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

April 23, 2015

Vice President, Operations
Entergy Operations, Inc.
Grand Gulf Nuclear Station
P.O. Box 756
Port Gibson, MS 39150

SUBJECT: GRAND GULF NUCLEAR STATION, UNIT 1 - ISSUANCE OF AMENDMENT RE: ADOPTION OF TSTF-423, REVISION 1, "TECHNICAL SPECIFICATIONS END STATES, NEDC-32988-A" (TAC NO. MF3175)

Dear Sir or Madam:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 201 to Facility Operating License No. NPF-29 for the Grand Gulf Nuclear Station, Unit 1. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated November 8, 2013, as supplemented by letters dated September 29, November 13, and November 19, 2014; and January 20, and January 27, 2015.

The amendment revises the TSs to risk-inform requirements regarding selected Required Action end states. The NRC has concluded that the changes are consistent with the NRC-approved Technical Specification Task Force (TSTF) change traveler TSTF-423, Revision 1, "Technical Specifications End States, NEDC-32988-A," dated December 22, 2009, as part of the consolidated line item improvement process. In addition, it approves a change to the facility operating license for the Grand Gulf Nuclear Station, Unit 1. The change adds a new license condition for maintaining commitments.

A copy of our related Safety Evaluation is also 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. 50-416

Enclosures:
1. Amendment No. 201 to NPF-29
2. Safety Evaluation

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

ENTERGY OPERATIONS, INC.

SYSTEM ENERGY RESOURCES, INC.

SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION

ENTERGY MISSISSIPPI, INC.

DOCKET NO. 50-416

GRAND GULF NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 201
License No. NPF-29

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

   A. The application for amendment by Entergy Operations, Inc. (the licensee), dated November 8, 2013, as supplemented by letters dated September 29, November 13, and November 19, 2014; and January 20 and January 27, 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, 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 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-29 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 201 are hereby incorporated in the license. Entergy Operations, Inc. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

   (47) Commitments Required by Standard TSTF Safety Evaluations

   Commitments made as required by standard TSTF Safety Evaluation, as discussed in the notice of availability, will be maintained as described in UFSAR Section 16, Technical Specifications. This condition applies to the following TSTFs as approved.

   TSTF-423

   Changes to the commitments can be made in accordance with 10 CFR 50.59 process.

3. This 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-29 and the
Technical Specifications

Date of Issuance: April 23, 2015

ATTACHMENT TO LICENSE AMENDMENT NO. 201

FACILITY OPERATING LICENSE NO. NPF-29

DOCKET NO. 50-416

Replace the following pages of the Facility Operating License No. NPF-29 and the 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
4	4
16f	16f

Technical Specifications

Remove	Insert
3.3-80	3.3-80
3.5-2	3.5-2
3.5-3	3.5-3
3.6-20	3.6-20
3.6-22	3.6-22
3.6-24	3.6-24
3.6-25	3.6-25
3.6-31	3.6-31
3.6-42	3.6-42
3.6-49	3.6-49
3.6-50	3.6-50
3.6-65	3.6-65
3.6-66	3.6-66
3.7-3	3.7-3
3.7-7	3.7-7
3.7-8	3.7-8
3.7-9	3.7-9
3.7-12	3.7-12
3.8-4	3.8-4
3.8-27	3.8-27
3.8-39	3.8-39

(b) SERI is required to notify the NRC in writing prior to any change in (i) the terms or conditions of any new or existing sale or lease agreements executed as part of the above authorized financial transactions, (ii) the GGNS Unit 1 operating agreement, (iii) the existing property insurance coverage for GGNS Unit 1 that would materially alter the representations and conditions set forth in the Staff's Safety Evaluation Report dated December 19, 1988 attached to Amendment No. 54. In addition, SERI is required to notify the NRC of any action by a lessor or other successor in interest to SERI that may have an effect on the operation of the facility.

C. The 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

Entergy Operations, Inc. is authorized to operate the facility at reactor core power levels not in excess of 4408 megawatts thermal (100 percent power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 201 are hereby incorporated into this license. Entergy Operations, Inc. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

During Cycle 19, GGNS will conduct monitoring of the Oscillation Power Range Monitor (OPRM). During this time, the OPRM Upscale function (Function 2.f of Technical Specification Table 3.3.1.1-1) will be disabled and operated in an "indicate only" mode and technical specification requirements will not apply to this function. During such time, Backup Stability Protection measures will be implemented via GGNS procedures to provide an alternate method to detect and suppress reactor core thermal hydraulic instability oscillations. Once monitoring has been successfully completed, the OPRM Upscale function will be enabled and technical specification requirements will be applied to the function; no further operating with this function in an "indicate only" mode will be conducted.

(h) This license condition shall expire upon satisfaction of the requirements in paragraph (f) provided that a visual inspection of the steam dryer does not reveal any new unacceptable flaw or unacceptable flaw growth that is caused by fatigue.

(47) Commitments made as required by standard TSTF safety evaluation, as discussed in the notice of availability, will be maintained as described in UFSAR Section 16, Technical Specifications. This condition applies to the following TSTFs as approved.

TSTF-423

Changes to the commitments can be made in accordance with 10 CFR 50.59.

D. The facility required exemptions from certain requirements of Appendices A and J to 10 CFR Part 50 and from certain requirements of 10 CFR Part 100. These include: (a) exemption from General Design Criterion 17 of Appendix A until startup following the first refueling outage, for (1) the emergency override of the test mode for the Division 3 diesel engine, (2) the second level undervoltage protection for the Division 3 diesel engine, and (3) the generator ground over current trip function for the Division 1 and 2 diesel generators (Section 8.3.1 of SSER #7) and (b) exemption from the requirements of Paragraph III.D.2(b)(ii) of Appendix J for the containment airlock testing following normal door opening when containment integrity is not required (Section 6.2.6 of SSER #7). These exemptions are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. In addition, by exemption dated December 20, 1986, the Commission exempted licensees from 10 CFR 100.11(a)(1), insofar as it incorporates the definition of exclusion area in 10 CFR 100.3(a), until April 30, 1987 regarding demonstration of authority to control all activities within the exclusion area (safety evaluation accompanying Amendment No. 27 to License (NPF-29). This exemption is authorized by law, and will not present an undue risk to the public health and safety, and is consistent with the common defense and security. In addition, special circumstances have been found justifying the exemption. Therefore, these exemptions are hereby granted pursuant to 10 CFR 50.12 with the granting of these exemptions, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act and the rules and regulations of the Commission.

E. The licensee shall fully implement and maintain in effect all provision of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Physical Security, Safeguards Contingency and Training and Qualification Plan," and were submitted to the NRC on May 18, 2006.

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The licensee's CSP was approved by License Amendment No. 186 as supplemented by a change approved by License Amendment Nos. 192 and 200.

3.3 INSTRUMENTATION

3.3.8.2 Reactor Protection System (RPS) Electric Power Monitoring

LCO 3.3.8.2 Two RPS electric power monitoring assemblies shall be OPERABLE for each inservice RPS motor generator set or alternate power supply.

APPLICABILITY: MODES 1, 2, and 3,
MODES 4 and 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or both inservice power supplies with one electric power monitoring assembly inoperable.	A.1 Remove associated inservice power supply(s) from service.	72 hours
B. One or both inservice power supplies with both electric power monitoring assemblies inoperable.	B.1 Remove associated inservice power supply(s) from service.	1 hour
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.	C.1 -------Note-------- LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	12 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Two ECCS injection subsystems inoperable. OR One ECCS injection and one ECCS spray subsystem inoperable.	C.1 Restore one ECCS injection/spray subsystem to OPERABLE status.	72 hours
D. Required Action and associated Completion Time of Condition A, B, or C not met.	D.1 -------NOTE-------- LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	 12 hours
E. One ADS valve inoperable.	E.1 Restore ADS valve to OPERABLE status.	14 days
F. One ADS valve inoperable. AND One low pressure ECCS injection/spray subsystem inoperable.	F.1 Restore ADS valve to OPERABLE status. OR F.2 Restore low pressure ECCS injection/spray subsystem to OPERABLE status.	72 hours 72 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. Two or more ADS valves inoperable. OR Required Action and associated Completion Time of Condition E or F not met.	G.1 -------NOTE-------- LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	12 hours
H. HPCS and Low Pressure Core Spray (LPCS) Systems inoperable. OR Three or more ECCS injection/spray subsystems inoperable. OR HPCS System and one or more ADS valves inoperable. OR Two or more ECCS injection/spray subsystems and one or more ADS valves inoperable.	H.1 Enter LCO 3.0.3.	Immediately

3.6 CONTAINMENT SYSTEMS

3.6.1.6 Low-Low Set (LLS) Valves

LCO 3.6.1.6 The LLS function of six safety/relief valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One LLS valve inoperable.	A.1	Restore LLS valve to OPERABLE status.	14 days
B. Required Action and associated Completion Time of Condition A not met.	B.1	-------NOTE-------- LCO 3.0.4.a is not applicable when entering MODE 3. ----------	
		Be in MODE 3.	12 hours
C. Two or more LLS valves inoperable.	C.1	Be in MODE 3.	12 hours
	AND		
	C.2	Be in Mode 4.	36 hours

3.6 CONTAINMENT SYSTEMS

3.6.1.7 Residual Heat Removal (RHR) Containment Spray System

LCO 3.6.1.7 Two RHR containment spray subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR containment spray subsystem inoperable.	A.1 Restore RHR containment spray subsystem to OPERABLE status.	7 days
B. Two RHR containment spray subsystems inoperable.	B.1 Restore one RHR containment spray subsystem to OPERABLE status.	8 hours
C. Required Action and associated Completion Time not met.	C.1 -------NOTE------- LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	12 hours

3.6 CONTAINMENT SYSTEMS

3.6.1.8 Feedwater Leakage Control System (FWLCS)

LCO 3.6.1.8 Two FWLCS subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One FWLCS subsystem inoperable.	A.1 Restore FWLCS subsystems to OPERABLE status.	30 days
B. Two FWLCS subsystems inoperable.	B.1 Restore one FWLCS subsystem to OPERABLE status.	7 days
C. Required Action and associated Completion Time not met.	C.1 ------NOTE--------- LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.1.8.1 Verify RHR jockey pump operates properly.	31 days

3.6 CONTAINMENT SYSTEMS

3.6.1.9 Main Steam Isolation Valve (MSIV) Leakage Control System (LCS)

LCO 3.6.1.9 Two MSIV LCS subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One MSIV LCS subsystem inoperable.	A.1 Restore MSIV LCS subsystem to OPERABLE status.	30 days
B. Two MSIV LCS subsystems inoperable.	B.1 Restore one MSIV LCS subsystem to OPERABLE status.	7 days
C. Required Action and associated Completion Time not met.	C.1 -------NOTE------- LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.1.9.1 Operate each outboard MSIV LCS blower ≥ 15 minutes.	31 days

(continued)

3.6 CONTAINMENT SYSTEMS

3.6.2.3 Residual Heat Removal (RHR) Suppression Pool Cooling

LCO 3.6.2.3 Two RHR suppression pool cooling subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One RHR suppression pool cooling subsystem inoperable.	A.1	Restore RHR suppression pool cooling subsystem to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met.	B.1	------NOTE-------- LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	12 hours
C. Two RHR suppression pool cooling subsystems inoperable.	C.1	Restore one RHR suppression pool cooling subsystem to OPERABLE status.	8 hours
D. Required Action and associated Completion Time of Condition C not met.	D.1	Be in MODE 3.	12 hours
	AND		
	D.2	Be in MODE 4.	36 hours

3.6 CONTAINMENT SYSTEMS

3.6.4.1 Secondary Containment

LCO 3.6.4.1 The secondary containment shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
During movement of recently irradiated fuel assemblies in the primary or secondary containment,
During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Secondary containment inoperable in MODE 1, 2, or 3.	A.1 Restore secondary containment to OPERABLE status.	4 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 --------NOTE------ LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	12 hours

(continued)

3.6 CONTAINMENT SYSTEMS

3.6.4.3 Standby Gas Treatment (SGT) System

LCO 3.6.4.3 Two SGT subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
During movement of recently irradiated fuel assemblies in the primary or secondary containment,
During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SGT subsystem inoperable.	A.1 Restore SGT subsystem to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, or 3.	B.1 -------NOTE------- LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	12 hours
C. Required Action and associated Completion Time of Condition A not met during movement of recently irradiated fuel assemblies in the primary or secondary containment or during OPDRVs.	----------NOTE---------- LCO 3.0.3 is not applicable. ---------- C.1 Place OPERABLE SGT subsystem in operation. OR	Immediately (continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. (continued)	C.2.1	Suspend movement of recently irradiated fuel assemblies in the primary and secondary containment.	Immediately
	AND		
	C.2.2	Initiate action to suspend OPDRVs.	Immediately
D. Two SGT subsystems inoperable in MODE 1, 2, or 3.	D.1	--------NOTE------ LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	12 hours
E. Two SGT subsystems inoperable during movement of recently irradiated fuel assemblies in the primary or secondary containment or during OPDRVs.	E.1	Suspend movement of recently irradiated fuel assemblies in the primary and secondary containment.	Immediately
	AND		
	E.2	Initiate action to suspend OPDRVs.	Immediately

