE

Section IV, "The Commission Policy," of the "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors," published in the *Federal Register* on July 22, 1993 (58 FR 39132), 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.
>
> …[T]he Commission will also entertain requests to adopt portions of the improved STS [(e.g., TSTF-567)], 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 each NSSS [nuclear steam supply system] owners group. 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 "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors," NRC and industry task groups for new STSs recommended that improvements 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. The improved vendor-specific STS were developed and issued by the NRC in September 1992.

The regulation at 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 TSs are provided in 10 CFR 50.36(c). As required by 10 CFR 50.36(c)(2)(i), the TSs 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 TSs until the condition can be met.

The regulation at 10 CFR 50.36(c)(3) requires TSs to include 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.

The regulation at 10 CFR 50.36(c)(5) requires TSs to include administrative controls, which "are the provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner."

The NRC staff's guidance for the review of TSs is in Chapter 16.0, "Technical Specifications," of NUREG-0800, Revision 3, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants" (SRP), March 2010 (ADAMS Accession No. ML100351425). As described therein, as part of the regulatory standardization effort, the NRC staff has prepared STSs for each of the light-water reactor nuclear designs. Accordingly, the NRC staff's review includes consideration of whether the proposed changes are consistent with the applicable reference STSs (i.e., the current STSs), as modified by NRC-approved Travelers. In addition, the guidance states that comparing the change to previous STSs can help clarify the TS intent.

3.0 TECHNICAL EVALUATION

During the review of TSTF-567, Revision 1, the NRC staff considered generally the guidance on acceptance criteria of the SRP sections described in Section 2.3 of this SE and, in particular, the acceptance criteria in Chapter 16.0, "Technical Specifications," of NUREG-0800, Revision 3. Additionally, the NRC staff evaluated the proposed changes to the STS against what is required to be in the TS under 10 CFR 50.36(c).

3.1 PROPOSED CHANGES TO LCO 3.5.2, "ECCS-OPERATING"

In TSTF-567, Revision 1, the TSTF proposed to modify and move SR 3.5.2.9 (B&W); SR 3.5.2.8 (W), and SR 3.5.2.10 (CE) from LCO 3.5.2 to the new containment sump LCO. The new SR does not limit the visual inspection to the suction inlet, trash racks, and screens as currently required by the STSs, but instead requires inspection of the entire containment sump system. Traveler TSTF-567, Revision 1, describes the containment sump as consisting of the containment drainage flow paths, any design features upstream of the containment sump that are credited in the containment debris analysis, the containment sump strainers (or screens), the pump suction trash racks, and the inlet to the ECCS and CSS piping.

The NRC staff concludes the proposed change is acceptable since the existing requirements are either unchanged or expanded and continue to ensure the containment sump is unrestricted (i.e., unobstructed) and stays in proper operating condition. The proposed change meets the requirements of 10 CFR 50.36(c)(3) because it provides SRs to assure the necessary quality of systems and components are maintained, that facility operation will be within safety limits, and that the LCOs will be met.

3.2 PROPOSED CHANGES TO LCO 3.5.3, "ECCS-SHUTDOWN"

In TSTF-567, Revision 1, the TSTF proposed to delete the reference to relocated SRs (as well as SR 3.5.2.9 (B&W), SR 3.5.2.8 (W), and SR 3.5.2.10 (CE)) in SR 3.5.3.1.

The NRC staff concludes the proposed change is acceptable since the SRs (B&W SR 3.5.2.9, W SR 3.5.2, and CE SR 3.5.2.10) were modified and relocated to the new containment sump LCO. The existing SR on the containment sump is augmented (by requiring inspection of additional sump components) and moved to the new specification, and a duplicative requirement to perform the SR in TS 3.5.3 is removed. The new specification retains or expands existing requirements on the containment sump and the actions to be taken when the containment sump is inoperable with the exception of adding new actions to be taken when the containment sump is inoperable due to containment accident generated and transported debris exceeding the analyzed limits. The new action provides time to evaluate and correct the condition instead of requiring an immediate plant shutdown. The proposed change meets the requirements of 10 CFR 50.36(c)(3) because it provides SRs to assure the necessary quality of systems and components are maintained, that facility operation will be within safety limits, and that the LCOs will be met.

