

**MODEL SAFETY EVALUATION FOR PLANT-SPECIFIC ADOPTION OF TECHNICAL
SPECIFICATIONS TASK FORCE TRAVELER TSTF-523, REVISION 2, “GENERIC LETTER
2008-01, MANAGING GAS ACCUMULATION,” USING THE CONSOLIDATED LINE ITEM
IMPROVEMENT PROCESS**

1.0 INTRODUCTION

By letter dated [DATE], [LICENSEE] (the licensee) requested changes to the Technical Specifications (TSs) for [PLANT]. Specifically, the licensee requested to adopt U.S. Nuclear Regulatory Commission (NRC)-approved Technical Specifications Task Force (TSTF) Standard Technical Specifications (STS) Change Traveler TSTF-523, Revision 2, “Generic Letter 2008-01, Managing Gas Accumulation” (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13053A075), dated February 21, 2013.

{NOTE: On June 23, 2009, the NRC approved TSTF-425, Revision 3, “Relocate Surveillance Frequencies to Licensee Control - RITSTF [Risk-Informed Technical Specifications Task Force] Initiative 5b” (ADAMS Accession No. ML090900716). Traveler TSTF-425 relocated periodic Surveillance Frequencies to licensee control, including the 31-day frequency of the subject Surveillance Requirements (SR). Therefore, throughout this safety evaluation (SE) the option of either “every 31 days” or “at a frequency controlled in accordance with the Surveillance Frequency Control Program” has been included. The Surveillance Frequency Control Program option is only to be used for plants that already have TSTF-425 in their TS. A licensee cannot use TSTF-523 to obtain Surveillance Frequency Control Program approval for their plant.}

The proposed change would revise SRs related to gas accumulation for the emergency core cooling system (ECCS) [and reactor core isolation cooling (RCIC) system]. The proposed change would also add new SRs related to gas accumulation for the [decay heat removal (DHR), residual heat removal (RHR), shutdown cooling (SDC), and containment spray (CS)] systems. TS Bases changes associated with these SRs would also be made.

The licensee stated that the license amendment request (LAR) is consistent with NRC-approved Traveler TSTF-523. The availability of this TS improvement was announced in the *Federal Register* on [Date] ([] FR []) as part of the consolidated line item improvement process (CLIIP).

2.0 REGULATORY EVALUATION

2.1 Background

Gas accumulation in reactor systems can result in water hammer, pump cavitation, and pumping of non-condensable gas into the reactor vessel. These effects may result in the subject system being unable to perform its specified safety function. The NRC issued Generic Letter (GL) 2008-01, “Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems,” in January 2008 to address the issue of gas accumulation in ECCS, DHR, and CS systems (ADAMS Accession No. ML072910759). The industry and NRC staff agreed that a change to the STS and plant-specific TS would be necessary to address some issues discussed in GL 2008-01. TSTF-523 contains changes to the TS SRs and TS

Bases to address some of the concerns in GL 2008-01. The licensee proposed amending the [Plant Name] TS using a plant-specific adoption of the TSTF-523 changes.

2.2 Technical Specification Changes

{NOTE: Chose one of the following paragraphs, depending on the plant vendor/type and revise as necessary to reflect the plant-specific changes.}

{For Babcock and Wilcox (B&W) Plants} Changes were proposed for SRs 3.5.2.2, 3.5.2.3, and 3.6.6.1 as well as the addition of new SRs 3.4.6.3, 3.4.7.4, 3.4.8.3, 3.6.6.4, 3.9.4.2, and 3.9.5.3 to TS 3.4.6, "RCS Loops – MODE 4," TS 3.4.7, "RCS Loops - MODE 5, Loops Filled," TS 3.4.8, "RCS Loops - MODE 5, Loops Not Filled," TS 3.5.2, "ECCS – Operating," TS 3.6.6, "Containment Spray and Cooling Systems," TS 3.9.4, "DHR and Coolant Circulation – High Water Level," and TS 3.9.5, "DHR and Coolant Circulation – Low Water Level," respectively. Associated Bases changes were proposed for the respective limiting conditions for operation (LCO), SR changes and SR additions. Bases changes for TS 3.5.3, "ECCS – Shutdown," were also proposed because they reference the SRs and Bases of TS 3.5.2.