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One drywell purge vacuum relief subsystem inoperable for reasons other than Condition A.	C.1 Restore drywell purge vacuum relief subsystem to OPERABLE status.	30 days
D. Required Action and associated Completion Time of Condition B or C not met.	D.1 --------NOTE------ LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	12 hours
E. Two drywell purge vacuum relief subsystems inoperable for reasons other than Condition A.	E.1 Restore one drywell purge vacuum relief subsystem to OPERABLE status.	72 hours
F. Two drywell post-LOCA vacuum relief subsystems inoperable for reasons other than Condition A. AND One drywell purge vacuum relief subsystem inoperable for reasons other than Condition A.	F.1 Restore one drywell post-LOCA vacuum relief or drywell purge vacuum relief subsystem to OPERABLE status.	72 hours
G. Required Action and associated Completion Time of Condition A, E or F not met.	G.1 Be in MODE 3. AND G.2 Be in MODE 4.	12 hours 36 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. Two drywell purge vacuum relief subsystems inoperable for reasons other than Condition A. AND One or two drywell post-LOCA vacuum relief subsystems inoperable for reasons other than Condition A.	H.1 Be in MODE 3. AND H.2 Be in MODE 4.	12 hours 36 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Required Action and associated Completion Time of Condition A, C, or D not met.	E.1 -------NOTE-------- LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	12 hours
F Both SSW subsystems inoperable. OR Two UHS cooling towers with one or more cooling tower fans inoperable. OR UHS basin inoperable for reasons other than Condition C.	F.1 Be in Mode 3. AND F.2 Be in Mode 4.	12 hours 36 Hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.1.1	Verify the water level of each UHS basin is ≥ 7.25 ft.	24 hours
SR 3.7.1.2	Operate each SSW cooling tower fan for ≥ 15 minutes.	31 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, or 2.	C.1	-------NOTE------- LCO 3.0.4.a is not applicable when entering MODE 3. ----------	
		Be in MODE 3.	12 hours
D. Required Action and associated Completion Time of Condition A not met during OPDRVs.	D.1	Place OPERABLE CRFA subsystem in isolation mode.	Immediately
	OR		
	D.2	Initiate action to suspend OPDRVs.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Two CRFA subsystems inoperable in MODE 1, 2, or 3 for reasons other than Condition B.	E.1 -------NOTE------- LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	12 hours
F. Two CRFA subsystems inoperable during OPDRVs. OR One or more CRFA subsystems inoperable due to inoperable CRE boundary during OPDRVs.	F.1 -------NOTE------- LCO 3.0.3 does not apply. ---------- Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.3.1	Operate each CRFA subsystem for ≥ 10 continuous hours with the heaters operating.	31 days
SR 3.7.3.2	Perform required CRFA filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.3.3	Verify each CRFA subsystem actuates on an actual or simulated initiation signal.	24 months
SR 3.7.3.4	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program

3.7 PLANT SYSTEMS

3.7.4 Control Room Air Conditioning (AC) System

LCO 3.7.4 Two control room AC subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One control room AC subsystem inoperable.	A.1	Restore control room AC subsystem to OPERABLE status.	30 days
B. Two control room AC subsystems inoperable.	B.1	Verify control room area temperature ≤ 90°F.	Once per 4 hours
	AND		
	B.2	Restore one control room AC subsystem to OPERABLE status.	7 days
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.	C.1	-------NOTE------- LCO 3.0.4.a is not applicable when entering MODE 3. ----------	
		Be in MODE 3.	12 hours

(continued)

3.7 PLANT SYSTEMS

3.7.5 Main Condenser Offgas

LCO 3.7.5 The gross gamma activity rate of the noble gases measured at the offgas recombiner effluent shall be ≤ 380 mCi/second after decay of 30 minutes.

APPLICABILITY: MODE 1,
MODES 2 and 3 with any steam jet air ejector (SJAE) in operation.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Gross gamma activity rate of the noble gases not within limit.	A.1 Restore gross gamma activity rate of the noble gases to within limit.	72 hours
B. Required Action and associated Completion Time not met.	B.1 Isolate SJAE. OR B.2 -------NOTE------- LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	12 hours 12 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One required offsite circuit inoperable for reasons other than Condition F. AND One required DG inoperable for reasons other than Condition F.	----------NOTE---------- Enter applicable Conditions and Required Actions of LCO 3.8.7, "Distribution Systems—Operating," when any required division is de-energized as a result of Condition D. ---------- D.1 Restore required offsite circuit to OPERABLE status. OR D.2 Restore required DG to OPERABLE status.	 12 hours 12 hours
E. Two required DGs inoperable.	E.1 Restore one required DG to OPERABLE status.	2 hours OR 24 hours if Division 3 DG is inoperable
F. One automatic load sequencer inoperable.	F.1 Restore automatic load sequencer to OPERABLE status.	24 hours
G. Required Action and associated Completion Time of Condition A, B, C, D, E, or F not met.	G.1 --------NOTE--------- LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	 12 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time for Division 1 or 2 DC electrical power subsystem for condition A, B, or C not met.	D.1 ---------NOTE ----- LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	12 hours
E. Division 3 DC electrical power subsystem inoperable for reasons other than Condition A.	E.1 Declare High Pressure Core Spray System inoperable.	Immediately
F. Required Action and associated Completion Time for Division 3 DC electrical power subsystem for Condition A, B or E not met.	F.1 Be in MODE 3. AND F.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.4.1	Verify battery terminal voltage is ≥ 129 V on float charge.	7 days
SR 3.8.4.2	Verify no visible corrosion at battery terminals and connectors. OR Verify battery connection resistance is ≤ 1.5 E-4 ohm for inter-cell connections, ≤ 1.5 E-4 ohm for inter-rack connections, ≤ 1.5 E-4 ohm for inter-tier connections, and ≤ 1.5 E-4 ohm for terminal connections.	92 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 -------NOTE-------- LCO 3.0.4.a is not applicable when entering MODE 3. ---------- Be in MODE 3.	12 hours
D. One or more Division 3 AC or DC electrical power distribution subsystems inoperable.	D.1 Declare High Pressure Core Spray System inoperable.	Immediately
E. Two or more divisions with inoperable distribution subsystems that result in a loss of function.	E.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify correct breaker alignments and voltage to required AC and DC electrical power distribution subsystems.	7 days

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 201 TO

FACILITY OPERATING LICENSE NO. NPF-29

ENTERGY OPERATIONS, INC., ET AL.

GRAND GULF NUCLEAR STATION, UNIT 1

DOCKET NO. 50-416

1.0 INTRODUCTION

By letter dated November 8, 2013 (Reference 1), as supplemented by letters dated September 29, 2014 (Reference 2), November 13, and November 19, 2014; and January 20, and January 27, 2015 (References 17, 18, 19, and 20, respectively), Entergy Operations, Inc. (Entergy, the licensee), submitted a license amendment request (LAR), which proposed changes to the Technical Specifications (TSs) for Grand Gulf Nuclear Station, Unit 1 (GGNS). Specifically, the licensee proposed to adopt U.S. Nuclear Regulatory Commission (NRC)-approved Revision 1 to Technical Specifications Task Force (TSTF) Standard Technical Specifications (STS) change traveler TSTF-423, "Technical Specifications End States, NEDC 32988 A," dated December 22, 2009 (Reference 3). In addition, the licensee proposed a new license condition for maintaining commitments.

The supplemental letters dated September 29, November 13, and November 19, 2014; and January 20, and January 27, 2015, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination, as published in the *Federal Register* on March 4, 2014 (79 FR 12245).

The Traveler TSTF-423 incorporates the NRC-approved Boiling Water Reactor Owners Group's (BWROG's) Topical Report (TR)32988-A, Revision 2, "Technical Justification to Support Risk-Informed Modification to Selected Required Action End States for BWR Plants," December 2012 (Reference 4), into NUREG-1433, Revision 4, "Standard Technical Specifications – General Electric Plants (BWR/4)," April 2012, and NUREG-1434, Revision 4, "Standard Technical Specifications – General Electric Plants (BWR/6)," April 2012 (References 5 and 6, respectively). The TR conclusions are applicable for all of the boiling-water reactor (BWR) products (BWR/2 through BWR/6). GGNS is a BWR/6 facility. The *Federal Register* Notice

published on February 18, 2011 (76 FR 9614), announced the availability of this TS improvement as part of the consolidated line item improvement process.

TSTF-423 is one of the industry's initiatives developed under the Risk Management Technical Specifications program. These initiatives are intended to maintain or improve safety through the incorporation of risk assessment and management techniques in TS, while reducing unnecessary burden and making TS requirements consistent with the Commission's other risk-informed regulatory requirements, in particular the Maintenance Rule.

The following five operational modes are defined in the GGNS TSs. Of specific relevance to TSTF-423 are Modes 3 and 4:

- Mode 1 - Power Operation: The reactor mode switch is in run position.
- Mode 2 - Reactor Startup: The reactor mode switch is in refuel position (with all reactor vessel head closure bolts fully tensioned) or in startup/hot standby position.
- Mode 3 - Hot Shutdown: The reactor coolant system (RCS) temperature is above 200 degrees Fahrenheit (°F) and the reactor mode switch is in shutdown position (with all reactor vessel head closure bolts fully tensioned).
- Mode 4 - Cold Shutdown: The RCS temperature is equal to or less than 200 °F and the reactor mode switch is in shutdown position (with all reactor vessel head closure bolts fully tensioned).
- Mode 5 – Refueling: The reactor mode switch is in shutdown or refuel position, and one or more reactor vessel head closure bolts are less than fully tensioned.

The regulations in paragraph 50.36(c)(2)(i) of Title 10 of the *Code of Federal Regulations* (10 CFR), states, in part, that:

> When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met.

The STSs and most plant TSs provide, as part of the remedial action, a completion time (CT) for the plant to either comply with remedial actions or restore compliance with the limiting condition for operation (LCO). If the LCO or the remedial action cannot be met, then the reactor is required to be shut down. When the STS and individual plant TSs were written, the shutdown condition, or end state specified, was usually cold shutdown.

TR NEDC-32988-A, Revision 2, provides the technical basis to change certain required "end states" when the TS Actions for remaining in power operation cannot be met within the CTs. Most of the requested TS changes permit an end state of hot shutdown (Mode 3) if risk is assessed and managed, rather than an end state of cold shutdown (Mode 4), contained in the current TS. The proposed LAR was limited to those end states where: (1) entry into the shutdown mode is for a short interval, (2) entry is initiated by inoperability of a single train of

equipment or a restriction on a plant operational parameter, unless otherwise stated in the applicable TS, and (3) the primary purpose is to correct the initiating condition and return to power operation as soon as is practical.

2.0 REGULATORY EVALUATION

In 10 CFR 50.36, "Technical specifications," the Commission established its regulatory requirements related to the content of TSs. Pursuant to 10 CFR 50.36(c), TSs are required to include items in the following specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) LCOs; (3) surveillance requirements; (4) design features; (5) administrative controls. As stated, in part, in 10 CFR 50.36(c)(2)(i):

> Limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications....

In describing the basis for changing end states, NEDC-32988-A states, in part, that:

> Cold shutdown is normally required when an inoperable system or train cannot be restored to an operable status within the allowed time. However, going to cold shutdown results in the loss of steam-driven core cooling systems, challenges the shutdown heat removal systems, and requires restarting the plant.... A more preferred operational MODE is one that maintains adequate risk levels while repairs are completed without causing unnecessary challenges to plant equipment during shutdown and startup transitions.

In the end state changes under consideration in this LAR, a problem with a component or train has, or will, result in a failure to meet a TS, and a controlled shutdown is directed because a TS Action requirement cannot be met within the TS CT.

Most of the current TSs and design basis analyses were developed under the perception that putting a plant in cold shutdown would result in the safest condition and the design basis analyses would bound credible shutdown accidents. In the late 1980s and early 1990s, the NRC and licensees recognized that this perception was incorrect and took corrective actions to improve shutdown operation. At the same time, standard TSs were developed and many licensees improved their TSs. Since enactment of a shutdown rule was expected, almost all TS changes involving power operation, including a revised end state requirement, were postponed (see, for example, the Final Policy Statement on TS Improvements, Reference 7). However, in the mid-1990s, the Commission decided a shutdown rule was not necessary in light of industry improvements. Controlling shutdown risk encompasses control of conditions that can cause potential initiating events and responses to those initiating events that do occur. Initiating events are a function of equipment malfunctions and human error. Responses to events are a function of plant sensitivity, ongoing activities, human error, defense-in-depth, and additional equipment malfunctions.

In practice, the risk during shutdown operations is often addressed via voluntary actions and application of 10 CFR 50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants" (Reference 8), the Maintenance Rule. Section 50.65(a)(4) states, in part:

> Before performing maintenance activities ..., the licensee shall assess and manage the increase in risk that may result from the proposed maintenance activities. The scope of the assessment may be limited to structures, systems, and components that a risk-informed evaluation process has shown to be significant to public health and safety.

The NRC staff's approved TSTF-423 states that the changes proposed are consistent with the following rules, regulations, and associated regulatory guidance. Regulatory Guide (RG) 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants," May 2000 (Reference 9), provides guidance on implementing the provisions of 10 CFR 50.65(a)(4) by endorsing the revised Section 11 (published separately) to the Nuclear Management and Resource Council (NUMARC) 93-01, Revision 3, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," July 2000 (Reference 10). RG 1.182 was withdrawn since it was determined that the document (RG 1.182) was redundant due to the inclusion of its subject matter in Revision 3 of RG 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," May 2012 (Reference 11). Withdrawal of RG 1.182 was published in the *Federal Register* on November 27, 2012 (77 FR 70846). The *Federal Register* notice also stated that withdrawal of RG 1.182 neither altered any prior or existing licensing commitments based on its use, nor constituted backfitting as defined in 10 CFR 50.109 (the Backfit Rule) and was not otherwise inconsistent with the issue finality provisions in 10 CFR Part 52.

In addition, the NRC staff observed that RG 1.160 endorsed Revision 4A of the NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," April 2011 (Reference 12). NUMARC 93-01 provides methods that are acceptable to the NRC staff for complying with the provisions of Section 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," of 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities." The model safety evaluation (SE) for the TSTF currently refers to the guidance in Revision 2 of the NUMARC 93-01.

The NRC staff requested that Entergy confirm that GGNS's current licensing basis adheres to the RG 1.160 guidance and commitment to the updated version of NUMARC 93-01. By letter dated September 29, 2014 (Reference 2), Entergy stated as follows:

> In Reference 1, GGNS acknowledged its understanding that Regulatory Guide (RG) 1.182 was withdrawn (77 FR 70846) as the requirements on acceptable methods to meet the provisions of 10 CFR 50.65(a)(4) associated with managing and assessing risk, and further acknowledged our understanding that the requirements were incorporated into RG 1.160. This letter further stated that Procedure EN-WM-104, On Line Risk Assessment, ensures procedural compliance with NUMARC 93-01, Industry Guideline For Monitoring The Effectiveness of Maintenance at Nuclear Power Plants.