3.3 PROPOSED CHANGES TO SECTION 5.5.15, "SAFETY FUNCTION DETERMINATION PROGRAM (SFDP)"

STS LCO 3.0.6 states:

> When a supported system LCO is not met solely due to a support system LCO not being met, the Conditions and Required Actions associated with this supported system are not required to be entered. Only the support system LCO ACTIONS are required to be entered. This is an exception to LCO 3.0.2 for the supported system. In this event, an evaluation shall be performed in accordance with Specification 5.5.15, "Safety Function Determination Program (SFDP)." If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.
>
> When a support system's Required Action directs a supported system to be declared inoperable or directs entry into Conditions and Required Actions for a supported system, the applicable Conditions and Required Actions shall be entered in accordance with LCO 3.0.2.

When a loss of safety function is determined to exist, the SFDP requires entry into the appropriate conditions and required actions of the LCO in which the loss of safety function exists. Where a loss of function is solely due to a single TS support system (e.g., a single containment sump train), the appropriate LCO is the LCO for that support system. When the loss of function is the result of multiple support systems, the appropriate LCO is the LCO for the supported systems.

Traveler TSTF-567, Revision 1, proposed to add the following statement to STS 5.5.12, "[W]hen a loss of safety function is caused by the inoperability of a single Technical Specification support system, the appropriate Conditions and Required Actions to enter are those of the support system."

The NRC staff finds that the proposed addition to STS 5.5.12 clarifies the intent of the allowance (not to enter Conditions and Required Actions) provided by LCO 3.0.6 and the SFDP for single-train support systems. The NRC staff concludes the proposed change is acceptable because the actions for the support system LCO adequately address the inoperability of that system. Therefore, as required by 10 CFR 50.36(c)(5), it continues to provide adequate administrative controls to assure safe operation.

3.4 PROPOSED ADDITION OF CONTAINMENT SUMP LCO

3.4.1 Considerations of the LCO

Traveler TSTF-567, Revision 1, proposed to add a new LCO to address operability requirements of the containment sump. The numbering for this new LCO is as follows: LCO 3.6.8 for B&W, LCO 3.6.19 for W, and LCO 3.6.13 for CE. The new LCO is also applicable to plants that have more than one containment sump, because the multiple sumps are considered to be part of a single support system. If containment accident generated and transported debris would render one sump inoperable, then it would render all of the sumps inoperable.

The containment sump supports the post-accident operation of the ECCS and CSS. However, only the current ECCS LCOs contain SRs related to the containment sump and the STSs do not specify required actions that specifically address an inoperable containment sump. If the containment sump were found to be inoperable, as an ECCS and CSS support system, those respective LCOs would not be met. In order to address concerns related to containment sump operability due to debris accumulation described in GSI-191, “Assessment of Debris Accumulation on Pressurized-Water Reactor Sump Performance,” TSTF-567, Revision 1, proposed to add a new specification to address containment sump inoperability and create a condition for when the sump is inoperable due to analyzed containment accident generated and transported debris.

Based on the above evaluation, the NRC staff determined that proposed LCO satisfies the requirements of 10 CFR 50.36(c)(2)(i) because the LCO specifies the lowest functional capability or performance levels of equipment required for safe operation of the facility.

3.4.2 Considerations of the Applicability

The new LCO requires the containment sump to be operable during Modes 1, 2, 3, and 4. The ECCS and CSS LCOs currently in the STSs are applicable during Modes 1, 2, 3, and 4.

The NRC staff finds the proposed applicability is acceptable because the applicability is consistent with the applicability of the ECCS and CSS LCOs, the containment sump supported systems.

3.4.3 Considerations of Condition A

Licensees have analyzed the susceptibility of the ECCS and CSS to the adverse effects of post-accident debris blockage and operation with debris-laden fluids. Most licensees have established Final Safety Analysis Report (FSAR) limits on the allowable quantities of containment accident generated debris that could be transported to the containment sump based on their current plant configuration. In the current STS, if unanalyzed debris sources are discovered inside containment, if errors are discovered in debris-related analyses, or if a

previously unevaluated phenomenon that can affect containment sump performance is discovered, the containment sump, and the supported ECCS and CSS, may be inoperable and STS require an immediate plant shutdown with no time provided to evaluate the condition.

In order to address this situation and to provide sufficient time to evaluate the condition, TSTF-567, Revision 1, proposed Condition A, which is applicable when the containment sump is inoperable due to containment accident generated and transported debris exceeding the analyzed limits. Under Condition A, the operability of the containment sump with respect to debris is based on a quantity of debris identified and evaluated by the licensee to be acceptable. Emergent nonconforming or degraded conditions affecting the quantity of analyzed debris shall be evaluated using a deterministic process.