{For Westinghouse Plants} Changes were proposed for SRs 3.5.2.2, 3.5.2.3, 3.6.6.[1], as well as the addition of new SRs 3.4.6.4, 3.4.7.4, 3.4.8.3, 3.6.6.4, 3.9.5.2, and 3.9.6.3 to TS 3.4.6, "RCS Loops - MODE 4," TS 3.4.7, "RCS Loops - MODE 5, Loops Filled," TS 3.4.8, "RCS Loops - MODE 5, Loops Not Filled," TS 3.5.2, "ECCS – Operating," TS 3.6.6, ["Containment Spray and Cooling Systems,"] TS 3.9.5, "RHR and Coolant Circulation – High Water Level," and TS 3.9.6, "RHR and Coolant Circulation – Low Water Level," respectively. Associated Bases changes were proposed for the respective LCOs, SR changes and SR additions. Bases changes for TS 3.5.3, "ECCS - Shutdown" were also proposed because they reference the SRs and Bases of TS 3.5.2.

{For Combustion Engineering Plants} Changes were proposed for SRs 3.5.2.2, 3.5.2.3, 3.6.6.1, as well as the addition of new SRs 3.4.6.4, 3.4.7.4, 3.4.8.3, 3.6.6.5, 3.9.4.2, and 3.9.5.3 to TS 3.4.6, "RCS Loops – MODE 4," TS 3.4.7, "RCS Loops - MODE 5, Loops Filled," TS 3.4.8, "RCS Loops - MODE 5, Loops Not Filled," TS 3.5.2, "ECCS - Operating," TS 3.6.6, "Containment Spray and Cooling Systems," TS 3.9.4, "SDC and Coolant Circulation – High Water Level," and TS 3.9.5, "SDC and Coolant Circulation – Low Water Level," respectively. Associated Bases changes were proposed for the respective LCOs, SR changes and SR additions. Bases changes for TS 3.5.3, "ECCS – Shutdown," were also proposed because they reference the SRs and Bases of TS 3.5.2.

{For General Electric BWR/4 Plants} Changes were proposed for SRs 3.5.1.1, 3.5.1.2, 3.5.2.3, 3.5.2.4, 3.5.3.1, and 3.5.3.2, as well as the addition of new SRs 3.4.8.2, 3.4.9.2, 3.6.2.3.2, 3.6.2.4.2, 3.9.8.2, and 3.9.9.2 to TS 3.4.8, "RHR Shutdown Cooling System – Hot Shutdown," TS 3.4.9, "RHR Shutdown Cooling System – Cold Shutdown," TS 3.5.1, "ECCS – Operating," TS 3.5.2, "ECCS – Shutdown," TS 3.5.3, "RCIC System," TS 3.6.2.3, "RHR Suppression Pool Cooling," TS 3.6.2.4, "RHR Suppression Pool Spray," TS 3.9.8, "RHR – High Water Level," and TS 3.9.9, "RHR – Low Water Level," respectively. Associated Bases changes were proposed for the respective LCOs, SR changes, and SR additions.

{For General Electric BWR/6 Plants} Changes were proposed for SRs 3.5.1.1, 3.5.1.2, 3.5.2.3, 3.5.2.4, 3.5.3.1, 3.5.3.2, and 3.6.1.7.1 as well as the addition of new SRs 3.4.9.2, 3.4.10.2, 3.6.1.7.2, 3.6.2.3.2, 3.9.8.2, and 3.9.9.2 to TS 3.4.9, "RHR Shutdown Cooling System – Hot Shutdown," TS 3.4.10, "RHR Shutdown Cooling System – Cold Shutdown," TS 3.5.1, "ECCS - Operating," TS 3.5.2, "ECCS – Shutdown," TS 3.5.3, "RCIC System," TS 3.6.1.7, "RHR Containment Spray System," TS 3.6.2.3, "RHR Suppression Pool Cooling," TS 3.9.8, "RHR - High Water Level," and TS 3.9.9, "RHR – Low Water Level," respectively. Associated Bases changes were proposed for the respective LCOs, SR changes, and SR additions.

2.3 Regulatory Review

The regulations in Appendix A to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 or similar plant-specific principal design criteria provide design requirements. Appendix B to 10 CFR Part 50, the TSs, and the licensee quality assurance programs provide operating requirements. The regulatory requirements of 10 CFR Part 50, Appendix A, that are applicable to gas management in the subject systems include: General Design Criteria (GDC) 1, 34, 35, 36, 37, 38, 39 and 40. GDC 1 requires that the subject systems be designed, fabricated, erected, and tested to quality standards. GDC 34 requires an RHR system designed to maintain specified acceptable fuel design limits and to meet design conditions that are not exceeded if a single failure occurs and specified electrical power systems fail. GDC 35, 36, and 37 require an ECCS design that meets performance, inspection, and testing requirements. Additionally, the regulations in 10 CFR 50.46 provide specified ECCS performance criteria. GDC 38, 39, and 40 require a containment heat removal system design that meets performance, inspection, and testing requirements.

Quality assurance criteria provided in 10 CFR Part 50, Appendix B, that apply to gas management in the subject systems include: Criteria III, V, XI, XVI, and XVII. Criteria III and V require measures to ensure that applicable regulatory requirements and the design basis, as defined in 10 CFR 50.2, "Definitions," and as specified in the license application, are correctly translated into controlled specifications, drawings, procedures, and instructions. Criterion XI requires a test program to ensure that the subject systems will perform satisfactorily in service and requires that test results shall be documented and evaluated to ensure that test requirements have been satisfied. Criterion XVI requires measures to ensure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances, are promptly identified and corrected, and that significant conditions adverse to quality are documented and reported to management. Criterion XVII requires maintenance of records of activities affecting quality.

The NRC's regulatory requirements related to the content of the TSs are contained in 10 CFR 50.36(c). The regulations at 10 CFR 50.36 require that the TSs include items in the following categories: (1) safety limits, limiting safety systems settings, and limiting control settings; (2) limiting conditions for operation (LCO); (3) SRs; (4) design features; and (5) administrative controls. SRs 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. Typically, TS Section 5 requires that licensees establish, implement, and maintain written procedures covering the applicable procedures recommended in Appendix A to Regulatory Guide (RG) 1.33, "Quality

Assurance Program Requirements (Operation).” Appendix A to RG 1.33 identifies instructions for filling and venting the ECCS and DHR system, as well as for draining and refilling heat exchangers. Standard TSs and most licensee TSs include SRs to verify that at least some of the subject systems piping is filled with water.

{NOTE: The NRC staff model SE is written for plants licensed to the GDC. The NRC staff should revise the model SE accordingly to explain the current licensing basis with regards to the referenced GDC (or plant-specific equivalent) from the plant-specific information in the Final Safety Analysis Report or alternative license document, as submitted by the licensee in its license amendment request.}

The NRC’s guidance for the format and content of licensee TSs can be found in [NUREG-1430, “Standard Technical Specifications Babcock and Wilcox Plants”][NUREG-1431, “Standard Technical Specifications Westinghouse Plants”][NUREG-1432, “Standard Technical Specifications Combustion Engineering Plants”][NUREG-1433, “Standard Technical Specifications General Electric Plants BWR/4”][NUREG-1434, “Standard Technical Specifications General Electric Plants, BWR/6”].

{NOTE: The NRC staff model SE is written for plants licensed to the GDC, which are referenced in the SRP. The NRC staff should revise the model SE accordingly for non-GDC plants. The NRC staff recognizes that the SRP is not the regulatory basis of the proposed Technical Specifications changes, and licensees are not required to confirm that the SRP guidance is applicable to [PLANT].

Regulatory guidance for the NRC staff’s review of containment heat removal systems, ECCS, and RHR systems is provided in the following revisions and sections of NUREG-0800, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition” (SRP) during the review.

- Revision 3 of SRP, Section 6.2.2, “Containment Heat Removal Systems,” dated March 2007 (ADAMS Accession No. ML070160661), provides the procedures concerning the review of containment heat removal under post-accident conditions to help ensure compliance with GDC 38, 39, and 40.
- Revision 3 of SRP, Section 6.3, “Emergency Core Cooling System,” dated March 2007 (ADAMS Accession No. ML070550068), provides the procedures concerning the review of ECCS to help ensure compliance with GDC 35, 36, and 37.
- Revision 5 of SRP, Section 5.4.7, “Residual Heat Removal (RHR) System,” dated May 2010 (ADAMS Accession Number ML100680577), provides the procedures concerning the review of RHR system as it is used to cool the reactor coolant system (RCS) during and following shutdown to help ensure compliance with GDC 34.}

3.0 TECHNICAL EVALUATION

The NRC staff evaluated the licensee’s proposed change against the applicable regulatory guidance in the STS, as modified by TSTF-523. The proposed change adopted the TS format

and content, to the extent practicable, contained in the changes made to [NUREG-1430, "Standard Technical Specifications Babcock and Wilcox Plants"] [NUREG-1431, "Standard Technical Specifications Westinghouse Plants"] [NUREG-1432, "Standard Technical Specifications Combustion Engineering Plants"] [NUREG-1433, "Standard Technical Specifications General Electric Plants BWR/4"] [NUREG-1434, "Standard Technical Specifications General Electric Plants, BWR/6"] by TSTF-523. The NRC staff found that the proposed change is consistent with guidance in the STS, as modified by TSTF-523.

The NRC staff compared the proposed changes to the existing SRs, as well as the regulatory requirements of 10 CFR 50.36. {NOTE: Chose one of the following paragraphs, depending on the plant vendor/type and revise as necessary to reflect the plant-specific changes.}

{For Babcock and Wilcox (B&W) Plants} The licensee proposed the following TS changes: (1) Add SR 3.4.6.3, which states, "Verify required DHR loop locations susceptible to gas accumulation are sufficiently filled with water" with a note that states "Not required to be performed until 12 hours after entering MODE 4" and a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (2) Add SR 3.4.7.4, which states, "Verify required DHR loop locations susceptible to gas accumulation are sufficiently filled with water" with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (3) Add SR 3.4.8.3, which states "Verify DHR loop locations susceptible to gas accumulation are sufficiently filled with water" with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (4) Add a note to SR 3.5.2.2, which states, "Not required to be met for system vent flow paths opened under administrative control." (5) Revise the language for SR 3.5.2.3 from "Verify ECCS piping is full of water" to "Verify ECCS locations susceptible to gas accumulation are sufficiently filled with water." (6) Add a note to SR 3.6.6.1, which states, "Not required to be met for system vent flow paths opened under administrative control." (7) Add SR 3.6.6.4, which states, "Verify containment spray locations susceptible to gas accumulation are sufficiently filled with water" with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (8) Add SR 3.9.4.2, which states, "Verify required DHR loop locations susceptible to gas accumulation are sufficiently filled with water" with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (9) Add SR 3.9.5.3, which states, "Verify DHR loop locations susceptible to gas accumulation are sufficiently filled with water" with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (10) Add and revise the affected TS SR Bases language to state the purpose of the SR, discuss methods of identifying locations susceptible to gas accumulation, discuss gas volume acceptance criteria, discuss methods for performing the SR, consistent with licensee actions and on-going programs related to GL 2008-01, and describe the SR frequency. (11) Add and revise TS LCO Bases language to describe what is required for Operability of the systems and reiterate the importance of gas management.

{For Westinghouse Plants} The licensee proposed the following TS changes: (1) Add SR 3.4.6.4, which states, "Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water" with a note that states "Not required to be performed until 12 hours after entering MODE 4" and a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (2) Add SR 3.4.7.4, which states, "Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water" with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program].

(3) Add SR 3.4.8.3, which states “Verify RHR loop locations susceptible to gas accumulation are sufficiently filled with water” with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (4) Add a note to SR 3.5.2.2, which states, “Not required to be met for system vent flow paths opened under administrative control.” (5) Revise the language for SR 3.5.2.3 from “Verify ECCS piping is full of water” to “Verify ECCS locations susceptible to gas accumulation are sufficiently filled with water.” (6) Add a note to SR 3.6.6.[1], which states, “Not required to be met for system vent flow paths opened under administrative control.” (7) Add SR 3.6.6.[4], which states, “Verify [containment spray] locations susceptible to gas accumulation are sufficiently filled with water” with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (8) Add SR 3.9.5.2, which states, “Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water” with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (9) Add SR 3.9.6.3, which states, “Verify RHR loop locations susceptible to gas accumulation are sufficiently filled with water” with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (10) Add and revise the affected TS SR Bases language to state the purpose of the SR, discuss methods of identifying locations susceptible to gas accumulation, discuss gas volume acceptance criteria, discuss methods for performing the SR, consistent with licensee actions and on-going programs related to GL 2008-01, and describe the SR frequency. (11) Add and revise TS LCO Bases language to describe what is required for Operability of the systems and reiterate the importance of gas management.

{For Combustion Engineering Plants} The licensee proposed the following TS changes: (1) Add SR 3.4.6.4, which states, “Verify required SDC train locations susceptible to gas accumulation are sufficiently filled with water” with a note that states “Not required to be performed until 12 hours after entering MODE 4” and a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (2) Add SR 3.4.7.4, which states, “Verify required SDC train locations susceptible to gas accumulation are sufficiently filled with water” with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (3) Add SR 3.4.8.3, which states “Verify SDC train locations susceptible to gas accumulation are sufficiently filled with water” with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (4) Add a note to SR 3.5.2.2, which states, “Not required to be met for system vent flow paths opened under administrative control.” (5) Revise the language for SR 3.5.2.3 from “Verify ECCS piping is full of water” to “Verify ECCS locations susceptible to gas accumulation are sufficiently filled with water.” (6) Add a note to SR 3.6.6.1, which states, “Not required to be met for system vent flow paths opened under administrative control.” (7) Add SR 3.6.6.5, which states, “Verify containment spray locations susceptible to gas accumulation are sufficiently filled with water” with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (8) Add SR 3.9.4.2, which states, “Verify required SDC loop locations susceptible to gas accumulation are sufficiently filled with water” with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (9) Add SR 3.9.5.3, which states, “Verify SDC loop locations susceptible to gas accumulation are sufficiently filled with water” with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (10) Add and revise the affected TS SR Bases language to state the purpose of the SR, discuss methods of identifying locations susceptible to gas accumulation, discuss gas volume acceptance criteria, discuss methods for performing the SR, consistent with licensee actions and on-going programs related to GL 2008-01, and

describe the SR frequency. (11) Add and revise TS LCO Bases language to describe what is required for Operability of the systems and reiterate the importance of gas management.

{For General Electric BWR/4 Plants} The licensee proposed the following TS changes: (1) Add SR 3.4.8.2, which states, "Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water" together with a note that states "Not required to be performed until 12 hours after reactor steam dome pressure is < [the RHR cut in permissive pressure]" and a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (2) Add SR 3.4.9.2, which states, "Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water" with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (3) Revise the language for SR 3.5.1.1 from "Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve" to "Verify, for each ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water." (4) Add a note to SR 3.5.1.2, which states, "Not required to be met for system vent flow paths opened under administrative control." (5) Revise the language for SR 3.5.2.3 from "Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve" to "Verify, for each ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water." (6) Add a note to SR 3.5.2.4, which states, "Not required to be met for system vent flow paths opened under administrative control." (7) Revise the language for SR 3.5.3.1 from "Verify the RCIC System piping is filled with water from the pump discharge valve to the injection valve" to "Verify the RCIC system locations susceptible to gas accumulation are sufficiently filled with water." (8) Add a note to SR 3.5.3.2, which states, "Not required to be met for system vent flow paths opened under administrative control." (9) Add SR 3.6.2.3.2, which states, "Verify RHR suppression pool cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water" with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (10) Add SR 3.6.2.4.2, which states, "Verify RHR suppression pool cooling spray subsystem locations susceptible to gas accumulation are sufficiently filled with water" with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (11) Add SR 3.9.8.2, which states, "Verify required RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water" with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (12) Add SR 3.9.9.2, which states, "Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water" with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (13) Add and revise the affected TS SR Bases language to state the purpose of the SR, discuss methods of identifying locations susceptible to gas accumulation, discuss gas volume acceptance criteria, discuss methods for performing the SR, consistent with licensee actions and on-going programs related to GL 2008-01, and describe the SR frequency. (14) Add and revise TS LCO Bases language to describe what is required for Operability of the systems and reiterate the importance of gas management.

{For General Electric BWR/6 Plants} The licensee proposed the following TS changes: (1) Add SR 3.4.9.2, which states, "Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water" with a note that states "Not required to be performed until 12 hours after reactor steam dome pressure is < [the RHR cut in permissive pressure]" and a frequency of [31 days or In accordance with the Surveillance Frequency

Control Program]. (2) Add SR 3.4.10.2, which states, "Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water" with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (3) Revise the language for SR 3.5.1.1 from "Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve" to "Verify, for each ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water." (4) Add a note to SR 3.5.1.2, which states, "Not required to be met for system vent flow paths opened under administrative control." (5) Revise the language for SR 3.5.2.3 from "Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve" to "Verify, for each ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water." (6) Add a note to SR 3.5.2.4, which states, "Not required to be met for system vent flow paths opened under administrative control." (7) Revise the language for SR 3.5.3.1 from "Verify the RCIC System piping is filled with water from the pump discharge valve to the injection valve" to "Verify the RCIC system locations susceptible to gas accumulation are sufficiently filled with water." (8) Add a note to SR 3.5.3.2, which states, "Not required to be met for system vent flow paths opened under administrative control." (9) Add a note to SR 3.6.1.7.1, which states, "Not required to be met for system vent flow paths opened under administrative control." (10) Add SR 3.6.1.7.2, which states, "Verify RHR containment spray subsystem locations susceptible to gas accumulation are sufficiently filled with water" with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (11) Add SR 3.6.2.3.2, which states, "Verify RHR suppression pool cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water" with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (12) Add SR 3.9.8.2, which states, "Verify required RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water" with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (13) Add SR 3.9.9.2, which states, "Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water" with a frequency of [31 days or In accordance with the Surveillance Frequency Control Program]. (14) Add and revise the affected TS SR Bases language to state the purpose of the SR, discuss methods of identifying locations susceptible to gas accumulation, discuss gas volume acceptance criteria, discuss methods for performing the SR, consistent with licensee actions and on-going programs related to GL 2008-01, and describe the SR frequency. (15) Add and revise TS LCO Bases language to describe what is required for Operability of the systems and reiterate the importance of gas management.

The new language for the SRs was developed using licensee responses to GL 2008-01 and the NRC discussion contained in Task Interface Agreement (TIA) 2008-03, "Emergency Core Cooling System (ECCS) Voiding Relative To Compliance With Surveillance Requirements (SR) 3.5.1.1, 3.5.2.3, and 3.5.3.1" (ADAMS Accession No. ML082560209). Many of the GL 2008-01 responses stated that licensees identified system locations susceptible to gas accumulation. In the TIA, the NRC stated that the intent of the TS SRs, which state "full of water," may be met if the licensee can establish, through an Operability Determination, that there is a reasonable expectation that the system in question will perform its specified safety function. Therefore the phrase, "sufficiently filled with water" was recommended for the proposed TS changes. In the TS, "sufficiently filled with water" is understood to mean "sufficiently filled with water to support Operability." The regulation at 10 CFR 50.36(c)(3) states

that one of the purposes of the SR is to verify that the LCO is met. Therefore, the new SR language, "Verify the [system name] locations susceptible to gas accumulation are sufficiently filled with water," is acceptable since this language will allow the licensee to make a conclusion as to whether or not a system is operable.

The language for the notes that state that the SR does not have to be performed until 12 hours after [entering Mode 4 for pressurized water reactors and Mode 3 with reactor steam dome pressure < [the RHR cut in permissive pressure] for boiling water reactors] is acceptable because the note provides a limited time to perform the Surveillance after entering the Applicability of the LCO; however, under the STS usage rules (STS Section 1.4), the requirement to manage gas accumulation is not affected. Licensees must have confidence that the SR can be met or the LCO must be declared not met.

The language for the notes that allow the SRs to not be met for system vent flow paths opened under administrative control is necessary to allow the licensee to credit administratively controlled manual action to close the system vent flow path in order to maintain system Operability during system venting and performance of the proposed gas accumulation SR. Therefore these notes are acceptable.

The NRC staff found that the proposed SRs meet the regulatory requirements of 10 CFR 50.36 because they provide assurance that the necessary quality of systems and components will be maintained and that the LCOs will be met. Therefore, the NRC staff finds the proposed change acceptable.

The regulation at 10 CFR 50.36(a)(1) states: "A summary statement of the bases or reasons for such specifications ... shall also be included in the application, but shall not become part of the technical specifications." The licensee may make changes to the TS Bases without prior NRC staff review and approval in accordance with the TS Bases Control Program [TS 5.5.14]. Accordingly, along with the proposed TS changes, the licensee also submitted TS Bases changes corresponding to the proposed TS changes. The NRC staff determined that TS Bases changes are consistent with the proposed TS changes and provide the purpose for each requirement in the specification consistent with the Commission's Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors dated July 22, 1993 (58 FR 39132).

4.0 STATE CONSULTATION

{NOTE: Per LIC-101, the PM is responsible for contacting the state official and completing the bracketed information appropriately.}

In accordance with the Commission's regulations, the [Name of State] State official was notified of the proposed issuance of the amendment. The State official had [no] comments. [If comments were provided, they should be addressed here].

5.0 ENVIRONMENTAL CONSIDERATION

{NOTE: Caution per LIC-101: The environmental consideration discussed below is written for a categorical exclusion based on 10 CFR 51.22(c)(9). The PM is responsible to ensure that this is accurate for the specific amendment being issued.}

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes SRs. 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 Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding [enter *Federal Register* citation (XX FR XXXX) and date]. 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 CONCLUSION

{NOTE: the PM is responsible for ensuring the current LIC-101 wording is used.}

The Commission has concluded, based on 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) there is reasonable assurance that 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.

7.0 REFERENCES

[Optional section to be prepared by the PM or primary reviewers.]

Principal Contributor: [Model SE prepared by M. Hamm]

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