Additionally, in Reference 1 GGNS stated that Entergy has reviewed the General Electric [GE] topical report (NEDC-32988-A), TSTF-423, and the NRC model Safety Evaluation and concluded that the information in the GE topical report and TSTF-423 as well as the Safety Evaluation prepared by the NRC, are applicable to Grand Gulf Nuclear Station) (GGNS) and provided justification for the incorporation of the proposed changes into the GGNS Technical Specifications.

Subsequently, based on the request for additional information (Reference 2) GGNS reviewed Revision 4a of NUMARC 93-01, Procedure EN-WM-104, Revision 9 and Procedure 01-S-18-6, Revision 13, Risk Assessment of Maintenance Activities and found no exceptions to the guidance contained in Revision 4a of NUMARC 93-01.

Based on the above, the NRC determined that Entergy Procedure EN-WM-104, Revision 9 and Procedure 01-S-18-6, Revision 13, "Risk Assessment of Maintenance Activities" meets the guidelines in NUMARC 93-01, Revision 4A. In addition, by letter dated November 19, 2014, Entergy has made a Regulatory Commitment to NUMARC 93-01 and future revisions.

Section 3.5, "Regulatory Commitment," Attachment 5 in the licensee's application dated November 8, 2013, states, in part, that "Entergy will follow the guidance established in TSTF-IG-05-02 "Implementation Guidance for TSTF-423, Revision 2, Technical Specification End States, NEDC 32988 A...."

3.0 TECHNICAL EVALUATION

3.1 Proposed TS Changes

In its LAR, the licensee proposed the following TS changes:

TS 3.3.8.2: Reactor Protection System (RPS) Electric Power Monitoring

Current TS 3.3.8.2 Required Action C.1 states:

> Be in MODE 3.
>
> AND

Revised TS 3.3.8.2 Required Action C.1 would state:

> ----------NOTE----------
> LCO 3.0.4.a is not applicable when entering MODE 3.
> ----------
>
> Be in MODE 3.

Current TS 3.3.8.2 Required Action C.2, which states "Be in MODE 4," with a CT of "36 hours," would be deleted.

TS 3.5.1: ECCS-Operating

Current TS 3.5.1 Required Action D.1 states:

> Be in MODE 3.
>
> AND

Revised TS 3.5.1 Required Action D.1 would state:

> ----------NOTE----------
> LCO 3.0.4.a is not applicable when entering MODE 3.
> ----------
>
> Be in MODE 3.

Current TS 3.5.1 Required Action D.2, which states "Be in MODE 4," with a CT of "36 hours," would be deleted.

Current TS 3.5.1 Required Action G.1 states:

> Be in MODE 3.
>
> AND

Revised TS 3.5.1 Required Action G.1 would state:

> ----------NOTE----------
> LCO 3.0.4.a is not applicable when entering MODE 3.
> ----------
>
> Be in MODE 3.

Current TS 3.5.1 Required Action G.2, which states "Reduce reactor steam dome pressure to ≤ 150 psig," with a CT of "36 hours," would be deleted.

TS 3.6.1.6: Low-Low Set (LLS) Valves

Current TS 3.6.1.6 Condition B states:

> Required Action and associated Completion Time of Condition A not met.
>
> OR
>
> Two or more LLS valves inoperable.

Revised TS 3.6.1.6 Condition B would state:

Required Action and associated Completion Time of Condition A not met.

Current TS 3.6.1.6 Required Action B.1 states:

Be in MODE 3.

AND

Revised TS 3.6.1.6 Required Action B.1 would state:

----------NOTE----------
LCO 3.0.4.a is not applicable when entering MODE 3.

Be in MODE 3.

Current TS 3.6.1.6 Required Action B.2, which states "Be in MODE 4," with a CT of "36 hours," would be deleted.

New TS 3.6.1.6 Condition C would state:

Two or more LLS valves inoperable

New TS 3.6.1.6 Required Actions C.1 and C.2 would state:

C.1 Be in MODE 3.

AND

C.2 Be in MODE 4.

The CTs for new Required Actions C.1 and C.2 would be "12 hours" and "36 hours," respectively.

TS 3.6.1.7: Residual Heat Removal (RHR) Containment Spray System

Current TS 3.6.1.7 Required Action C.1 states:

Be in MODE 3.

AND

Revised TS 3.6.1.7 Required Action C.1 would state:

> ----------NOTE----------
> LCO 3.0.4.a is not applicable when entering MODE 3.
> ----------
>
> Be in MODE 3.

Current TS 3.6.1.7 Required Action C.2, which states "Be in MODE 4," with a CT of "36 hours," would be deleted.

TS 3.6.1.8: Feedwater Leakage Control System (FWLCS)

Current TS 3.6.1.8 Required Action C.1 states:

> Be in MODE 3.
>
> AND

Revised TS 3.6.1.8 Required Action C.1 would state:

> ----------NOTE----------
> LCO 3.0.4.a is not applicable when entering MODE 3.
> ----------
>
> Be in MODE 3.

Current TS 3.6.1.8 Required Action C.2, which states "Be in MODE 4," with a CT of "36 hours," would be deleted.

TS 3.6.1.9: Main Steam Isolation Valve (MSIV) Leakage Control System (LCS)

Current TS 3.6.1.9 Required Action C.1 states:

> Be in MODE 3.
>
> AND

Revised TS 3.6.1.9 Required Action C.1 would state:

> ----------NOTE----------
> LCO 3.0.4.a is not applicable when entering MODE 3.
> ----------
>
> Be in MODE 3.

Current TS 3.6.1.9 Required Action C.2, which states "Be in MODE 4," with a CT of "36 hours," would be deleted.

TS 3.6.2.3: Residual Heat Removal (RHR) Suppression Pool Cooling

New TS 3.6.2.3 Condition B would state:

> Required Action and associated Completion Time of Condition A not met.

New TS 3.6.2.3 Required Action B.1 would state:

> ----------NOTE----------
> LCO 3.0.4.a is not applicable when entering MODE 3.
> ----------
>
> Be in MODE 3.

The CT for new TS 3.6.2.3 Required Action B.1 would be "12 hours."

Current TS 3.6.2.3 Condition B and Required Action B.1 would be renumbered as Condition C and Required Action C.1. Current TS 3.6.2.3 Condition C and Required Actions C.1 and C.2 would be renumbered as Condition D and Required Actions D.1 and D.2.

TS 3.6.4.1: Secondary Containment

Current TS 3.6.4.1 Required Action B.1 states:

> Be in MODE 3.
>
> AND

Revised TS 3.6.4.1 Required Action B.1 would state:

> ----------NOTE----------
> LCO 3.0.4.a is not applicable when entering MODE 3.
> ----------
>
> Be in MODE 3.

Current TS 3.6.4.1 Required Action B.2, which states "Be in MODE 4," with a CT of "36 hours," would be deleted.

TS 3.6.4.3: Standby Gas Treatment (SGT) System

Current TS 3.6.4.3 Required Action B.1 states:

> Be in MODE 3.
>
> AND

Revised TS 3.6.4.3 Required Action B.1 would state:

> ----------NOTE----------
> LCO 3.0.4.a is not applicable when entering MODE 3.
> ----------
>
> Be in MODE 3.

Current TS 3.6.4.3 Required Action B.2, which states "Be in MODE 4," with a CT of "36 hours," would be deleted.

Current TS 3.6.4.3 Required Action D.1 states:

> Enter LCO 3.0.3.

Revised TS 3.6.4.3 Required Action D.1 would state:

> ----------NOTE----------
> LCO 3.0.4.a is not applicable when entering MODE 3.
> ----------
>
> Be in MODE 3

The CT for current TS 3.6.4.3 Required Action D.1, which states "Immediately," would be changed to "12 hours," for revised TS 3.6.43 Required Action D.1.

<u>TS 3.6.5.6: Drywell Vacuum Relief System</u>

Current TS 3.6.5.6 Conditions D thru G with associated Required Actions and Completion Times, would be renumbered as Conditions E thru H with no change to the associated Required Actions and Completion Time requirements.

New TS 3.6.5.6 Condition D would state:

> Required Action and associated Completion Time of Condition B or C not met.

New TS 3.6.5.6 Required Action D.1 would state:

> ----------NOTE----------
> LCO 3.0.4.a is not applicable when entering MODE 3.
> ----------
>
> Be in MODE 3.

The CT for new TS 3.6.5.6 Required Action D.1 would be "12 hours."

Current TS 3.6.5.6 Condition F states:

> Required Action and associated Completion Time of Condition A, B, C, D, or E not met.

Current TS 3.6.5.6 Condition F is renumbered to Condition G and states:

> Required Action and associated Completion Time of Condition A, E or F not met.

Inoperability of Conditions B OR C are now addressed in new Condition D. Current Conditions D OR E are renumbered to E OR F.

TS 3.7.1: Standby Service Water (SSW) System and Ultimate Heat Sink (UHS)

Current TS 3.7.1 Condition E states:

> Required Action and associated Completion Time of Condition A, C, or D not met.
>
> OR
>
> Both SSW subsystems inoperable.
>
> OR
>
> Two UHS cooling towers with one or more cooling tower fans inoperable.
>
> OR
>
> UHS basin inoperable for reasons other than Condition C.

Current TS 3.7.1 Required Action E.1 states:

> Be in MODE 3.
>
> AND

Revised TS 3.7.1 Condition E would state:

> Required Action and associated Completion Time of Condition A, C, or D not met.

Revised TS 3.7.1 Required Action E.1 would state:

> ----------NOTE----------
> LCO 3.0.4.a is not applicable when entering MODE 3.
> ----------
>
> Be in MODE 3.

Current TS 3.7.1 Required Action E.2, which states "Be in MODE 4," with a CT of "36 hours," would be deleted.

New TS 3.7.1 Condition F would state:

Both SSW subsystems inoperable.

OR

Two UHS cooling towers with one or more cooling tower fans inoperable.

OR

UHS basin inoperable for reasons other than Condition C.

New TS 3.7.1 Required Actions F.1 and F.2 would state:

F.1 Be in MODE 3.

AND

F.2 Be in MODE 4.

The CTs for the new Required Actions F.1 and F.2 would be "12 hours" and "36 hours," respectively.

TS 3.7.3: Control Room Fresh Air (CRFA) System

Current TS 3.7.3 Required Action C.1 states:

Be in MODE 3

AND

Revised TS 3.7.3 Required Action C.1 would state:

----------NOTE----------
LCO 3.0.4.a is not applicable when entering MODE 3.

Be in MODE 3.

Current TS 3.7.3 Required Action C.2, which states "Be in MODE 4," with a CT of "36 hours," would be deleted.

Current TS 3.7.3 Required Action E.1 states:

Enter LCO 3.0.3.

Revised TS 3.7.3 Required Action E.1 would state:

> ----------NOTE----------
> LCO 3.0.4.a is not applicable when entering MODE 3.
> ----------
>
> Be in MODE 3.

The CT for current TS 3.7.3 Required Action E.1, which states "Immediately," would be changed to "12 hours," for revised TS 3.7.3 Required Action E.1.

The following change is unrelated to the TSTF-423 approved change. However, based on justification in Section 3.4, the change is approved.

Current TS 3.7.3 Required Action F.1 states:

> Initiate action to suspend OPDRVs.

Revised TS 3.7.3 Required Action F.1 would state:

> ----------NOTE----------
> LCO 3.0.3 is not applicable.
> ----------
>
> Initiate action to suspend OPDRVs.

<u>TS 3.7.4: Control Room Air Conditioning (AC) System</u>

Current TS 3.7.4 Required Action C.1 states:

> Be in MODE 3.
>
> <u>AND</u>

Revised TS 3.7.4 Required Action C.1 would state:

> ----------NOTE----------
> LCO 3.0.4.a is not applicable when entering MODE 3.
> ---
>
> Be in MODE 3.

Current TS 3.7.4 Required Action C.2, which states "Be in MODE 4," with a CT of "36 hours," would be deleted.

TS 3.7.5: Main Condenser Offgas

Current TS 3.7.5 Required Action B.2.1 states:

Be in MODE 3.

AND

Revised TS 3.7.5 Required Action B.2.1 will be renumbered to Required Action B.2 and would state:

----------NOTE----------
LCO 3.0.4.a is not applicable when entering MODE 3.

Be in MODE 3.

Current TS 3.7.5 Required Action B.2.2, which states "Be in MODE 4," with a CT of "36 hours," would be deleted.

TS 3.8.1: Alternating Current (AC) Sources-Operating

Current TS 3.8.1 Required Action G.1 states:

Be in MODE 3.

AND

Revised TS 3.8.1 Required Action G.1 would state:

----------NOTE----------
LCO 3.0.4.a is not applicable when entering MODE 3.

Be in MODE 3.

Current TS 3.8.1 Required Action G.2, which states "Be in MODE 4," with a CT of "36 hours," would be deleted.

TS 3.8.4: Direct Current (DC) Sources-Operating

New Condition D and associated Required Action and CT would be added as follows;

New TS 3.8.4 Condition D would state:

Required Action and associated Completion Time for Division 1 or 2 DC electrical power subsystem for condition A, B, or C not met.

New TS 3.8.4 Required Action D1 would state:

> ----------NOTE----------
> LCO 3.0.4.a is not applicable when entering MODE 3.
> ----------
>
> Be in MODE 3

The CT for the new Required Action D1 would be "12 hours."

Current TS 3.8.4 Conditions D and E and associated Required Actions and Completion Times would be renumbered to Conditions E and F.

Current TS 3.8.4 Condition E (renumbered as Condition F) states:

> Required Action and associated Completion Time of Condition C or D not met.

Revised TS 3.8.4 Condition E (renumbered as Condition F) would state:

> Required Action and associated Completion Time for Division 3 DC electrical power subsystem for Condition A, B, or E not met.

No changes to the current Required Actions and Completion Times for current Condition D (renumbered as E) and Condition E (renumbered as F) are proposed.

<u>TS 3.8.7: Distribution Systems-Operating</u>

Current TS 3.8.7 Required Action C.1 states:

> Be in MODE 3.
>
> <u>AND</u>

Revised TS 3.8.7 Required Action C.1 would state:

> ----------NOTE----------
> LCO 3.0.4.a is not applicable when entering MODE 3.
> ----------
>
> Be in MODE 3.

Current TS 3.8.7 Required Action C.2, which states, "Be in MODE 4," with a CT of "36 hours," would be deleted.

