UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 21, 2015

Vice President, Operations
Entergy Operations, Inc.
River Bend Station
5485 US Highway 61N
St. Francisville, LA 70775

SUBJECT: RIVER BEND STATION, UNIT 1 - ISSUANCE OF AMENDMENT RE: ADOPTION OF TECHNICAL SPECIFICATION TASK FORCE TRAVELER TSTF-523, "GENERIC LETTER 2008-01, MANAGING GAS ACCUMULATION" (TAC NO. MF4782)

Dear Sir or Madam:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 188 to Facility Operating License No. NPF-47 for the River Bend Station, Unit 1 (RBS). The amendment consists of changes to the technical specifications (TSs) in response to your application dated September 2, 2014, as supplemented by letters dated April 23 and August 20, 2015.

The amendment revises TS surveillance requirements (SRs) related to gas accumulation for the emergency core cooling system and reactor core isolation cooling system. The TS changes would also add new SRs related to gas accumulation for the residual heat removal and shutdown cooling systems. The NRC staff has concluded that the TS changes are consistent with NRC-approved Technical Specifications Task Force (TSTF) Traveler TSTF-523, Revision 2, "Generic Letter 2008-01, Managing Gas Accumulation," dated February 21, 2013, as part of the consolidated line item improvement process. The TS Bases changes associated with these SRs were also changed as proposed by TSTF-523, Revision 2.

A copy of our related Safety Evaluation is enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

Alan Wang

Alan B. Wang, Project Manager
Plant Licensing IV-2 and Decommissioning
Transition Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-458

Enclosures:
1. Amendment No. 188 to NPF-47
2. Safety Evaluation

cc w/encls: Distribution via Listserv

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

ENTERGY GULF STATES LOUISIANA, LLC

AND

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-458

RIVER BEND STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 188
License No. NPF-47

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Entergy Operations, Inc. (the licensee or EOI), dated September 2, 2014, as supplemented by letters dated April 23 and August 20, 2015, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

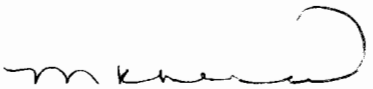
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-47 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 188 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. EOI shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Meena K. Khanna, Chief
Plant Licensing IV-2 and Decommissioning
Transition Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Facility Operating
License No. NPF-47 and
Technical Specifications

Date of Issuance: September 21, 2015

ATTACHMENT TO LICENSE AMENDMENT NO. 188

FACILITY OPERATING LICENSE NO. NPF-47

DOCKET NO. 50-458

Replace the following pages of the Facility Operating License No. NPF-47 and Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by Amendment number and contain marginal lines indicating the areas of change.

Facility Operating License

Remove	Insert
-3-	-3-

Technical Specifications

Remove	Insert
3.4-24	3.4-24
3.4-26	3.4-26
3.5-4	3.5-4
3.5-8	3.5-8
3.5-11	3.5-11
3.6-38	3.6-38
3.9-11	3.9-11
3.9-13	3.9-13

(3) EOI, pursuant to the Act and 10 CFR Part 70, to receive, possess and to use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;

(4) EOI, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(5) EOI, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(6) EOI, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

EOI is authorized to operate the facility at reactor core power levels not in excess of 3091 megawatts thermal (100% rated power) in accordance with the conditions specified herein. The items identified in Attachment 1 to this license shall be completed as specified. Attachment 1 is hereby incorporated into this license.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 188 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. EOI shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.4.9.1	----------NOTE---------- Not required to be met until 2 hours after reactor steam dome pressure is less than the RHR cut in permissive pressure. ---------- Verify one RHR shutdown cooling subsystem or recirculation pump is operating.	12 hours
SR 3.4.9.2	----------NOTE---------- Not required to be performed until 12 hours after reactor steam dome pressure is less than the RHR cut in permissive pressure. ---------- Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.	31 days

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPELETION TIME
B. No RHR shutdown cooling subsystem in operation. AND No recirculation pump in operation.	B.1 Verify reactor coolant circulating by an alternate method. AND B.2 Monitor reactor coolant temperature and pressure.	1 hour from discovery of no reactor coolant circulation AND Once per 12 hours thereafter Once per hour

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.10.1	Verify one RHR shutdown cooling subsystem or recirculation pump is operating.	12 hours
SR 3.4.10.2	Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.	31 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.1.1	Verify, for each ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water.	31 days
SR 3.5.1.2	----------NOTE---------- 1. Low pressure coolant injection (LPCI) subsystems may be considered OPERABLE during alignment and operation for decay heat removal with reactor steam dome pressure less than the residual heat removal cut in permissive pressure in MODE 3, if capable of being manually realigned and not otherwise inoperable. 2. Not required to be met for system vent flow paths opened under administrative control. ---------- Verify each ECCS injection/spray subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.5.1.3	Verify ADS accumulator supply pressure is ≥ 131 psig.	31 days
SR 3.5.1.4	Verify each ECCS pump develops the specified flow rate with the specified pump differential pressure. SYSTEM / FLOW RATE / PUMP DIFFERENTIAL PRESSURE LPCS: ≥ 5010 gpm: ≥ 282 psid LPCI: ≥ 5050 gpm: ≥ 102 psid HPCS: ≥ 5010 gpm: ≥ 415 psid	In accordance with the Inservice Testing Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.2	Verify, for the required High Pressure Core Spray (HPCS) System, the: a. Suppression pool water level is ≥ 13 ft 3 inches; or b. Condensate storage tank water level is ≥ 11 ft 1 inch.	12 hours
SR 3.5.2.3	Verify, for each required ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water.	31 days
SR 3.5.2.4	----------NOTE---------- 1. One low pressure coolant injection (LPCI) subsystem may be considered OPERABLE during alignment and operation for decay heat removal, if capable of being manually realigned and not otherwise inoperable. 2. Not required to be met for system vent flow paths opened under administrative control. ---------- Verify each required ECCS injection/spray subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days

(continued)

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.5.3.1	Verify the RCIC System locations susceptible to gas accumulation are sufficiently filled with water.	31 days
SR 3.5.3.2	----------NOTE---------- Not required to be met for system vent flow paths opened under administrative control. ---------- Verify each RCIC System manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.5.3.3	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify, with RCIC steam supply pressure $\leq$ 1075 psig and $\geq$ 920 psig, the RCIC pump can develop a flow rate $\geq$ 600 gpm against a system head corresponding to reactor pressure.	92 days
SR 3.5.3.4	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify, with RCIC steam supply pressure $\leq$ 165 psig and $\geq$ 150 psig, the RCIC pump can develop a flow rate $\geq$ 600 gpm against a system head corresponding to reactor pressure.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.3.1	Verify each RHR suppression pool cooling subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position or can be aligned to the correct position.	31 days
SR 3.6.2.3.2	Verify RHR suppression pool cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.	31 days
SR 3.6.2.3.3	Verify each RHR pump develops a flow rate $\geq$ 5050 gpm through the associated heat exchangers to the suppression pool.	In accordance with the Inservice Testing Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. (continued)	B.3	----------NOTE---------- Entry and exit is permissible under administrative control. ---------- Initiate action to close one door in each primary containment air lock.	 Immediately
C. No RHR shutdown cooling subsystem in operation.	C.1	Verify reactor coolant circulation by an alternate method.	1 hour from discovery of no reactor coolant circulation AND Once per 12 hours thereafter
	AND		
	C.2	Monitor reactor coolant temperature.	Once per hour

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.8.1	Verify one RHR shutdown cooling subsystem is operating.	12 hours
SR 3.9.8.2	Verify required RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.	31 days

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. (continued)	B.2	----------NOTE---------- Entry and exit is permissible under administrative control. ---------- Initiate action to close one door in each primary containment air lock.	Immediately
C. No RHR shutdown cooling subsystem in operation.	C.1	Verify reactor coolant circulation by an alternate method.	1 hour from discovery of no reactor coolant circulation AND Once per 12 hours thereafter
	AND		
	C.2	Monitor reactor coolant temperature.	Once per hour

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.9.1	Verify one RHR shutdown cooling subsystem is operating.	12 hours
SR 3.9.9.2	Verify required RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.	31 days

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 188 TO

FACILITY OPERATING LICENSE NO. NPF-47

ENTERGY OPERATIONS, INC.

RIVER BEND STATION, UNIT 1

DOCKET NO. 50-458

1.0 INTRODUCTION

By application dated September 2, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14261A091), as supplemented by letter dated April 23 and August 20, 2015 (ADAMS Accession Nos. ML15119A226 and ML15246A120, respectively), Entergy Operations, Inc. (Entergy, the licensee), requested changes to the technical specifications (TSs) for River Bend Station, Unit 1 (RBS). The supplements dated April 23 and August 20, 2015, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the U.S. Nuclear Regulatory Commission (NRC) staff's original proposed no significant hazards consideration determination, as published in the *Federal Register* on January 6, 2015 (80 FR 522).

Specifically, the licensee requested to adopt NRC-approved Technical Specifications Task Force (TSTF) Traveler TSTF-523, Revision 2, "Generic Letter [GL] 2008-01, Managing Gas Accumulation," dated February 21, 2013 (ADAMS Accession No. ML13053A075). The availability of this TS improvement was announced in the *Federal Register* on January 15, 2014 (79 FR 2700), as part of the Consolidated Line Item Improvement Process.

The proposed changes would revise TS surveillance requirements (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 residual heat removal (RHR) and shutdown cooling systems. The TS Bases changes associated with these SRs were also changed, as proposed by TSTF-523, Revision 2.

The licensee stated that it has reviewed the information contained in the model safety evaluation dated December 23, 2013 (ADAMS Accession No. ML13255A169) and that the license amendment request is consistent with the NRC-approved TSTF-523, Revision 2.

2.0 REGULATORY EVALUATION

2.1 Background

Gas accumulation in reactor systems can result in water hammer, pump cavitation, and pumping of non-condensible gas into the reactor vessel. These effects may result in the subject system being unable to perform its specified safety function. The NRC issued 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 the ECCS, Decay Heat Removal (DHR), and Containment Spray (CS) systems (ADAMS Accession No. ML072910759). The industry and NRC staff agreed that a change to the standard technical specifications (STSs) and plant-specific TSs would be necessary to address some issues discussed in GL 2008-01. TSTF-523, Revision 2 contains changes to the TS SRs and TS Bases to address some of the concerns addressed in GL 2008-01. The licensee proposed amending the RBS Unit 1 TSs using a plant-specific adoption of the TSTF-523, Revision 2, changes.

2.2 Regulatory Review

The regulations in Appendix A to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 "General Design Criteria [GDC] for Nuclear Power Plants," or similar plant-specific principal design criteria provide design requirements. Appendix B to 10 CFR Part 50, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," the TSs, and the licensee's quality assurance program provide operating requirements. The regulatory requirements of 10 CFR Part 50, Appendix A, that are applicable to gas management in the subject systems include:

- GDC 1, "Quality standards and records,"
- GDC 34, "Residual heat removal,"
- GDC 35, "Emergency core cooling,"
- GDC 36, "Inspection of emergency core cooling system,"
- GDC 37, "Testing of emergency core cooling system,"
- GDC 38, "Containment heat removal,"
- GDC 39, "Inspection of containment heat removal system," and
- GDC 40, "Testing of containment heat removal system."

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:

- Criterion III, "Design Control,"

- Criterion V, "Instructions, Procedures, and Drawings,"
- Criterion XI, "Test Control,"
- Criterion XVI, "Corrective Actions," and
- Criterion XVII, "Quality Assurance Records."

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 non-conformances, 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 system 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. The regulation in 10 CFR 50.36(c)(5) requires that licensees establish in TS Section 5, "Administrative Control," provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner, as recommended in Appendix A to Regulatory Guide (RG) 1.33, "Quality Assurance Program Requirements (Operation)," Revision 3, June 2013 (ADAMS Accession No. ML13109A458). 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.

The NRC's guidance for the format and content of licensee TSs can be found in NUREG-1434, "Standard Technical Specifications - General Electric Plants, BWR [Boiling Water Reactor]/6," Revision 4, Volume (STS) (ADAMS Accession No. ML12104A1950).

The NRC staff recognizes that the Standard Review Plan (SRP) is not the regulatory basis of the proposed TSs changes, and licensees are not required to confirm that the SRP guidance is applicable to RBS Unit 1.

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 [Light-Water Reactor] Edition."

- Revision 5 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 GDCs 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 the ECCS to help ensure compliance with GDCs 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 the RHR system as it is used to cool the reactor coolant system during and following shutdown to help ensure compliance with GDC 34.

3.0 TECHNICAL EVALUATION

The proposed changes adopted the TS format and content, to the extent practicable, contained in the changes made to STSs, by TSTF-523, Revision.2. The NRC staff evaluated the licensee's proposed changes against the applicable regulatory guidance in the STSs, as modified by TSTF-523, Revision 2. The NRC staff concluded that the proposed changes are consistent with the guidance in the STS, as modified by TSTF-523, Revision 2.

The NRC staff compared the proposed changes to the existing SRs, as well as the regulatory requirements of 10 CFR 50.36, "Technical specifications."

3.1 Proposed Technical Specification Surveillance Requirement Changes

The licensee proposed the following TS SR changes:

TS 3.4.9, "Residual Heat Removal (RHR) Shutdown Cooling System-Hot Shutdown"

New SR 3.4.9.2, with a frequency of "31 days," would state:

> ----------NOTE----------
> Not required to be performed until 12 hours after reactor steam dome pressure is less than the RHR cut in permissive pressure.
> ----------
>
> Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.

TS 3.4.10, "Residual Heat Removal (RHR) Shutdown Cooling System-Cold Shutdown"

New SR 3.4.10.2, with a surveillance frequency of "31 days," would state:

> Verify RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.

TS 3.5.1, "ECCS-Operating"

Current SR 3.5.1.1 states:

> Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.

Revised SR 3.5.1.1 would state:

> Verify, for each ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water.

Current SR 3.5.1.2, would be revised to add the following "NOTE":

> 2. Not required to be met for system vent flow paths opened under administrative control.

TS 3.5.2, "ECCS-Shutdown"

Current SR 3.5.2.3 states:

> Verify, for each required ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.

Revised SR 3.5.2.3 would state:

> Verify, for each required ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water.

Current SR 3.5.2.4, would be revised to add the following "NOTE":

> 2. Not required to be met for system vent flow paths opened under administrative control.

TS 3.5.3, "RCIC System"

Current SR 3.5.3.1 states:

> Verify the RCIC System piping is filled with water from the pump discharge valve to the injection valve.

Revised SR 3.5.3.1 would state:

> Verify the RCIC system locations susceptible to gas accumulation are sufficiently filled with water.

Current SR 3.5.3.2 would be revised to add the following "NOTE":

> ----------NOTE----------
> Not required to be met for system vent flow paths opened under administrative control.
> ----------

TS 3.6.2.3, "Residual Heat Removal (RHR) Suppresion Pool Water Level"

New SR 3.6.2.3.2, with a frequency of "31 days" would state:

> Verify RHR suppression pool cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.

Current SR 3.6.2.3.2 would be renumbered to SR 3.6.2.3.3.

TS 3.9.8, "Residual Heat Removal (RHR) – High Water Level"

New SR 3.9.8.2 with a surveillance frequency of "31 days," would state:

> Verify required RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.

TS 3.9.9, "Residual Heat Removal (RHR) – Low Water Level"

New SR 3.9.9.2 with a surveillance frequency of "31 days," would state:

> Verify required RHR shutdown cooling subsystem locations susceptible to gas accumulation are sufficiently filled with water.

3.2 Evaluation

The proposed changes adopted the TS format and content, to the extent practicable, contained in the changes made to NUREG-1434, "Standard Technical Specifications General Electric Plants, BWR/6" by TSTF-523, Revision 2. The NRC staff compared the proposed changes to the existing SRs, as well as the regulatory requirements of 10 CFR 50.36(c).

RBS does not have a CS system; therefore, the licensee identified this as a variation from the proposed changes in TSTF-523, Revision 2. The plant has two safety-related primary containment unit coolers (Unit Coolers), which provide a function similar to a CS system. The Unit Coolers are governed by LCO 3.6.1.7, and together with the RHR suppression pool cooling mode of operation, they ensure containment integrity following a loss-of-coolant accident by preventing containment pressures and temperatures in excess of the containment design criteria. The Unit Coolers are supplied by standby service water during an accident, and they are designed such that no single failure results in a loss of safety function. The Unit Coolers also have design features to prevent water hammer, such as, vacuum release solenoid valves working in conjunction with safety-related accumulator tanks. Air accumulation is managed by air release valves at high points and sweeping unvented air out through the cooling tower spray headers.

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 reactor steam dome pressure is less than the RHR cut in permissive pressure 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 concluded 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 LCO will be met. Therefore, the NRC staff concludes that the proposed TS changes are consistent with TSTF-523, Revision 2 and therefore, are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Louisiana State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

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 involve changes to 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 published in the *Federal Register* on January 6, 2015 (80 FR 522). 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

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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: W. Satterfield

Date: September 21, 2015

A copy of our related Safety Evaluation is enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

Alan B. Wang, Project Manager
Plant Licensing IV-2 and Decommissioning
Transition Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-458

Enclosures:
1. Amendment No. 188 to NPF-47
2. Safety Evaluation

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DATE	8/24/2015	9/17/2015	9/21/2015	

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