Under Condition A, Required Action A.1 mandates immediate action to be initiated to mitigate the condition. Revision 1 of TSTF-567 provided the following examples of mitigating actions:

- Removing the debris source from containment or preventing the debris from being transported to the containment sump;

- Evaluating the debris source against the assumptions in the analysis;

- Deferring maintenance that would affect availability of the affected systems and other LOCA-mitigating equipment;

- Deferring maintenance that would affect availability of primary defense-in-depth systems, such as containment coolers;

- Briefing operators on LOCA debris management actions; or

- Applying an alternative method to establish new limits.

The NRC staff finds the proposed Required Action A.1 and its CT are acceptable because they place urgency on the appropriate actions that could mitigate or reduce the impact of the identified conditions.

Concurrently, Required Action A.2 mandates SR 3.4.13.1, the RCS water inventory balance, to be performed at an increased frequency of once per 24 hours. An unexpected increase in RCS leakage could be indicative of an increased potential for an RCS pipe break, which could result in debris being generated and transported to the containment sump.

The NRC staff finds the proposed Required Action A.2 and its CT are acceptable because the more frequent monitoring allows operators to act in a timely fashion to minimize the potential for an RCS pipe break while the containment sump is inoperable.

In addition, Required Action A.3 requires the inoperable containment sump to be restored to operable status in 90 days.

The NRC staff finds the proposed Required Action A.3 and its CT are acceptable because they provide a reasonable amount of time to diagnose, plan, and possibly reduce the severity of, or mitigate the unanalyzed debris condition and prevent a loss of ECCS and CSS safety function. In addition, 90 days is adequate given the conservatisms in the analysis and the proposed compensatory actions required to be implemented immediately by Required Action A.1. Also, as discussed later in this SE section, the new SR will require visual inspection of the containment sump system (including the containment drainage flow paths, any design features upstream of the containment sump that are credited in the containment debris analysis, the containment sump strainers, the pump suction trash racks, and the inlet to the ECCS and CSS piping) for evidence of structural degradation, potential for debris bypass, and presence of corrosion or debris blockage, to ensure no loose debris is present and there is no evidence of structural distress or abnormal corrosion.

For plants that have more than one containment sump, the sumps are considered part of a single support system because containment accident generated and transported debris issues that would render one sump inoperable would render all of the sumps inoperable. The NRC staff finds this proposed change is acceptable since it is a conservative assumption. Plants with separate sumps are generally designed so that one sump will remain operable with the design-basis debris load. The second sump is assumed to be out of service due to a single failure in the ECCS or CSS. The single sump in a plant with multiple sumps is equivalent to the sump in a plant with only one sump because the multiple sumps are considered to be part of a single support system. If containment accident generated and transported debris were to render one sump inoperable, then it would render all of the sumps inoperable. In any case where the single failure did not occur, the second sump would be in service and provide significant additional surface area for debris to collect, thus reducing the severity of the effects of the debris. The second sump provides redundancy in these cases.

3.4.4 Considerations of Condition B

Condition B specifies the required actions for when the containment sump is inoperable for reasons other than containment accident generated and transported debris exceeding the analyzed limits.

Required Action B.1 requires restoring the containment sump to operable status and is modified by two notes. These two notes direct entry into the conditions and required actions for the supported systems (ECCS and CSS). Since Required Action B.1 directs entry to the corresponding ECCS and CSS LCOs, these notes retain the existing TS actions for ECCS or CSS trains made inoperable by a containment sump inoperable for reasons other than containment accident generated and transported debris exceeding the analyzed limits. The proposed CT for Required Action B.1 is 72 hours or in accordance with the RICT Program. Traveler TSTF-567, Revision 1, shows these CTs in brackets to show the licensee has the option to insert its plant-specific licensing bases requirement.

If a licensee has received an amendment that authorizes the adoption of TSTF-505, “Provide Risk-Informed Extended Completion Times – RITSTF Initiative 4B,” or plant-specific RICT Program and the licensee has a Risk-Informed Completion Time (RICT) Program in TS Section 5.0, “Administrative Controls,” the licensee can propose via a license amendment application the option to calculate a RICT for Required Action B.1. However, a plant-specific justification, consistent with the justification provided when adopting TSTF-505 or a plant-specific RICT Program, needs to be provided in the license amendment request (LAR) to adopt TSTF-567, Revision 1. This SE does not approve the use of the RICT Program for

Required Action B.1. For the purposes of this SE, the bracketed "In accordance with the Risk Informed Completion Time (RICT) Program," only indicates that the licensees have an additional option. If a licensee chooses to use the RICT Program for Required Action B.1, its LAR would not be processed as a CLIIP for adoption of TSTF-567, Revision 1, and additional technical information would need to be provided to justify the use of the RICT Program for this required action.