The changes proposed in the LAR are consistent with the changes proposed and justified in TR NEDC 32988 A, Revision 2, and the associated NRC staff's SE for TSTF-423 dated September 27, 2002 (Reference 13). The evaluation included in the SE, as appropriate and applicable to the changes of TSTF-423, Revision 1, is reiterated here, and differences from the

SE are justified. In its application, the licensee commits to TSTF IG 05 02, "Implementation Guidance for TSTF-423, Revision 0, 'Technical Specifications End States, NEDC 32988 A,'" September 2005 (Reference 14), which addresses a variety of issues such as considerations and compensatory actions for risk-significant plant configurations.

An overview of the generic evaluation and associated risk assessment is provided below, along with a summary of the associated TS changes discussed in TR NEDC 32988 A.

3.2 Risk Assessment

The objective of the BWROG TR NEDC-32988-A risk assessment was to show that any risk increases associated with the proposed changes in TS end states are either negligible or negative (i.e., a net decrease in risk). The BWROG TR documents a risk-informed analysis of the proposed TS change. Probabilistic risk assessment (PRA) results and insights are used, in combination with results of deterministic assessments, to identify and propose changes in "end states" for all BWR plants. This is in accordance with guidance provided in RG 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant Specific Changes to the Licensing Basis," July 1998 (Reference 15), and RG 1.177, "An Approach for Plant Specific Risk-Informed Decisionmaking: Technical Specifications," August 1998 (Reference 16). The three-tiered approach documented in RG 1.177 was followed. The first tier of the three-tiered approach includes the assessment of the risk impact of the proposed change for comparison to acceptance guidelines consistent with the Commission's Safety Goal Policy Statement, as documented in RG 1.174. The first tier aims at ensuring that there are no unacceptable temporary risk increases as a result of the TS change, such as when equipment is taken out of service. The second tier addresses the need to preclude potentially high-risk configurations that could result if equipment is taken out of service, concurrently with the equipment out of service, as allowed by this TS change. The third tier addresses the application of 10 CFR 50.65(a)(4) of the Maintenance Rule for identifying risk-significant configurations, resulting from maintenance-related activities and taking appropriate compensatory measures to avoid such configurations.

The TSs invokes a risk assessment because 10 CFR 50.65(a)(4) is applicable to maintenance-related activities and does not cover other operational activities beyond the effect they may have on existing maintenance-related risk.

The BWROG's risk assessment approach was found comprehensive and acceptable in the SE for the topical report. In addition, the analyses show that the three-tiered approach criteria for allowing TS changes are met as follows:

- Risk Impact of the Proposed Change (Tier 1): The risk changes associated with the TS changes in TSTF-423, in terms of mean yearly increases in core damage frequency (CDF) and large early release frequency (LERF), are risk neutral or risk beneficial. In addition, there are no significant temporary risk increases, as defined by RG 1.177 criteria, associated with the implementation of the TS end state changes.

- Avoidance of Risk-Significant Configurations (Tier 2): The performed risk analyses, which are based on single LCOs, indicate that there are no high-risk

configurations associated with the TS end state changes. The reliability of redundant trains is normally covered by a single LCO. When multiple LCOs occur, which affect trains in several systems, the plant's risk-informed configuration risk management program, or the risk assessment and management program implemented in response to the Maintenance Rule, 10 CFR 50.65 (a)(4), shall ensure that high-risk configurations are avoided. As part of the implementation of TSTF-423, the licensee has committed to follow Section 11 of NUMARC 93-01, Revision 3, and include guidance in appropriate plant procedures and/or administrative controls to preclude high-risk plant configurations when the plant is at the proposed end state. This commitment shall be incorporated into the licensee's UFSAR. The NRC staff finds that such guidance is adequate for preventing risk-significant plant configurations.

- Configuration Risk Management (Tier 3): The licensee has a program in place to ensure compliance with 10 CFR 50.65(a)(4) to assess and manage the risk from maintenance activities. This program can support the licensee's decision in selecting the appropriate actions to control risk for most cases in which a risk-informed TS is entered.

The generic risk impact of the end state mode change was evaluated subject to the following assumptions and TSTF-IG-05-02 (References 14 and 15):

1. The entry into the end state is initiated by the inoperability of a single train of equipment or a restriction on a plant operational parameter, unless otherwise stated in the applicable technical specification.

2. The primary purpose of entering the end state is to correct the initiating condition and return to power as soon as is practical.

3. When Mode 3 is entered as the repair end state, the time the reactor coolant pressure is above 500 pounds per square inch gauge (psig) will be minimized. If reactor coolant pressure is above 500 psig for more than 12 hours, the associated plant risk will be assessed and managed.

These assumptions are consistent with typical entries into Mode 3 for short duration repairs, which is the intended use of the TS end state changes. The NRC staff concludes that, going to Mode 3 (hot shutdown) instead of going to Mode 4 (cold shutdown) to carry out equipment repairs that are of short duration, does not have any adverse effect on plant risk.

In its application dated November 8, 2013, the licensee stated, in part, that

> Entergy will follow the guidance established in TSTF-IG-05-02 'Implementation Guidance for TSTF-423, Revision 2, Technical Specification End States, NEDC-32988-A'....

By letter dated November 19, 2014, the licensee stated, in part, that

> Entergy is committed to guidance contained in NUMARC 93-01, which provides guidance and details on the assessment and management of risk during maintenance.

As required by the new License Condition 2.C.(47), the commitment to follow the Implementation Guidance and to follow the guidance contained in NUMARC 93-01 shall be incorporated into the licensee's UFSAR. By following the Implementation Guidance, the licensee will ensure that defense-in-depth is maintained for key safety functions by ensuring availability of Tier 2 systems/equipment necessary for safe shutdown.

3.3 The Licensee's Optional Changes and Variations

The licensee's application dated November 8, 2013, states, in part, that

> TSTF-423 is based on NUREG-1434. GGNS, Unit 1, TS are based on NUREG-1434, but are not identical to this guidance. As a result, an adaption of TSTF-423 was required in some cases for incorporation into the GGNS, Unit 1, TS due to administrative differences in format (e.g., condition letter designation, etc.).
>
> Changes to individual line items to align with the provisions of TSTF-423 include the following:
>
> 1. Changes to GGNS TS 3.6.1.8, "Feedwater Leakage Control System (FWLCS)," are made in accordance with the changes made in TSTF-423 for Standard TS 3.6.1.8, "Penetration Valve Leakage Control System (PVLCS)" since the FWLCS at GGNS serves a similar purpose to that of the PVLCS described in NUREG-1434. These changes are consistent with TSTF-423 but require modification to the standard by revising GGNS TS 3.6.1.8 in place of TS 3.1.8 PVLCS.
>
> 2. Changes to GGNS TS 3.7.1 are needed to incorporate TSTF-423 line item TS 3.7.1. These changes are consistent with TSTF-423 but require modification to the standard.
>
> The proposed TS for GGNS will separate the shutdown actions into one addressing issues with a single division (revised action E), and one addressing issues with two divisions now designated as new action F (original action E). This allows the single division action to halt at Mode 3 while the remainder of the issues are addressed by the new action (action F), which maintains Mode 4 as an end state. The description of changes to the TS are as follows:
>
> Revised CONDITION E of TSTF-423 TS 3.7.1 includes conditions which address a single division of Standby Service Water / Ultimate Heat Sink (SSW/UHS) with actions of 72 hours or longer applicable. To align the

GGNS actions with the scope of the TSTF, GGNS CONDITION F is added to address both SSW subsystems being inoperable. Existing GGNS CONDITION D ensures alignment with the TSTF-423 TS 3.7.1 CONDITION B.

Revised CONDITION E is for one division of SSW/UHS inoperable, with GGNS items A, C, or D not met. This is consistent with TSTF revised CONDITION C.

CONDITION F (portion of former CONDITON E re-lettered) is revised to address conditions for both divisions of SSW/UHS inoperable. This is consistent with TSTF-423 TS 3.7.1 revised CONDITION E. The following will also be addressed by this CONDITION:

- Two UHS cooling towers with one or more cooling tower fans inoperable.
- UHS basin inoperable for reasons other than CONDITION C.

3. GGNS TS 3.7.3 Surveillance Requirement (SR) 3.7.3.3 frequency is changed from 18 to 24 months as GGNS has made application to transition from an 18 to a 24-month fuel cycle per "Grand Gulf License Amendment Request to Revise Technical Specifications and Surveillance Requirements to Support Operations with a 24-month fuel Cycle in Accordance with Generic Letter 91-04" (TAC ME9763, Accession No. ML12289A158).

4. Changes to GGNS TS 3.7.4 are needed to incorporate TSTF-423 line item TS 3.7.4. These changes are consistent with TSTF-423 but require modification to the standard.

   CONDITION B already addresses two CRAC [control room air conditioning] subsystems inoperable. CONDITION B is revised to correct a typographical error in the designation of degrees Fahrenheit and has no technical impact on the submittal.

   CONDITION C already addresses exceeding the CONDITON A and CONDITION B Completion Times, combining the TSTF-423 TS 3.7.4 CONDITION B and D actions. GGNS CONDITION C is revised to add the MODE 3 End State allowance in accordance with TSTF-423. The GGNS revision is consistent with TSTF-423 TS 3.7.4 CONDITION B and CONDITION D.

5. Changes to GGNS TS 3.7.5 are needed to incorporate TSTF-423 line item TS 3.7.5. These changes are consistent with TSTF-423 but require modification to the standard.

   CONDITION B does not have Required Action B.1 to isolate all main steam lines. GGNS specifications require the steam jet air ejector to be

isolated. CONDITION B Required Action B.2.1 is revised to incorporate the TSTF-423 End State allowance and renumbered B.2. This is consistent with TSTF-423 TS 3.7.5 CONDITION B Action B.3.

6. Changes to GGNS TS 3.8.4 are needed to incorporate TSTF-423 line item TS 3.8.4. These changes are consistent with TSTF-423, but require modification to the standard. CONDITION D of TS 3.8.4 addresses High Pressure Core Spray System inoperability if Division 3 Direct Current (DC) electrical power subsystem is inoperable. GGNS CONDITION D is revised to add the MODE 3 End State allowance in accordance with TSTF-423 and re-lettered as CONDITION E. As a result, current CONDITION E is re-lettered as CONDITION F and modified to address only the Division 3 DC electrical power subsystem. The GGNS revision is consistent with TSTF-423 TS 3.8.4 CONDITION B and CONDITION D.

7. Changes to GGNS TS 3.8.7, "Distribution Systems- Operating," are needed to incorporate TSTF-423 line item TS 3.8.9. These changes are consistent with TSTF-423, but require modification to the standard. GGNS CONDITION C is revised to incorporate the TSTF-423 End State allowance. This is consistent with TSTF-423 TS 3.8.9 CONDITION D. Note: TS 3.8.9 Distribution Systems-Operating is designated as TS 3.8.7 Distribution Systems- Operating in the Grand Gulf Technical Specifications.

In addition to changes discussed above, GGNS is not requesting changes to two of the line items identified in TSTF-423. The TS 3.4.4 Safety Relief Valves (SRVs) change is not being requested due to an extended power uprate required change resulting in the existing specification being consistent with TSTF-423. The change to TS 3.8.7 "Inverters – Operating" is not being requested due to GGNS current specifications not containing an equivalent section 3.8.7.

The licensee's Optional Changes and Variations stated above are addressed in the licensee's proposed changes to its specific TS LCOs identified below, and in the NRC's assessment of the changes.

3.4 Assessment of TS Changes

Adoption of TSTF-423 requires the following NOTE be added to each Required Action where the end state is changed to Mode 3: "LCO 3.0.4.a is not applicable when entering MODE 3." The addition of this NOTE is acceptable because it prevents an inappropriate use of the LCO 3.0.4.a allowance to go up in Mode with the specified system being inoperable. Since the basis for the NOTE is the same for all affected LCOs, the NRC staff's discussion on the basis for acceptance is not repeated in each assessment below.

3.4.1 LCO 3.3.8.2: Reactor Protection System (RPS) Electric Power Monitoring

The RPS Electric Power Monitoring System is provided to isolate the RPS bus from the normal uninterruptible power supply or an alternate power supply in the event of over voltage, under voltage, or under frequency. This system protects the load connected to the RPS bus against unacceptable voltage and frequency conditions and forms an important part of the primary success path of the essential safety circuits. Some of the essential equipment powered from the RPS buses include the RPS logic, scram solenoids, and various valve isolation logic. The TS change allows the plant to remain in Mode 3 until the repairs are completed.

LCO: For Modes 1, 2, and 3, and Modes 4 and 5 (with any control rod withdrawn from a core cell containing one or more fuel assemblies), two RPS electric power monitoring assemblies shall be OPERABLE for each in-service RPS motor generator set, or alternate power supply.

Condition Requiring Entry into End State: If the LCO cannot be met, the associated in-service power supply(s) must be removed from service within 1 hour (Required Action B.1). In Modes 1, 2, and 3, if the in-service power supply(s) cannot be removed from service within the allotted time, the plant must be placed in Mode 3 within 12 hours and Mode 4 within 36 hours (Required Actions C.1 and C.2).

Modification for End State Required Actions: The change allows the plant to remain in Mode 3 until the repair actions are completed. Required Action C.2, which required the plant to be in Mode 4, is deleted allowing the plant to stay in MODE 3 while completing repairs.

Assessment: To reach Mode 3, per the TS, there must be a functioning power supply with degraded protective circuitry in operation. However, the over voltage, under voltage, or under frequency condition must exist for an extended time period to cause damage. There is a low probability of this occurring in the short period of time that the plant would remain in Mode 3 without this protection.

The specific failure condition of interest is not risk-significant for BWR PRAs. If the required restoration actions cannot be completed within the specified time, going into Mode 4 at GGNS would cause loss of the high-pressure reactor core isolation cooling (RCIC) system and loss of the power conversion system (condenser/feedwater), and would require activating the RHR system. In addition, emergency operating procedures (EOPs) direct the operator to take control of the depressurization function if low-pressure injection/spray systems are needed for reactor pressure vessel (RPV) water makeup and cooling.

Based on the low probability of loss of the RPS power monitoring system during the infrequent and limited time in Mode 3 and the number of systems available in Mode 3, the NRC staff concludes that the risks of staying in Mode 3 are approximately the same as, and in some cases, lower than the risks of going to the Mode 4 end state; therefore, the change is acceptable.

3.4.2 LCO 3.5.1: Emergency Core Cooling Systems (ECCS) - Operating

The ECCS provides cooling water to the core in the event of a loss-of-coolant accident (LOCA). This set of ECCS TS provides the operability requirements for the various ECCS subsystems as

described below. This TS change would delete the secondary actions. The plant can remain in Mode 3 until the required repair actions are completed. The reactor is not depressurized.

LCO: Each ECCS injection/spray subsystem and the Automatic Depressurization System (ADS) function of eight safety/relief valves shall be OPERABLE.

Condition Requiring Entry into End State: If the LCO cannot be met, the following actions must be taken for the listed conditions:

a. If one low-pressure ECCS injection/spray subsystem is inoperable, the subsystem must be restored to operable status in 7 days (Condition A).

b. If the high-pressure core spray (HPCS) system is inoperable, restore to operable status within 14 days (Condition B).

c. Two ECCS injection subsystems inoperable or one ECCS injection and one ECCS spray subsystem inoperable. One ECCS subsystem must be restored to operable status within 72 hours (Condition C).

d. If the Required Action and associated Completion Time of Condition A, B, or C is not met, then place the plant in Mode 3 within 12 hours and in Mode 4 within 36 hours (Condition D).

e. If one ADS valve is inoperable, it must be restored to operable status within 14 days (Condition E).

f. If one ADS valve is inoperable and one low pressure ECCS injection/spray subsystem inoperable, the ADS valve must be restored to operable status within 72 hours or the low-pressure ECCS injection/spray subsystem must be restored to operable status within 72 hours (Condition F).

g. If two or more ADS valves become inoperable, or the Required Action and associated Completion Time of Condition E or F is not met, the plant must be placed in Mode 3 within 12 hours and the reactor steam dome pressure reduced to less than or equal to 150 psig within 36 hours (Condition G).

h. If HPCS and low-pressure core spray (LPCS) systems inoperable, or three or more ECCS injection/spray subsystems inoperable or HPCS System and one or more ADS valves inoperable or two or more ECCS injection/spray subsystems and one or more ADS valves are inoperable, LCO 3.0.3 must be entered immediately (Condition H).

Modification for End State Required Actions:

a. No change in Required Actions for Conditions A through C.

b. If the Required Action, and associated Completion Time of Condition A, B, or C is not met, then place the plant in Mode 3 within 12 hours (Condition D.1). Required Action D.2 is deleted, allowing the plant to stay in Mode 3 while completing repairs.

c. No change in Required Actions for Conditions E and F.

d. A revised Condition G specifies that if two or more ADS valves become inoperable, or the Required Action and associated Completion Time of Condition E or F is not met then place the plant in Mode 3 within 12 hours (G.1). Required Action G.2 is deleted allowing the plant to stay in Mode 3 while completing repairs.

Assessment: The BWROG performed a comparative PRA evaluation in TR NEDC-32988-A of the core damage risks of operation in the current end state and the MODE 3 end state. The NRC staff's conclusion described in the September 27, 2002, SE for the TR (Reference 13) on BWROG's PRA evaluation, indicates that the core damage risks are lower in Mode 3 than in the current end state Mode 4. For GGNS, going to Mode 4 for one ECCS subsystem or one ADS valve would cause loss of the high-pressure core cooling RCIC system, and loss of the power conversion system (condenser/feedwater), and would require activating the RHR system. In addition, plant EOPs direct the operator to take control of the depressurization function if low-pressure injection/spray systems are needed for RPV water makeup and cooling.

Based on the low probability of loss of the reactor coolant inventory and the number of systems available in Mode 3, the NRC staff concludes that the risks of staying in Mode 3 are approximately the same as and in some cases lower than the risks of going to the Mode 4 end state; therefore, the change is acceptable.

3.4.3 LCO 3.6.1.6: Low-Low Set (LLS) Valves

The function of the LLS valves is to prevent excessive short-duration SRV cycling during an overpressure event. This TS provides operability requirements for the five SRVs, as described below.

LCO: The LLS function of six safety/relief valves shall be OPERABLE.

Condition Requiring Entry into End State: If one LLS valve is inoperable, it must be returned to operability within 14 days. If the LLS valve cannot be returned to operable status within the allotted time, the plant must be placed in MODE 3 within 12 hours and in Mode 4 within 36 hours.

Modification for End State Required Actions: The TS change would keep the plant in Mode 3 until the required repair actions are completed. The plant would not be taken into Mode 4 (cold shutdown) (delete Required Action B.2). Required Action for both LLS valves inoperable was changed from Condition B to new Condition C without changing the Required Action End State.

Assessment: The BWROG performed a comparative PRA evaluation in TR NEDC- 32988-A of the core damage risks of operation in the current end state and the Mode 3 end state. The NRC staff's conclusion described in the September 27, 2002, SE for the TR (Reference 13) on BWROG's PRA evaluation, indicates that the core damage risks are lower in Mode 3 than in Mode 4, the current end state. For GGNS, going to Mode 4 for one LLS inoperable SRV would cause loss of the high-pressure RCIC system, and loss of the power conversion system (condenser/feedwater), and would require activating the RHR system. With one LLS valve inoperable, the remaining valves are adequate to perform the required function. The plant

EOPs direct the operator to take control of the depressurization function if low-pressure injection/spray systems are needed for RPV water makeup and cooling.

Based on the low probability of loss of the necessary overpressure protection function during the infrequent and limited time in Mode 3 and the number of systems available in Mode 3, the NRC staff concludes that the risks of staying in Mode 3 are approximately the same as and in some cases lower than the risks of going to the Mode 4 end state; therefore, the proposed change is acceptable.

3.4.4 LCO 3.6.1.7: Residual Heat Removal (RHR) Containment Spray

The primary containment must be able to withstand a postulated bypass leakage pathway that allows the passage of steam from the drywell directly into the primary containment airspace, bypassing the suppression pool. The primary containment also must be able to withstand a low energy steam release into the primary containment airspace. The RHR containment spray system is designed to mitigate the effects of bypass leakage and low energy line breaks.

LCO: Two RHR containment spray subsystems shall be operable.

Condition Requiring Entry into End State: If one RHR containment spray subsystem is inoperable, it must be restored to operable status within 7 days (Required Action A.1). If two RHR containment spray subsystems are inoperable, one of them must be restored to operable status within 8 hours (Required Action B.1). If the RHR containment spray system cannot be restored to operable status within the allotted time, the plant must be placed in Mode 3 within 12 hours (Required Action C.1) and in Mode 4 within 36 hours (Required Action C.2).

Modification for End State Required Actions: Delete Required Action C.2.

Assessment: The primary containment is designed with a suppression pool so that, in the event of a LOCA, steam released from the primary system is channeled through the suppression pool water and condensed without producing significant pressurization of the primary containment. The primary containment is designed so that with the pool initially at the minimum water level and the worst single failure of the primary containment heat removal systems, suppression pool energy absorption combined with subsequent operator controlled pool cooling will prevent the primary containment pressure from exceeding its design value. However, the primary containment must also withstand a postulated bypass leakage pathway that allows the passage of steam from the drywell directly into the primary containment airspace, bypassing the suppression pool. The primary containment also must withstand a postulated low energy steam release into the primary containment airspace. The main function of the RHR containment spray system is to suppress steam, which is postulated to be released into the primary containment airspace through a bypass leakage pathway and a low energy line break under design-basis accident (DBA) conditions, without producing significant pressurization of the primary containment (i.e., ensure that the pressure inside primary containment remains within analyzed design limits).

Under the conditions assumed in the DBA, steam blown down from the break could find its way into the primary containment through a bypass leakage pathway. In addition to the DBA, a postulated low energy pipe break could add more steam into the primary containment

airspace. Under such an extremely unlikely scenario (very small frequency of a DBA combined with the likelihood of a bypass pathway and a concurrent low energy pipe brake inside the primary containment), the RHR containment spray system could be needed to condense steam so that the pressure inside the primary containment remains within the analyzed design limits. Furthermore, containments have considerable margin to failure above the design limit (it is very likely that the containment will be able to withstand pressures as much as three times the design limit). For these reasons, the unavailability of one or both RHR containment spray subsystems has no significant impact on CDF or LERF, even for accidents initiated during operation at power. Therefore, it is very unlikely that the RHR containment spray system will be challenged to mitigate an accident occurring during power operation. This probability becomes extremely unlikely for accidents that would occur during a small fraction of the year (less than 3 days) during which the plant would be in Mode 3 (associated with lower initial energy level and reduced decay heat load as compared to power operation) to repair the failed RHR containment spray system.

Section 5.1 in the NRC staff's September 27, 2002, SE for the TR (Reference 13) summarizes the NRC staff's risk basis for approval of TS 4.5.2.6 and LCO 3.6.1.7, "Residual Heat Removal (RHR) Containment Spray System." The argument for staying in Mode 3 instead of going to Mode 4 to repair the RHR containment spray system (one or both trains) is also supported by defense-in-depth considerations. Section 5.2 in Reference 13, makes a comparison between the current (Mode 4) and the proposed (Mode 3) end state, with respect to the means available to perform critical functions (i.e., functions contributing to the defense-in-depth philosophy) whose success is needed to prevent core damage and containment failure and mitigate radiation releases. The risk and defense-in-depth arguments, used according to the "integrated decision-making" process of RGs 1.174 and 1.177, support the conclusion that Mode 3 is as safe as Mode 4 (if not safer) for repairing an inoperable RHR containment spray system. Since the time spent in Mode 3 to perform the repair is infrequent and limited, and in light of defense-in-depth considerations, the proposed change is acceptable.

3.4.5 LCO 3.6.1.8: Feedwater Leakage Control System (FWLCS)

By letter dated November 8, 2013, the licensee's Optional Change No. 1 states that:

> Changes to GGNS TS 3.6.1.8, "Feedwater Leakage Control System (FWLCS)," are made in accordance with the changes made in TSTF-423 for Standard TS 3.6,1.8, "Penetration Valve Leakage Control System (PVLCS)" since the FWLCS at GGNS serves a similar purpose to that of the PVLCS described in NUREG-1434. These changes are consistent with TSTF-423 but require modification to the standard by revising GGNS TS 3.6.1.8 in place of TS 3.1.8 PVLCS.

A comparison of GGNS TS LCO 3.6.1.8 requirements for FWLCS versus those for STS LCO 3.6.1.8, for PVLCS, shows similarities between the two systems, hence, TSTF-423 changes for PVLCS are applicable to the GGNS FWLCS.

The FWLCS supplements the isolation function of primary containment isolation valves (PCIVs) in the feedwater lines that also penetrate the secondary containment. These penetrations are

sealed by water from the FWLCS to prevent fission products leaking past the isolation valves and bypassing the secondary containment after a DBA LOCA.

LCO: Two FWLCS subsystems shall be operable.

Condition Requiring Entry into End State: If one FWLCS subsystem is inoperable, it must be restored to operable status within 30 days (Required Action A.1). If two FWLCS subsystems are inoperable, one of the FWLCS subsystems must be restored to operable status within 7 days (Required Action B.1). If the FWLCS subsystem cannot be restored to operable status within the allotted time, the plant must be placed in Mode 3 within 12 hours (Required Action C.1) and in Mode 4 within 36 hours (Required Action C.2).

Modification for End State Required Actions: Delete Required Action C.2.

Assessment: The BWROG has determined that this system is not significant in BWR PRAs. The unavailability of one or both FWLCS subsystems has no impact on CDF or LERF, independently of the mode of operation at the time of the accident. Furthermore, the challenge frequency of the FWLC system (i.e., the frequency with which the system is expected to be challenged to prevent fission products leaking past the isolation valves and bypassing the secondary containment) is less than 1.0E-6/yr. Consequently, the conditional probability that this system will be challenged during the repair time interval while the plant is at either the current or the proposed end state (i.e., Mode 4 or Mode 3, respectively) is less than 1.0E-8. This probability is considerably smaller than the probabilities considered "negligible" in RG 1.177 for much higher consequence risks, such as large early release.

Section 5.1 in the NRC staff's September 27, 2002, SE for the TR (Reference 13) summarizes the NRC staff's risk basis for approval of TS 4.5.2.7 and LCO 3.6.1.8, "Penetration Valve Leakage Control System (PVLCS)," (as stated above, PVLCS function is similar to the GGNS FWLCS). The argument for staying in Mode 3 instead of going to Mode 4 to repair the FWLCS system (one or both trains) is also supported by defense-in-depth considerations. Section 5.2 in Reference 13 makes a comparison between the current (Mode 4) and the proposed (Mode 3) end state, with respect to the means available to perform critical functions (i.e., functions contributing to the defense-in-depth philosophy) whose success is needed to prevent core damage and containment failure and mitigate radiation releases. The risk and defense-in-depth arguments, used according to the "integrated decision-making" process of RGs 1.174 and 1.177, support the conclusion that Mode 3 is as safe as Mode 4 (if not safer) for repairing an inoperable FWLCS system. Since the time spent in Mode 3 to perform the repair is infrequent and limited, and in light of defense-in-depth considerations, the proposed change is acceptable.

3.4.6 LCO 3.6.1.9: Main Steam Isolation Valve (MSIV) Leakage Control System (LCS)

The MSIV LCS supplements the isolation function of the MSIVs by processing the fission products that could leak through the closed MSIVs after core damage, assuming leakage rate limits, which are based on a large LOCA.

LCO: Two MSIV LCS subsystems shall be operable.

Condition Requiring Entry into End State: If one MSIV LCS subsystem is inoperable, it must be restored to operable status within 30 days (Required Action A.1). If both MSIV LCS subsystems are inoperable, one of the MSIV LCS subsystems must be restored to operable status within 7 days (Required Action B.1). If the MSIV LCS subsystems cannot be restored to operable status within the allotted time, the plant must be placed in Mode 3 within 12 hours (Required Action C.1) and in Mode 4 within 36 hours (Required Action C.2).

Modification for End State Required Actions: The plant would not be taken into Mode 4, (delete Required Action C.2).

Assessment: The BWROG has determined that this system is not significant in BWR PRAs and, based on a BWROG program, many plants have eliminated the system altogether. The unavailability of one or both MSIV LCS subsystems has no impact on CDF or LERF, independently of the mode of operation at the time of the accident. Furthermore, the challenge frequency of the MSIV LCS system (i.e., the frequency with which the system is expected to be challenged to mitigate offsite radiation releases resulting from MSIV leaks above TS limits) is less than 1.0E-6/yr. Consequently, the conditional probability that this system will be challenged during the repair time interval while the plant is at either the current or the proposed end state (i.e., Mode 4 or Mode 3, respectively) is less than 1.0E-8. This probability is considerably smaller than probabilities considered "negligible" in RG 1.177 for much higher consequence risks, such as a large early release.

Section 5.1 in the NRC staff's September 27, 2002, SE for the TR (Reference 13), summarizes the NRC staff's risk basis for approval of TSs 4.5.1.9, 4.5.2.8, and LCO 3.6.1.9, "Main Steam Isolation Valve (MSIV) Leakage Control System (LCS)." The argument for staying in Mode 3 instead of going to Mode 4 to repair the MS-PLCS system (one or both trains) is also supported by defense-in-depth considerations. Section 5.2 in Reference 13, makes a comparison between the current (Mode 3) and the proposed (Mode 4) end state, with respect to the means available to perform critical functions (i.e., functions contributing to the defense-in-depth philosophy), whose success is needed to prevent core damage and containment failure and mitigate radiation releases. The risk and defense-in-depth arguments, used according to the "integrated decision-making" process of RGs 1.174 and 1.177, support the conclusion that Mode 3 is as safe as Mode 4 (if not safer) for repairing an inoperable MSIV LCS system; therefore, the NRC staff concludes that the proposed change is acceptable.

3.4.7 LCO 3.6.2.3: Residual Heat Removal (RHR) Suppression Pool Cooling

Following a DBA, the RHR Suppression Pool Cooling System removes heat from the suppression pool. The suppression pool is designed to absorb the sudden input of heat from the primary system. In the long term, the pool continues to absorb residual heat generated by fuel in the reactor core. Some means must be provided to remove heat from the suppression pool so that the temperature inside the primary containment remains within design limits. At GGNS, this function is provided by two redundant RHR suppression pool cooling subsystems.

LCO: Two RHR suppression pool cooling subsystems shall be OPERABLE.

Condition Requiring Entry into End State: If one RHR suppression pool cooling subsystem is inoperable (Condition A), it must be restored to operable status within 7 days (Required Action A.1). If two RHR suppression pool cooling subsystems are inoperable (Condition B), restore one RHR suppression pool cooling subsystem to OPERABLE status within 8 hours. If the RHR suppression pool cooling subsystem cannot be restored to operable status within the allotted time (Condition C), the plant must be placed in Mode 3 within 12 hours (Required Action C.1) and in Mode 4 within 36 hours (Required Action C.2).

Modification for End State Required Actions: Current Required Action C.2 is deleted allowing the plant to stay in Mode 3 while completing repairs. A new Condition B and Required Action B.1 are added for one RHR suppression pool cooling subsystem inoperable. Current Condition B has been renumbered to Condition C with Required Action C.1. Current Condition C for two RHR suppression pool cooling subsystems inoperable has been renumbered to Condition D with Required Actions D.1 and D.2, identical to existing Condition C, with Required Actions C.1 and C.2, to maintain existing requirements unchanged.

Assessment: The BWROG completed a comparative PRA evaluation of the core damage risks of operation in the current end state versus operation in the Mode 3 end state. The results described in TR NEDC-32988-A and as evaluated by the NRC staff in the associated September 27, 2002, SE (Reference 13), indicated that the core damage risks while operating in Mode 3 (assuming the individual failure conditions) are lower or comparable to the current end state. One loop of the RHR suppression pool cooling system is sufficient to accomplish the required safety function. By remaining in Mode 3, HPCS, RCIC, and the power conversion system (condensate/feedwater) remain available for water makeup and decay heat removal. Additionally, the plant EOPs direct the operators to take control of the depressurization function if low-pressure injection/spray are needed for RCS makeup and cooling. Since defense-in-depth is improved with respect to water makeup and decay heat removal by remaining in Mode 3, the change is acceptable.

3.4.8 LCO 3.6.4.1: Secondary Containment - Operating

Following a DBA, the function of the secondary containment is to contain, dilute, and stop radioactivity (mostly fission products) that may leak from primary containment. Its leak tightness is required to ensure that the release of radioactivity from the primary containment is restricted to those leakage paths and associated leakage rates assumed in the accident analysis and that fission products entrapped within the secondary containment structure will be treated by the standby gas treatment system prior to discharge to the environment.

LCO: The secondary containment shall be OPERABLE.

Condition Requiring Entry into End State: If the secondary containment is inoperable, it must be restored to operable status within 4 hours (Required Action A.1). If it cannot be restored to operable status within the allotted time, the plant must be placed in Mode 3 within 12 hours (Required Action B.1) and in Mode 4 within 36 hours (Required Action B.2).

Modification for End State Required Actions: Required Action B.2 is deleted allowing the plant to stay in Mode 3 while completing repairs.

Assessment: This LCO entry condition does not include gross leakage through an un-isolable release path. The BWROG concluded in NEDC-32988-A, Revision 2 that previous generic PRA work related to Appendix J requirements has shown that containment leakage is not risk significant. The primary containment and all other primary and secondary containment-related functions would still be operable, including the standby gas treatment system, thereby minimizing the likelihood of an unacceptable release. By remaining in Mode 3, HPCS, RCIC, and the power conversion system (condensate/feedwater) remain available for water makeup and decay heat removal. Additionally, the plant EOPs direct the operators to take control of the depressurization function if low-pressure injection/spray is needed for RCS makeup and cooling. Therefore, the NRC staff concludes that the change is acceptable because defense-in-depth is improved with respect to water makeup and decay heat removal by remaining in Mode 3.

As stated in the September 27, 2002, SE for the TR (Reference 13), the NRC staff's approval relies upon the primary containment, and all other primary and secondary containment-related functions to still be operable, including the standby gas treatment system, for maintaining defense-in-depth while in this reduced end state.

3.4.9 LCO 3.6.4.3: Standby Gas Treatment (SGT) System

The function of the SGT system is to ensure that radioactive materials that leak from the primary containment into the secondary containment following a DBA are filtered and adsorbed prior to exhausting to the environment.

LCO: Two SGT subsystems shall be OPERABLE.

Condition Requiring Entry into End State: If one SGT subsystem is inoperable, it must be restored to operable status within 7 days (Required Action A.1). If the SGT subsystem cannot be restored to operable status within the allotted time, the plant must be placed in Mode 3 within 12 hours (Required Action B.1) and in Mode 4 within 36 hours (Required Action B.2). In addition, if two SGT subsystems are inoperable in Modes 1, 2, or 3, LCO 3.0.3 must be entered immediately (Required Action D.1).

Modification for End State Required Actions: Required Action B.2 is deleted, allowing the plant to stay in Mode 3 while completing repairs. Required Action D.1 is changed to "Be in Mode 3" with a Completion Time of "12 hours."

Assessment: The unavailability of one or both SGT subsystems has no impact on CDF or LERF, irrespective of the mode of operation at the time of the accident. Furthermore, the challenge frequency of the SGT system (i.e., the frequency with which the system is expected to be challenged to mitigate offsite radiation releases resulting from materials that leak from the primary to the secondary containment above TS limits) is less than 1.0E-6/yr. Consequently, the conditional probability that this system will be challenged during the repair time interval while the plant is at either the current or the proposed end state (i.e., Mode 4 or Mode 3, respectively) is less than 1.0E-8. This probability is considerably smaller than probabilities considered "negligible" in RG 1.177 for much higher consequence risks, such as large early release.

Section 5.1 of the NRC staff's September 27, 2002, SE for TR NEDC-32988-A (Reference 13) evaluates the NRC staff's risk basis for approval of TS 4.5.1.13, TS 4.5.2.11, and LCO 3.6.4.3, "Standby Gas Treatment (SGT) System." According to this evaluation, which applies to BWR-6 design (GGNS is a BWR-6 facility), staying in Mode 3 instead of going to Mode 4 to repair the SGT system (one or both trains) is also supported by defense-in-depth considerations. Section 5.2 of the staff's SE for the TR (Reference 13) details a comparison between the Mode 3 and the Mode 4 end state, with respect to the means available to perform critical functions (i.e., functions contributing to the defense-in-depth philosophy) whose success is needed to prevent core damage and containment failure, and to mitigate radiation releases. The risk and defense-in-depth arguments, used according to the "integrated decision-making" process of RGs 1.174 and 1.177, support the conclusion that Mode 3 is as safe as Mode 4 for repairing an inoperable SGT system. Therefore, the NRC staff concludes that the change is acceptable.

3.4.10 LCO 3.6.5.6: Drywell Vacuum Relief System

The Mark III pressure suppression containment is designed to condense, in the suppression pool, the steam released into the drywell in the event of a LOCA. The steam discharging to the pool carries the non-condensibles from the drywell. Therefore, the drywell atmosphere changes from low humidity air to nearly 100 percent steam (no air) as the event progresses. When the drywell subsequently cools and depressurizes, non-condensibles in the drywell must be replaced to avoid excessive weir wall overflow into the drywell. Rapid weir wall overflow must be controlled in a large break LOCA, so that essential equipment and systems located above the weir wall in the drywell are not subjected to excessive drag and impact loads. The drywell post-LOCA and the drywell purge vacuum relief subsystems are the means by which non-condensibles are transferred from the primary containment back to the drywell.

LCO: Two drywell post-LOCA and two drywell purge vacuum relief subsystems shall be operable.

Condition Requiring Entry into End State: If one or two drywell post-LOCA vacuum relief subsystems are inoperable or if one drywell purge vacuum relief subsystem is inoperable for reasons other than being not closed, the subsystem(s) must be restored to operable status within 30 days (Required Actions B.1). If the required actions cannot be met (Condition F), be in Mode 3 within 12 hours and Mode 4 within 36 hours (Required Actions F1 and F.2, respectively.)

Modification for End State Required Actions: Added a new Condition D (and Required Action D.1) and applied the condition to Conditions B and C. Renumbered current Conditions D thru G and associated Required Actions and Completion Times to Conditions E thru H with renumbered Required Actions and Completion Times with no proposed changes.

Assessment: The BWROG has determined that the specific failure conditions of interest are not risk significant in BWR PRAs. With one or two drywell post-LOCA vacuum relief subsystems inoperable or one drywell purge vacuum relief subsystem inoperable, for reasons other than not being closed, the remaining operable vacuum relief subsystems are adequate to perform the depressurization mitigation function. By remaining in Mode 3, HPCS, RCIC, and the power conversion system (condensate/feedwater) remain available for water makeup and decay heat

removal. Additionally, the EOPs direct the operators to take control of the depressurization function if low pressure injection/spray is needed for RCS makeup and cooling. Therefore, defense-in-depth is improved with respect to water makeup and decay heat removal by remaining in Mode 3. Since the time spent in Mode 3 to perform the repair is infrequent and limited, and in light of defense-in-depth considerations, the proposed change is acceptable.

3.4.11 LCO 3.7.1: Standby Service Water (SSW) System and Ultimate Heat Sink (UHS)

The SSW system (in conjunction with the UHS) is designed to provide cooling water for the removal of heat from certain safe shutdown-related equipment heat exchangers following a DBA or transient.

LCO: Division 1 and 2 SSW subsystems and the UHS shall be OPERABLE.

Condition Requiring Entry into End State: If one UHS cooling tower with one UHS cooling tower fan is inoperable, the cooling tower fan(s) must be restored to operable status within 7 days (Required Action A.1). Similarly, Conditions A through D concern inoperability of SSW and UHS equipment as specified in the LCO. Condition E requires that if the required action(s) and associated completion time(s) cannot be met, the plant must be placed in Mode 3 within 12 hours (Required Action E.1) and in Mode 4 within 36 hours (Required Action E.2).

Modification for End State Required Actions: Regarding proposed modification for end-state changes to LCO 3.7.1, Optional Change No. 2 in the licensee's application dated November 8, 2013, states,

> Changes to GGNS TS 3.7.1 are needed to incorporate TSTF-423 line item TS 3.7.1. These changes are consistent with TSTF-423 but require modification to the standard.
>
> The proposed TS for GGNS will separate the shutdown actions into one addressing issues with a single division (revised action E), and one addressing issues with two divisions now designated as new action F (original action E). This allows the single division action to halt at Mode 3 while the remainder of the issues are addressed by the new action (action F), which includes Mode 4 as an end state. The description of changes to the TS are as follows:
>
> Revised CONDITION E of TSTF-423 TS 3.7.1 includes conditions which address a single division of Standby Service Water / Ultimate Heat Sink (SSW/UHS) with actions of 72 hours or longer applicable. To align the GGNS actions with the scope of the TSTF, GGNS CONDITION F is added to address both SSW subsystems being inoperable. Existing GGNS CONDITION D ensures alignment with the TSTF-423 TS 3.7.1 CONDITION B.
>
> Revised CONDITION E is for one division of SSW/UHS inoperable, with GGNS items A, C, or D not met. This is consistent with TSTF revised CONDITION C.
>
> CONDITION F (portion of former CONDITON E re-lettered) is revised to address conditions for both divisions of SSW/UHS inoperable. This is consistent with

TSTF-423 TS 3.7.1 revised CONDITION E. The following will also be addressed by this CONDITION:

- Two UHS cooling towers with one or more cooling tower fans inoperable.
- UHS basin inoperable for reasons other than CONDITION C.

Assessment: The BWROG performed a comparative PRA evaluation (Reference 4) of the core damage risks when operating in the current end state versus the proposed Mode 3 end state. The results indicated that the core damage risks while operating in Mode 3 (assuming the individual failure conditions) are lower or comparable to the current end state. By remaining in Mode 3, HPCS, RCIC, and the power conversion system (condensate/feedwater) remain available for water makeup and decay heat removal. Additionally, the EOPs direct the operators to take control of the depressurization function if low-pressure injection/spray is needed for RCS makeup and cooling. Therefore, the NRC staff concludes that the change is acceptable because defense-in-depth is improved with respect to water makeup and decay heat removal by remaining in Mode 3, and the required safety function can still be performed with the RHRSW subsystem components that are still operable.

3.4.12 LCO 3.7.3: Control Room Fresh Air (CRFA) System

The CRFA system provides a radiologically controlled environment from which the unit can be safely operated following a DBA. The CRFA system consists of two independent and redundant high-efficiency air filtration subsystems for treatment of recirculated air or outside supply air. Each subsystem consists of a demister, an electric heater, a prefilter, a high-efficiency particulate air (HEPA) filter, an activated charcoal adsorber section, a second HEPA filter, a fan, and the associated ductwork and dampers. Demisters remove water droplets from the airstream. Prefilters and HEPA filters remove particulate matter that may be radioactive. The charcoal adsorbers provide a holdup period for gaseous iodine, allowing time for decay.

LCO: Two CRFA subsystems shall be OPERABLE.

Condition Requiring Entry into End State: If one CRFA subsystem is inoperable, it must be restored to operable status within 7 days (Required Action A.1). If one or more CRFA subsystems are inoperable due to inoperable control room boundary in MODE 1, 2, or 3, Initiate action to implement mitigating actions immediately (Required Action B.1), and the control room boundary must be restored to operable status within 24 hours (Required Action B.2), and Restore CRE boundary to OPERABLE status within 90 days (Required Action B.3). If the CRFA subsystems cannot be restored to operable status within the allotted time, the plant must be placed in Mode 3 within 12 hours (Required Action C.1) and in Mode 4 within 36 hours (Required Action C.2). If two CRFA subsystems or a non-redundant component or portion of the CRFA System is inoperable in Mode 1, 2, or 3, for reasons other than Condition B, LCO 3.0.3 must be entered immediately (Required Action E.1).

Modification for End State Required Actions: Delete Required Action C.2, and changd Required Action E.1 to "Be in Mode 3," with a Completion Time of "12 hours." Required ACTION F.1 currently states, "Initiate action to suspend OPDRVs" [Operations with a potential for draining the reactor vessel]. The licensee is proposing a change to Required Action F.1 by adding a NOTE, "LCO 3.0. Operations with a potential for draining the reactor vessel 3 does not apply."

The NOTE which is not a part of the TSTF-423 changes is justified in the assessment section below.

Optional Change No. 3 in the licensee's application dated November 8, 2013, states, in part,

> GGNS TS 3.7.3 Surveillance Requirement (SR) 3.7.3.3 frequency is changed from 18 to 24 months as GGNS has made application to transition from an 18 to a 24-month fuel cycle per "Grand Gulf License Amendment Request to Revise Technical Specifications and Surveillance Requirements to Support Operations with a 24-month fuel Cycle in Accordance with Generic Letter 91-04" (TAC ME9763, Accession No. ML12289A158).

The 24–Month fuel Cycle application was approved by Amendment No. 197 dated on December 26, 2013 (ADAMS Accession No. ML13343A109). The NRC staff concludes that the licensee's additional information in Optional Change No. 3 did not affect the licensee's adoption of TSTF-423 changes for GGNS TS 3.7.3.

Assessment: The unavailability of one or both CRFA subsystems has no significant impact on CDF or LERF, irrespective of the mode of operation at the time of the accident. Furthermore, the challenge frequency of the CRFA system (i.e., the frequency with which the system is expected to be challenged to provide a radiologically controlled environment in the main control room following a DBA that leads to core damage and leaks of radiation from the containment that can reach the control room) is less than 1.0E-6/yr. Consequently, the conditional probability that this system will be challenged during the repair time interval while the plant is at either the current or the proposed end state (i.e., Mode 4 or Mode 3, respectively) is less than 1.0E-8. This probability is considerably smaller than probabilities considered negligible in RG 1.177 for much higher consequence risks, such as large early release.

Section 5.1 of the NRC staff's September 27, 2002, SE of TR NEDC-32988-A (Reference 13) summarizes the staff's risk basis for approval of TS 4.5.1.16, and LCO 3.7.4, "Main Control Room Environmental Control (MCREC) System" (MCREC is similar to the GGNS CRFA system). The basis for staying in Mode 3 instead of going to Mode 4 to repair the MCREC system (one or both trains) is also supported by defense-in-depth considerations. Section 5.2 of the staff's SE of the TR (Reference 13) makes a comparison between the Mode 3 and the Mode 4 end state with respect to the means available to perform critical functions (i.e., functions contributing to the defense-in-depth philosophy) whose success is needed to prevent core damage and containment failure, and to mitigate radiation releases. The risk and defense-in-depth arguments, used according to the integrated decision-making process of RGs 1.174 and 1.177, support the conclusion that Mode 3 is as safe as Mode 4, for repairing an inoperable MCREC or CRFA system. Therefore, the NRC staff concludes that the change is acceptable.

As stated above, the licensee is proposing a change to Required Action F.1 by adding a NOTE, "LCO 3.0.3 does not apply." The NOTE is not a part of the TSTF-423 changes. Condition F states, "Two CRFA subsystems inoperable during OPDRVs OR One or more CRFA subsystems inoperable due to inoperable CRE boundary during OPDRVs." GGNS TS LCO 3.0.3 states, "When an LCO is not met,.....the unit shall be placed in a MODE or other specified condition in which the LCO is not applicable." The LCO applies to operating Modes 2(Startup), 3(Hot Shutdown), and 4 (Cold shutdown). OPDRV occurs only in plant

Modes 4 and 5 (Refueling). Hence, addition of the NOTE is justified which is also consistent with NUREG-1434, Revision 4.

3.4.13 LCO 3.7.4: Control Room Air Conditioning (AC) System

The control room air conditioning system provides temperature control for the control room following control room isolation during accident conditions.

LCO: Two control room air conditioning subsystems shall be OPERABLE.

Condition Requiring Entry into End State: If one control room air conditioning subsystem is inoperable, it must be restored to operable status within 30 days (Required Action A.1). If two control room air conditioning subsystems are inoperable, verify control room area temperature ≤ 90°F once per 4 hours and restore one control room air conditioning subsystem to operable status within 7 days (Required Actions B.1 and B.2). If the required actions and associated completion times cannot be met (Condition C), the plant must be placed in Mode 3 within 12 hours (Required Action C.1) and in Mode 4 within 36 hours (Required Action C.2).

Modification for End State Required Actions: Required Action C.2 is deleted, allowing the plant to stay in Mode 3 while completing repairs.

Assessment: The unavailability of one or both air conditioning subsystems has no significant impact on CDF or LERF, independent of the mode of operation at the time of the accident. Furthermore, the challenge frequency of the air conditioning system (i.e., the frequency with which the system is expected to be challenged to provide temperature control for the control room following control room isolation following a DBA that leads to core damage) is less than 1.0E-6/yr. Consequently, the conditional probability that this system will be challenged during the repair time interval while the plant is at either the current or the proposed end state (i.e., Mode 4 or Mode 3, respectively) is less than 1.0E-8. This probability is considerably smaller than probabilities considered "negligible" in RG 1.177 for much higher consequence risks, such as large early release.

Section 5.1 of the NRC staff's September 27, 2002, SE of TR NEDC-32988-A (Reference 13) summarizes the staff's risk basis for approval of TS 4.5.2.15 and LCO 3.7.4, "Control Room Air Conditioning (CRAC) System." (Per the licensee's application, CRAC is similar to the GGNS TS Control Room AC System.) The basis for staying in Mode 3 instead of going to Mode 4 to repair the CRAC system (one or both trains) is supported by defense in-depth considerations. Section 5.2 of the staff's SE (Reference 13) makes a comparison between the Mode 3 and the Mode 4 end states, with respect to the means available to perform critical functions (i.e., functions contributing to the defense-in-depth philosophy) whose success is needed to prevent core damage and containment failure, and to mitigate radiation releases. The risk and defense in depth arguments, used according to the "integrated decision-making" process of RGs 1.174 and 1.177, support the conclusion that Mode 3 is as safe as Mode 4 for repairing an inoperable control room air conditioning system. Therefore, the NRC staff concludes that the change is acceptable.

3.4.14 LCO 3.7.5: Main Condenser Offgas (MCOG)

The offgas from the main condenser normally includes radioactive gases. The gross gamma activity rate is controlled to ensure that accident analysis assumptions are satisfied and that offsite dose limits will not be exceeded during postulated accidents. The MCOG gross gamma activity rate is an initial condition of a DBA that assumes a gross failure of the MCOG system pressure boundary.

LCO: The gross gamma activity rate of the noble gases measured prior to the holdup pipe shall be ≤ 380 mCi [microcuries] /second after decay of 30 minutes.

Condition Requiring Entry into End State: If the gross radioactivity rate of the noble gases is not within limits (Condition A), the radioactivity rate of the noble gases must be restored to within limits within 72 hours (Required Action A.1). If the Required Action and associated Completion Time cannot be met (Condition B), one of the following must occur:

> The steam jet air ejector (SJAE) must be isolated within 12 hours (Required Action B.1),
>
> or
>
> The plant must be placed in Mode 3 within 12 hours (Required Action B.2.1) and in Mode 4 within 36 hours (Required Action B.2.2).

Modification for End State Required Actions: Required Action B.2.2 is deleted, allowing the plant to stay in Mode 3 while completing repairs.

Assessment: The failure to maintain the gross gamma activity rate of the noble gases in the MCOG within limits has no significant impact on CDF or LERF, independent of the mode of operation at the time of the accident. Furthermore, the challenge frequency of the MCOG system (i.e., the frequency with which the system is expected to be challenged to mitigate offsite radiation releases following a DBA) is less than 1.0E-6/yr. Consequently, the conditional probability that this system will be challenged during the repair time interval while the plant is at either the current or the proposed end state (i.e., Mode 4 or Mode 3, respectively) is less than 1.0E-8. This probability is considerably smaller than probabilities considered "negligible" in RG 1.177 for much higher consequence risks, such as large early release.

Section 5.1 of the NRC staff's September 27, 2002, SE of TR NEDC-32988-A (Reference 13) summarizes the staff's risk basis for approval of TR Section 4.5.1.18 and LCO 3.7.6 (equivalent to GGNS TS LCO 3.7.5) "Main Condenser Offgas." Staying in Mode 3 instead of going to Mode 4 to repair the MCOG system (one or both trains) is supported by defense-in-depth considerations. Section 5.2 of the staff's SE (Reference 13) makes a comparison between the Mode 3 and the Mode 4 end states, with respect to the means available to perform critical functions (i.e., functions contributing to the defense-in-depth philosophy) whose success is needed to prevent core damage and containment failure, and to mitigate radiation releases. The risk and defense-in-depth arguments, used according to the "integrated decision-making" process of RGs 1.174 and 1.177, support the conclusion that Mode 3 is as safe as Mode 4 for repairing an inoperable MCOG system. Therefore, the NRC staff concludes that the change is acceptable.

3.4.15 LCO 3.8.1: AC Sources - Operating

The unit Class 1E alternating current (AC) Electrical Power Distribution System AC sources consist of the offsite power sources and the onsite standby power sources (diesel generators (DGs) 11, 12, and 13). The Class 1E AC distribution system supplies electrical power to three divisional load groups, with each division powered by an independent Class 1E 4.16 kiloVolt (kV) engineered safety feature (ESF) bus. Each ESF bus has two separate and independent offsite sources of power. Each ESF bus has a dedicated onsite DG. The ESF systems of any two of the three divisions provide for the minimum safety functions necessary to shut down the unit and maintain it in a safe shutdown condition.

Offsite power is supplied to the switchyard from the transmission network. From the switchyard two electrically and physically separated circuits provide AC power to each 4.16 kV ESF bus. The offsite AC electrical power sources are designed and located so as to minimize to the extent practical the likelihood of their simultaneous failure under operating and postulated accident and environmental conditions.

LCO: The following AC electrical power sources shall be OPERABLE:

a. Two qualified circuits between the offsite transmission network and the onsite Class 1E AC Electric Power Distribution System; and

b. Three independent emergency diesel generators (EDGs).

Condition Requiring Entry into End State: The plant operators must bring the plant to Mode 3 within 12 hours (Required Action G.1) and Mode 4 within 36 hours (Required Action G.2) following the sustained inoperability of either or both required offsite circuits; one or two required EDGs; or one required offsite circuit and one or two required EDGs.

Modification for End State Required Actions: Required Action G.2 is deleted, allowing the plant to stay in Mode 3 while completing repairs. The plant will remain in Mode 3 (hot shutdown) (Required Action G.1).

Assessment: Entry into any of the conditions for the AC power sources implies that the AC power sources have been degraded and the single-failure protection for the safe shutdown equipment may be ineffective. Consequently, as specified in TS 3.8.1 at present, the plant operators must bring the plant to Mode 4 when the required action is not completed by the specified time for the associated action.

In NEDC-32988-A, Revision 2 (Reference 4), the BWROG performed a comparative PRA evaluation of the core damage risks of operation in the current end state and in the Mode 3 end state. Events initiated by the loss-of-offsite power are dominant contributors to CDF in most BWR PRAs, and the high-pressure core cooling systems (RCIC and HPCS) play a major role in mitigating these events. The conclusion described in the NRC staff's September 27, 2002, SE of TR NEDC 32988 A (Reference 13) on BWROG's PRA evaluation, indicates that the core damage risks are lower in Mode 3 than in Mode 4 for inoperable AC power sources. Going to Mode 4 for one inoperable AC power source would cause loss of high-pressure RCIC system and loss of the power conversion system (condenser/feedwater), and would require activating

the RHR system. In addition, plant EOPs direct the operator to take control of the depressurization function if low-pressure injection/spray systems are needed for RPV water makeup and cooling.

Based on the low probability of loss of the AC power and the number of systems available in Mode 3, the NRC staff concludes that the risks of staying in Mode 3 are lower than going to the Mode 4 end state; therefore, the NRC staff concludes that the change is acceptable.

3.4.16 LCO 3.8.4: Direct Current (DC) Sources - Operating

The station DC electrical power system provides the AC emergency power system with control power. It also provides both motive and control power to selected safety-related equipment. The DC electrical power system is designed to have sufficient independence, redundancy, and testability to perform its safety functions, assuming a single failure. The 125 Volts direct current (VDC) electrical power system consists of three independent Class 1E DC electrical power subsystems, Divisions 1, 2, and 3. Each subsystem consists of a battery, associated battery charger(s), and all the associated control equipment and interconnecting cabling.

LCO: For Modes 1, 2, and 3, the Division 1, Division 2, and Division 3 DC electrical power subsystems shall be OPERABLE.

Condition Requiring Entry into End State: The plant operators must bring the plant to Mode 3 within 12 hours (Required Action -E.1) and Mode 4 within 36 hours (Required Action E.2), if Required Actions and Associated Completion Time not met.

Modification for End State Required Actions: Optional Change No. 6 in the licensee's application dated November 8, 2013, explains the proposed change as follows,

> Changes to GGNS TS 3.8.4 are needed to incorporate TSTF-423 line item TS 3.8.4. These changes are consistent with TSTF-423, but require modification to the standard. CONDITION D of TS 3.8.4 addresses High Pressure Core Spray System inoperability if Division 3 Direct Current (DC) electrical power subsystem is inoperable. GGNS CONDITION D is revised to add the MODE 3 End State allowance in accordance with TSTF-423 and re-lettered as CONDITION E. As a result, current CONDITION E is re-lettered as CONDITION F and modified to address only the Division 3 DC electrical power subsystem. The GGNS revision is consistent with TSTF-423 TS 3.8.4 CONDITION B and CONDITION D.

Assessment: If one of the DC electrical power subsystems is inoperable, the remaining DC electrical power subsystems have the capacity to support a safe shutdown and to mitigate an accident condition. In NEDC-32988-A, Revision 2 (Reference 4), the BWROG performed a comparative PRA evaluation of the core damage risks of operation in the current end state and in the Mode 3 end state, with one DC system inoperable. Events initiated by the loss-of-offsite power are dominant contributors to CDF in most BWR PRAs, and the high-pressure core cooling systems, RCIC and HPCS, play a major role in mitigating these events. The NRC staff's conclusion, as described in the NRC's September 27, 2012, SE for TR NEDC 32988 A (Reference 13) on BWROG's PRA evaluation, indicates that the core damage risks are lower in Mode 3 than in Mode 4. Going to Mode 4 for one inoperable DC power source would cause

loss of the RCIC system, and loss of the power conversion system (condenser/feedwater), and would require activating the RHR system. In addition, plant EOPs direct the operator to take control of the depressurization function if low-pressure injection/spray systems are needed for RPV water makeup and cooling.

Based on the low probability of loss of the DC power and the number of systems available in Mode 3, the NRC staff concludes in the SE for the BWR topical report that the risk of staying in Mode 3 are approximately the same or in some cases lower than the risk of going to the Mode 4 end state; therefore, the NRC staff concludes that the change is acceptable.

3.4.17 LCO 3.8.7: Inverters–Operating

The licensee's application date November 8, 2013, states, in part, that "[t]he change to TS 3.8.7 'Inverters – Operating' is not being requested due to GGNS current specifications not containing an equivalent section 3.8.7."

3.4.18 LCO 3.8.7: Distribution Systems - Operating

Per GGNS TS, the onsite Class 1E AC and DC electrical power distribution systems are divided by division into three independent AC and DC electrical power distribution subsystems.

The primary AC distribution system consists of each 4.16 kV ESF bus that has at least one separate and independent offsite source of power, as well as a dedicated onsite DG source.

The secondary plant AC distribution system includes 480 Volt (V) ESF load centers and associated loads, motor control centers, and transformers. In addition, GGNS has three independent 125 VDC electrical power distribution subsystems.

LCO: For Modes 1, 2, and 3, Division 1, Division 2, and Division 3 AC and DC, electrical power distribution subsystems shall be OPERABLE.

Condition Requiring Entry into End State: The plant operators must bring the plant to Mode 3 within 12 hours and Mode 4 within 36 hours (Condition C) following the sustained inoperability of one or more Division 1 or 2 AC (Condition A) or AC vital bus distribution (Condition B) or DC electrical power distribution subsystems for a period of 8 hours (each for Condition A) and 2 hours (Condition C), and 16 hours (for Condition A or B), respectively, from initial discovery of failure to meet the LCO.

Modification for End State Required Actions: Required Action C.2 is deleted allowing the plant to stay in Mode 3 while completing repairs.

Optional Change No. 7 in the licensee's application dated November 8, 2013, states,

> Changes to GGNS TS 3.8.7, "Distribution Systems - Operating," are needed to incorporate TSTF-423 line item TS 3.8.9. These changes are consistent with TSTF-423, but require modification to the standard. GGNS CONDITION C is revised to incorporate the TSTF-423 End State allowance. This is consistent with TSTF-423 TS 3.8.9 CONDITION D. Note: TS 3.8.9 Distribution Systems -

Operating is designated as TS 3.8.7 Distribution Systems - Operating in the Grand Gulf Technical Specifications.

Assessment: If one of the AC/DC/AC vital subsystems is inoperable, the remaining AC/DC/AC vital subsystems have the capacity to support a safe shutdown and to mitigate an accident condition. In NEDC-32988-A, Revision 2 (Reference 4), the BWROG did a comparative PRA evaluation of the core damage risks of operation in the current end state and in the proposed Mode 3 end state. Events initiated by the loss-of-offsite power are dominant contributors to CDF in most BWR PRAs, and the steam-driven core-cooling systems isolation condenser (IC), RCIC and HPCS play a major role in mitigating these events. The evaluation indicates that the core damage risks are lower in Mode 3 than in Mode 4. Going to Mode 4 for one inoperable AC/DC vital power source would cause loss of the high-pressure steam-driven injection system (RCIC and HPCS), and loss of the power conversion system (condenser/feedwater), and require activating the RHR system. In addition, the EOPs direct the operator to take control of the depressurization function if low-pressure injection/spray systems are needed for RPV water makeup and cooling.

Based on the low probability of loss of the AC/DC/AC vital electrical subsystems during the infrequent and limited time in Mode 3 and the number of systems available in Mode 3, the NRC staff concludes that the risks of staying in Mode 3 are approximately the same as and, in some cases, lower than the risks of going to the Mode 4 end state; therefore, the NRC staff concludes that the change is acceptable.

3.5 Regulatory Commitments

In its letter dated November 8, 2013, the licensee made the following regulatory commitments:

- Entergy will follow the guidance established in TSTF-IG-05-02 "Implementation Guidance for TSTF-423, Revision 2, Technical Specification End States, NEDC-32988-A" with one exception. The following statement on page 2 does not apply:

  "If Primary Containment is not operable, Secondary Containment and Standby Gas Treatment must be verified operable in order to remain in Mode 3."

In its letter dated November 19, 2014, the made the following regulatory commitment:

- Entergy is committed to guidance contained in NUMARC 93-01, which provides guidance and details on the assessment and management of risk during maintenance.

The NRC staff has determined that the actions above, proposed as regulatory commitments, are required for the implementation of TSTF-423, and are part of the basis for NRC staff approval of this license amendment. In its November 13, 2014, letter, the licensee made the following regulatory commitment:

- Commitments made as required by standard TSTF safety evaluation, as discussed in the notice of availability, will be maintained as described in UFSAR Section 16, Technical Specifications.

which adds these commitments to the GGNS UFSAR upon implementation of the amendment but will not be reflected in the UFSAR until the next periodic update. License Condition 2.C.(47) requiring the licensee to add these commitments to the UFSAR is described on the amendment issuance authority page. Any future changes to these actions would require application of the criteria defined in 10 CFR 50.59. In the letters dated November 13 and November 19, 2014, Entergy confirmed that it is committed to and its procedures meets the guidelines of the current NUMARC 93-01, Revision 4A, for Maintenance Rule risk assessments.

3.6 TS Bases Changes

In Attachment 4 to the LAR, the licensee identified changes to the TS Bases for the proposed amendment. In identifying changes to the TS Bases, the licensee is not requesting that the NRC approve these changes to the TS Bases. The identified changes to the TS Bases come under TS 5.5.11, "Technical Specifications (TS) Bases Control Program," which states, in part, that:

> Licensees may make changes to Bases without prior NRC approval provided the changes do not require either of the following:
>
> 1. A change in the TS incorporated in the license; or
>
> 2. A change to the updated FSAR [Final Safety Analysis Report] or Bases that requires approval pursuant to 10 CFR 50.59.

3.7 Summary

Based upon the above assessments, and because the time spent in Mode 3 to perform the repair on any of the systems described above would be infrequent and limited, and in light of the defense-in-depth considerations (discussed above and in TR NEDC 32988 A, Revision 2 (Reference 4), and as evaluated by the NRC staff's associated SE dated September 27, 2002 (Reference 13), the NRC staff concludes that the proposed changes to the GGNS TS, described above, are acceptable. New license Condition 2.C.(47) regarding the commitments required by the TSTF safety evaluations will be added to the license, as addressed above.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Mississippi 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 the installation or use of a facility component located within the restricted area, as defined in 10 CFR Part 20. 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 March 4, 2014 (79 FR 12245). Accordingly, the amendments meet 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.

7.0 REFERENCES

1. Mulligan, K. J., Entergy Operations, Inc., letter to U.S. Nuclear Regulatory Commission, "License Amendment Request - Application for Technical Specification Changes; Technical Specification Task Force (TSTF) Improved Standard Technical Specification Change Traveler, TSTF-423, 'Technical Specifications End States,'" dated November 8, 2013 (ADAMS Accession No. ML13316B024).

2. Nadeau, J., Entergy Operations, Inc., letter to U.S. Nuclear Regulatory Commission, "Request for Additional Information Regarding Request for Adoption of TSTF-423, Revision 1, Change in Technical Specification End States (CE-NPSD-1186)," dated September 29, 2014 (ADAMS Accession No. ML14274A170).

3. Technical Specifications Task Force, letter to U.S. Nuclear Regulatory Commission, "Transmittal of Revised Risk-Informed End State Travelers," dated December 22, 2009 (ADAMS Accession No. ML093570241); includes TSTF-423, Revision 1, "Technical Specifications End States, NEDC-32988-A."

4. BWR Owners Group, NEDC-32988-A, Revision 2, "Technical Justification to Support Risk-Informed Modification to Selected Required Action End States for BWR Plants," December 2002 (ADAMS Accession No. ML030170084).

5. U.S. Nuclear Regulatory Commission, NUREG-1433, Revision 4, "Standard Technical Specifications – General Electric Plants (BWR/4)," April 2012 (ADAMS Accession No. ML12104A192).

6. U.S. Nuclear Regulatory Commission, NUREG-1434, Revision 4, "Standard Technical Specifications – General Electric Plants (BWR/6)," April 2012 (ADAMS Accession No. ML12104A195).

7. *Federal Register*, Vol. 58, No. 139, p. 39136, "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Plants," dated July 22, 1993.

8. Title 10 of the *Code of Federal Regulations,* Section 50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants."

9. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants," May 2000 (ADAMS Accession No. ML003699426).

10. Nuclear Management and Resource Council, NUMARC 93-01, Revision 3, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," July 2000 (ADAMS Accession No. ML031500684).

11. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.160, Revision 3, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," May 2012 (ADAMS Accession No. ML113610098).

12. Nuclear Management and Resource Council, NUMARC 93-01, Revision 4A, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," April 2011 (ADAMS Accession No. ML11116A198).

13. U.S. Nuclear Regulatory Commission, NRC Safety Evaluation for Topical Report NEDC-32988, Revision 2, dated September 27, 2002 (ADAMS Accession No. ML022700603).

14. BWR Owners Group, TSTF-IG-05-02, Implementation Guidance for TSTF-423, Revision 0, "Technical Specifications End States, NEDC-32988-A," September 2005 (ADAMS Accession No. ML052700156).

15. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant Specific Changes to the Licensing Basis," August 1998 (ADAMS Accession No. ML003740133).

16. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.177, "An Approach for Plant Specific Risk-Informed Decisionmaking: Technical Specifications," August 1998 (ADAMS Accession No. ML003740176).

17. Mulligan, K., Entergy Operations, Inc., letter to U.S. Nuclear Regulatory Commission, "Request for Additional Information Regarding Request for Adoption of TSTF-423, Revision 1, Change in Technical Specification End Sates (CE-NPSD-1186)," dated November 13, 2014 (ADAMS Accession No. ML14317A057).

18. Mulligan, K., Entergy Operations, Inc., letter to U.S. Nuclear Regulatory Commission, "Clarification of Entergy's commitment to the guidance contained in NUMARC 93-01 'Industry Guideline for Monitoring the Effectiveness of Mainenance at Nuclear Power Plants,'" dated November 19, 2014 (ADAMS Accession No. ML14324A743).

19. Mulligan, K., Entergy Operations, Inc., letter to U.S. Nuclear Regulatory Commission, "Transmittal of Grand Gulf Nuclear Station Unit 1, Facility Operating License Page 16f in Support of Adoption of TSTF-423," dated January 20, 2015 (ADAMS Accession No. ML15021A431).

20. Mulligan, K., Entergy Operations, Inc., letter to U.S. Nuclear Regulatory Commission, "Response to Verbal Request for Additional Information Associated with Grand Gulf Nuclear Station Letter GNRO-2013/00065," dated January 27, 2015 (ADAMS Accession No. ML15028A523).

Principal Contributors: R. Grover
A. Wang

Date: April 23, 2015

A copy of our related Safety Evaluation is also 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. 50-416

Enclosures:
1. Amendment No. 201 to NPF-29
2. Safety Evaluation

cc w/encls: Distribution via Listserv

DISTRIBUTION:
PUBLIC
LPL4-2 r/f
RidsAcrsAcnw_MailCTR Resource
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RidsNrrDorlLpl4-2 Resource
RidsNrrPMGrandGulf Resource
RidsRgn4MailCenter Resource
RGrover, NRR
RidsNrrLAPBlechman Resource

ADAMS Accession No. ML15007A183 *by memo dated

OFFICE	NRR/DORL/LPL4-2/PM	NRR/DORL/LPL4-2/LA	NRR/DSS/STSB/BC*
NAME	AWang	PBlechman	RElliott
DATE	3/10/15	4-13-15	10/30/14
OFFICE	OGC NLO	NRR/DORL/LPL4-2/BC	NRR/DORL/LPL4-2/PM
NAME	DRoth	MKhanna	AWang
DATE	3/27/15	4-20-15	4/23/15

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