The NRC staff finds the proposed change is acceptable since it continues to provide remedial actions for when the containment sump is inoperable for reasons other than Condition A and ensures safe operation of the plant. In addition, the proposed CT of 72 hours is acceptable because it provides a reasonable time for repairs, and there is a low probability of an accident occurring during this period necessitating the containment sump. Licensees who have received an amendment authorizing the adoption of TSTF-505, "Provide Risk-Informed Extended Completion Times – RITSTF Initiative 4B," or plant-specific RICT Program, have the option to select the RICT Program as a CT by submitting a separate license amendment request supported by a plant-specific justification. The use of this traveler in combination with a RICT Program is outside the scope of this SE and would be reviewed on a plant-specific basis.

3.4.5 Considerations of Condition C

If operators are unable to restore the affected containment sump to operable status under Conditions A or B, Required Action C.1 requires the unit to be in Mode 3 in 6 hours followed by Mode 5 in 36 hours, as required by Required Action C.2.

The NRC staff finds the proposed condition and its required actions are acceptable because they are consistent with the STS and require the operators to place the unit in a condition in which the LCO no longer applies. In addition, the proposed CTs allow a reasonable amount of time to reach the required plant conditions from full-power conditions in an orderly manner and without challenging plant systems.

3.4.6 Considerations of the New SR

A new SR is provided in the new containment sump LCO. This SR was originally located in STS LCO 3.5.2 and LCO 3.5.3. The numbering for this new SR is as follows: SR 3.6.8.1 for B&W, SR 3.6.19.1 for W, and SR 3.6.13.1 for CE. The frequency of the new SR is 18 months or as specified in the SFCP.

The proposed SR requires verification, by visual inspection, that the containment sump does not show structural damage, abnormal corrosion, or debris blockage.

The new SR is stated in generic terms and expands the scope of the required visual inspection to include the entire containment sump system. A containment sump system consists of the containment drainage flow paths, the containment sump strainers (or screens), the pump suction trash racks, and the inlet to the ECCS and CSS piping.

The NRC staff finds the proposed new SR is acceptable since it expands the scope of inspection of the original SR. In addition, the proposed frequency is acceptable since it is the same as that currently required by the STSs. Therefore, the NRC staff finds that, as required by 10 CFR 50.36(c)(3), the necessary quality of systems will be maintained in accordance with the associated LCOs.

3.4.7 Considerations of Changes to Table of Contents

Traveler TSTF-567, Revision 1, also proposed a conforming change to the Table of Contents to include the new containment sump LCO. This conforming change is acceptable since it is an editorial change to support the inclusion of the new containment sump STS LCO.

3.4.8 Conclusion Regarding Proposed Containment Sump LCO

The new containment sump LCO retains and expands the existing STS requirements with the exception of the addition of Condition A. Condition A provides a condition for an inoperable containment sump due to containment accident generated and transported debris exceeding the analyzed limits.

The NRC staff reviewed the proposed STS changes against the regulations and concludes that the changes continue to meet the requirements of 10 CFR 50.36(c)(2), 50.36(c)(3), and 50.36(c)(5), for the reasons discussed above, and thus provide reasonable assurance that plants that adopt these TSs will have the requisite requirements and controls to operate safely. Therefore, the staff concludes that the proposed STS changes are acceptable.

4.0 CONCLUSION

The NRC staff reviewed Traveler TSTF-567, Revision 1, which proposed changes to NUREG-1430, Volume 1, NUREG-1431, Volume 1, and NUREG-1432, Volume 1. The NRC staff determined that the proposed changes to the STS meet the standards for TS in 10 CFR 50.36(b). Additionally, the changes to the STS were reviewed and found to be technical clear and consistent with customary terminology and format in accordance with SRP Chapter 16.0. The NRC staff reviewed the proposed changes against the regulations and concludes that the changes continue to meet the requirements of 10 CFR 50.36(c)(2), 50.36(c)(3) and 50.36(c)(5), for the reasons discussed above, and thus provide reasonable assurance that adoption of these TSs will have the requisite requirements and controls to operate safely. Therefore, the NRC staff concludes that the proposed TS changes are acceptable.

Principal Contributors: C. Tilton, NRR/DSS
S. Smith, NRR/DSS
P. Klein, NRR/DMLR

Date: