

February 1, 2006

Mr. George A. Williams  
Site Vice President  
Grand Gulf Nuclear Station  
Entergy Operations, Inc.  
P. O. Box 756  
Port Gibson, MS 39150

SUBJECT: GRAND GULF NUCLEAR STATION, UNIT 1 - ISSUANCE OF AMENDMENT  
RE: ADOPTION OF APPROVED GENERIC CHANGES TO THE TECHNICAL  
SPECIFICATIONS (TAC NO. MC6651)

Dear Mr. Williams:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 169 to Facility Operating License No. NPF-29 for the Grand Gulf Nuclear Station, Unit 1 (GGNS). This amendment consists of changes to the Facility Operating License and Technical Specifications (TSs) in response to your application dated March 30, 2005, as supplemented by letter dated November 21, 2005.

The amendment adopts the following NRC-approved TS Task Force (TSTF) changes that apply to the Boiling Water Reactor/6 Improved Standard Technical Specifications for incorporation in to GGNS TSs:

- TSTF-046, Clarify the Containment Isolation Valve (CIV) surveillance to apply only to automatic isolation valves;
- TSTF-222, Control Rod Scram Time Testing;
- TSTF-264, Delete flux monitors specific overlap Surveillance Requirements (SRs);
- TSTF-275, Clarify requirements for Diesel Generator (DG) start signal on Reactor Pressure Vessel (RPV) Level - Low, Low, Low during RPV cavity flood-up;
- TSTF-276, Revise DG full load rejection test;
- TSTF-300, Eliminate DG Loss of Coolant Accident (LOCA) Start Surveillance Requirements (SRs) while in shutdown when no ECCS [Emergency Core Cooling System] is required;
- TSTF-322, Secondary Containment Integrity SRs;
- TSTF-400, Clarify SR on bypass of DG automatic trips;
- TSTF-416, SR 3.5.1.2 Notation.

George A. Williams

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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/**

Bhalchandra Vaidya, Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-416

Enclosures: 1. Amendment No. 169 to NPF-29  
2. Safety Evaluation

cc w/encls: See next page

George A. Williams

-2-

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Sincerely,  
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Bhalchandra Vaidya, Project Manager  
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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. 169  
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 March 30, 2005, as supplemented by letter dated November 21, 2005, 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 Facility Operating License and 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. 169, are hereby incorporated into this license. Entergy Operations, Inc. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

The Surveillance Requirements (SRs) for Diesel Generator 12 contained in the Technical Specifications and listed below, are not required to be performed immediately upon implementation of Amendment No. 169. The SRs listed below shall be successfully demonstrated at the next regularly scheduled performance.

SR 3.8.1.9,  
SR 3.8.1.10, and  
SR 3.8.1.14

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days from the date of issuance, with the exception of the above listed SRs.

FOR THE NUCLEAR REGULATORY COMMISSION

**/RA/**

David Terao, Chief  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Facility  
Operating License and  
Technical Specifications

Date of Issuance: February 1, 2006

ATTACHMENT TO LICENSE AMENDMENT NO. 169

FACILITY OPERATING LICENSE NO. NPF-29

DOCKET NO. 50-416

Replace the following pages of the Facility Operating License and Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Facility Operating License

Remove

Insert

Page 4

Page 4

Appendix A Technical Specifications

Remove

Insert

3.1-13

3.1-13

3.1-14

3.1-14

3.3-4

3.3-4

3.3-6

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3.3-41

3.5-1

3.5-1

3.5-4

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3.8-12

3.8-21

3.8-21

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 169 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 application dated March 30, 2005, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML 051020488), as supplemented by letter dated November 21, 2005 (ADAMS Accession No. ML053330129), Entergy Operations, Inc., et al. (the licensee), requested changes to the Technical Specifications (TSs) for Grand Gulf Nuclear Station, Unit 1 (GGNS). The supplement dated November 21, 2005, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on May 24, 2005 (70 FR 29791).

The proposed amendment would adopt selected changes resulting from the Technical Specification Task Force (TSTF) process developed by the industry and the U. S. Nuclear Regulatory Commission (NRC) to make generic improvements to the Improved Standard Technical Specification (ISTS) NUREGs.

The proposed amendment would adopt the NRC-approved TSTF changes noted in the following table that apply to the Boiling Water Reactor (BWR)/6 ISTSs for incorporation in to GGNS TS:

TSTF No.	Description	TS Section Affected
TSTF-046, Rev. 1	Clarify the Containment Isolation Valve (CIV) surveillance to apply only to automatic isolation valves	Surveillance Requirement (SR) 3.6.1.3.4 SR 3.6.4.2.2 SR 3.6.5.3.3
TSTF-222, Rev. 1	Control Rod Scram Time Testing	SR 3.1.4.1 SR 3.1.4.4

TSTF No.	Description	TS Section Affected
TSTF-264, Rev. 0	Delete flux monitors specific overlap SRs.	SR 3.3.1.1.5 SR 3.3.1.1.6 Table 3.3.1.1-1
TSTF-275, Rev. 0	Clarify requirements for Diesel Generator (DG) start signal on Reactor Pressure Vessel (RPV) Level - Low, Low, Low during RPV cavity flood-up	Table 3.3.5.1-1, Footnote (a)
TSTF-276, Rev. 2	Revise DG full load rejection test.	SR 3.8.1.9 SR 3.8.1.10 SR 3.8.1.14
TSTF-300, Rev. 0	Eliminate DG Loss of Coolant Accident (LOCA) Start SRs while in shutdown when no Emergency Core Cooling System (ECCS) is required.	SR 3.8.2.1
TSTF-322, Rev. 2	Secondary Containment Integrity SRs.	SR 3.6.4.1.3 SR 3.6.4.1.4
TSTF-400, Rev. 1	Clarify SR on bypass of DG automatic trips.	SR 3.8.1.13
TSTF-416, Rev. 0	SR 3.5.1.2 Notation.	Limiting Condition for Operation (LCO) 3.5.1 SR 3.5.1.2 LCO 3.5.2 SR 3.5.2.4

## 2.0 REGULATORY EVALUATION

The current GGNS TSs are based upon the BWR/6 ISTS, NUREG-1434, Revision 0, published September 1992. GGNS converted to the ISTS by License Amendment No. 120, dated February 21, 1995. The proposed changes are changes to the ISTS that the NRC has approved through the TSTF process developed by the industry and the NRC. The latest approved revisions of the TSTFs were used for the requested changes.

The proposed changes are consistent with the TSTFs, the adoption of which do not materially alter the original intent of the TSs. Further, the proposed changes do not require any exemptions or relief from regulatory requirements, other than those approved by the NRC staff and reflected in the current TSs, nor do they affect conformance with any requirements in Title 10 of the *Code of Federal Regulations* (10 CFR ), Part 50, Appendix A, General Design



Criteria (GDC) differently than those described in the Updated Final Safety Analysis Report (UFSAR).

The regulatory requirements which the staff applied in its review of the application also include:

- The regulations at 10 CFR 50.36, "Technical Specifications," which requires a licensee's TSs to establish LCOs and SRs for equipment that are required for safe operation of the facility. Specifically, Section 50.36(c)(3) requires the TSs to include SRs relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met. In its submittal, the licensee stated that TS SRs will continue to provide this assurance with the proposed adoption of the NRC-approved TSTF changes.
- GDC-17, "Electric Power Systems," requires, in part, that nuclear power plants have an onsite and offsite electric power system to permit the functioning of structures, systems and components important to safety. The onsite system is required to have sufficient independence, redundancy, and testability to perform its safety function, assuming a single failure, and the offsite system is required to be supplied by two independent circuits. In addition, this criterion requires provisions to minimize the probability of losing electric power from the remaining electric power supplies as the result of a loss of power from the unit, the offsite transmission network, or the onsite power supplies.
- GDC-18, "Inspection and Testing of Electric Power Systems," requires that electric power systems that are important to safety must be designed to permit appropriate periodic inspection and testing.

### 3.0 TECHNICAL EVALUATION

#### 3.1 TSTF-046, Rev. 1, Clarify the Containment Isolation Valve (CIV) surveillance to apply only to automatic isolation valves

In its submittal, the licensee proposed to clarify valve timing requirements in SR 3.6.1.3.4, SR 3.6.4.2.2, and SR 3.6.5.3.3 by adoption of TSTF-046.

TSTF-046 was approved on March 17, 1997, and was subsequently incorporated into Revision 2 of the standard technical specifications (STS). It clarified that required automatic isolation time testing only applied to valves which received an automatic isolation signal, rather than any valve with a power operator. The phrase "each power operated and each automatic PCIV [Primary Containment Isolation Valve]" was replaced with, "each power operated, automatic PCIV" in several STS SRs including SRs 3.6.1.3.5, 3.6.5.3.4, and 3.6.4.2.2.

There may be valves credited as CIVs which are power operated (i.e., can be remotely operated) that do not receive a containment isolation signal (e.g., a GDC-57 penetration). Such power operated valves do not have an isolation time assumed in the accident analyses, since they require operator action. TSTF-046 reduced the potential for misinterpreting the

requirements of the valve timing SRs while maintaining the assumptions of the accident analysis.

The NRC staff finds that the licensee's application with respect to this TSTF, is consistent with the TSTF, except that two of the GGNS SRs are re-numbered relative to TSTF-046; GGNS SR 3.6.1.3.4 is equivalent to TSTF-046 SR 3.6.1.3.5, and GGNS SR 3.6.5.3.3 is the same as TSTF SR 3.6.5.3.4. The renumbering does not preclude use of the TSTF.

GGNS SR 3.6.1.3.4, SR 3.6.4.2.2, and SR 3.6.5.3.3 are revised to clarify that isolation valve time testing only applies to automatic isolation valves. The wording, "each power operated and each automatic" is replaced with, "each power operated, automatic." The proposed changes are administrative in nature, and do not materially alter the original intent of the original TSs. Accordingly, the NRC staff finds the proposed changes to the SRs, with respect to TSTF-046, acceptable.

### 3.2 TSTF-222, Rev. 1, Control Rod Scram Time Testing

This TSTF describes NRC-approved changes to SR 3.1.4.1, SR 3.1.4.4, and the associated Bases. The purpose of the TSTF is to clarify that post-refueling control rod scram time testing only applies to control rods affected by movement of fuel. Specifically, the TSTF allows the first Surveillance Frequency of SR 3.1.4.1, which states, "Prior to exceeding 40% RTP [reactor thermal power] after fuel movement within the reactor pressure vessel" to be moved to the Frequency section of SR 3.1.4.4 and the words "reactor pressure vessel" are allowed to be replaced with "affected core cell."

In its March 30, 2005, submittal, the licensee proposed to delete "Prior to exceeding 40 percent RTP after each refueling AND" from the Frequency section of SR 3.1.4.1 and change the wording of the second frequency of SR 3.1.4.4 from "Prior to exceeding 40 percent RTP after fuel movement within the reactor pressure vessel" to "Prior to exceeding 40 percent RTP after fuel movement within the affected core cell."

The NRC staff finds that the proposed changes are in accordance with NRC-approved TSTF-222, Rev. 1, with no deviations and are consistent with NUREG-1434, Vol. 1, Rev. 3.0 "Standard Technical Specifications, General Electric Plants, BWR/6, Specifications" and NUREG-1434, Vol. 2, Rev. 3.0 "Standard Technical Specifications, General Electric Plants, BWR/6, Bases," June 2004. Therefore, the staff finds the changes to SR 3.1.4.1 and SR 3.1.4.4 acceptable.

### 3.3 TSTF-264, Rev. 0, Delete Flux Monitors Specific Overlap Surveillance Requirements (SRs)

This TSTF describes the NRC-approved changes to SR 3.3.1.1.6 and SR 3.3.1.1.7 from TS 3.3.1.1-1. The overlap requirements for the nuclear instrumentation channels from SR 3.3.1.1.6 and SR 3.3.1.1.7 were moved from the Surveillance section to the Bases Section of SR 3.3.1.1.1. Additionally, these SRs were deleted because it was found that the requirements

of SR 3.3.1.1.6 and SR 3.3.1.1.7 duplicated the requirements of SR 3.3.1.1.1. In addition to the deletion of SRs 3.3.1.1.6 and 3.3.1.1.7, a statement will be added to the Bases of SR 3.3.1.1.1 (neutron flux channel check) to clarify that the overlap verification is to be performed as part of the Channel Check, SR 3.3.1.1.1.

In its submittal, the licensee proposed to delete SR 3.3.1.1.5 and SR 3.3.1.1.6. The licensee also proposed to modify the TS Bases for SR 3.3.1.1 to incorporate the TS Bases changes specified in TSTF-264, Rev. 0.

TSTF-264, Rev. 0, requires a one decade overlap between source range monitors (SRMs) and intermediate range monitors (IRMs). The licensee's initial ISTS states, "Overlap between SRMs and IRMs similarly exists when, prior to withdrawing the SRMs from the fully inserted position, IRMs are above 2/40 on Range 1 before SRMs have reached the upscale rod block." In the proposed amendment, the NRC staff finds that GGNS continues to uphold the previously approved definition of overlap and maintains compliance with the requirement.

The NRC staff finds that the proposed changes are in accordance with NRC-approved TSTF-264, Rev. 0, with no deviations and are consistent with NUREG-1434, Vol. 1, Rev. 3.0 "Standard Technical Specifications, General Electric Plants, BWR/6, Specifications" June 2004. Therefore, the NRC staff finds the changes to SR 3.3.1.1.5, SR 3.3.1.1.6, and TS Table 3.3.1.1-1 acceptable.

3.4 TSTF-275, Rev. 0, Clarify requirements for Diesel Generator (DG) start signal on RPV level - low, low, low during RPV cavity flood-up

The licensee's March 30, 2005, submittal proposed to clarify when ECCS initiation instrumentation was required to be operable by revising a note in TS Table 3.3.5.1-1, "Emergency Core Cooling System Instrumentation," via adoption of NRC-approved TSTF-275.

TSTF-275 was approved on December 21, 1999, and subsequently incorporated into Revision 2 of the standard technical specifications (STS). TSTF-275 clarified a footnote in Table 3.3.5.1-1, which tabulated requirements for ECCS initiation instrumentation, by changing the Note (a) from "When associated subsystems(s) are required to be operable" to "When associated ECCS subsystems(s) are required to be operable per LCO 3.5.2, ECCS-Shutdown" This more-precise phrasing was to prevent misinterpreting the DGs as "associated subsystems" that controlled the instrument availability requirements in Modes 4 and 5. The correct interpretation is that the ECCS instruments need only be operable if the associated ECCS was required by TS LCO 3.5.2.

With respect to this TSTF, the NRC staff finds that the licensee's March 30, 2005, application is consistent with the TSTF. Also, the licensee proposed to revise TS Table 3.3.5.1-1 by addition of the clarification to Note (a) (on pages 1, 2, and 3 of 5; the table is multi-page). The proposed changes are administrative in nature, and do not materially alter the original intent of the original TSs. Accordingly, the proposed changes to TS Table 3.3.5.1-1 are acceptable.

### 3.5 TSTF-276, Rev. 2, Revise DG full load rejection test

Currently, SR 3.8.1.9 requires verification of each DG's capability to reject a load greater than or equal to its associated single largest post accident load and maintenance of the DG engine speed at less than nominal, plus 75% of the difference between nominal speed and the overspeed setpoint or 15% above nominal, whichever is lower. Note 2 requires that if the SR is performed with DG synchronized with offsite power, it shall be performed at a power factor #0.9.

SR 3.8.1.10 currently requires verification that each DG operating at a power factor of #0.9 does not trip and voltage is maintained #5000 Volts during and following a load rejection of a load \$5450 kilowatts (kW) and #5740 kW for DG 11 and DG 12, and \$3300 kW for DG 13. SR 3.8.1.14 currently requires verification of each DG operating at a power factor of #0.9 operates for \$24 hours :

- a. For DG 11 and DG 12 loaded \$5450 kW and #5740 kW; and
- b. For DG 13 :
  - 1. For \$2 hours loaded \$3630 kW, and
  - 2. For the remaining hours of the test loaded \$3300 kW.

In revising SR 3.8.1.9, the licensee is proposing to delete Note 2 and replace with a new Note 2. The new Note 2 would read as follows:

“If performed with the DG synchronized with offsite power, it shall be performed at a power factor #0.9 for DG 11 and DG 13, and #0.89 for DG 12. However, if grid conditions do not permit, the power factor limit is not required to be met. Under this condition the power factor shall be maintained as close to the limit as practicable.”

In revising SR 3.8.1.10, the licensee is proposing to add a new Note 2 and name the existing Note as Note 1. The existing requirement in SR 3.8.1.10, “operating at a power factor #0.9,” is being deleted from the body of the SR, and instead it is being added in the new Note 2, with appropriate modifications. The new Note 2 of SR 3.8.1.10 is the same as Note 2 of SR 3.8.1.9.

In revising SR 3.8.1.14, the licensee is proposing to add a new Note 3. The existing requirement in SR 3.8.1.14, “operating at a power factor #0.9,” is being deleted from the body of the SR, and instead it is being added in the new Note 3, with appropriate modifications. The new Note 3 of SR 3.8.1.14 is the same as Note 2 of SR 3.8.1.9.

In its initial submittal, the licensee stated that when the DG is synchronized to the grid, a power factor of #0.9 is representative of the inductive loading a DG would experience under design basis accident conditions. Therefore a power factor of #0.9 is desired when performing these SRs. The licensee's proposed changes retain the requirement of power factor #0.9 when performing these surveillances but this requirement will be included in the notes for SRs 3.8.1.9, 3.8.1.10, and 3.8.1.14 instead of the body of the SR. Also, the proposed changes

include a provision that the power factor be maintained as close to the limit as practicable when performing these surveillances with the DG synchronized with offsite power.

As stated in its submittals, the licensee's rationale for providing this flexibility in the power factor testing is that if the offsite electrical power distribution system voltage happens to be high at the time these surveillances are performed, increased excitation will be necessary for the DG to match system voltage when synchronizing to the associated Engineered Safeguard Feature (ESF) bus. Once tied to the ESF bus, it may not be possible to increase DG excitation sufficiently to meet the required reactive load value that ensures that the power factor value is met without exceeding the DG excitation system ratings. This reduces the margin available to adjust the reactive kilo-volt-ampere (KVAR) loading on the DG, when operating in parallel with the grid, to the required power factor before maximum current limits of its excitation system are reached.

Further the licensee's submittals state that, if the DG is operating at or near the limits of the excitation system during a test run and a transient or swing in reactive load flow occurs, the capabilities of the DG excitation system will be challenged. Therefore, to ensure that the DG is not placed in an unsafe condition during these surveillances, the licensee, in recognition of this scenario, has proposed to put notes in the TS that under these conditions the required power factor limit does not have to be met when the DG is tied to the grid and that the power factor will be maintained as close to the limit as practicable.

It was not clear to the NRC staff whether the power factor of #0.9 represents the inductive loading that DGs 11, 12, and 13 would experience during the worst case DG loading conditions. In its supplemental letter dated November 21, 2005, with respect to the NRC staff concern regarding calculated power factor for the worst case loading conditions, the licensee stated that a loss of offsite power in conjunction with a LOCA is the worst case anticipated DG loading condition. The calculated power factors under the above loading condition for DGs 11, 12, and 13 are 0.90, 0.89, and 0.92, respectively. Since the calculated power factor for DG 12 is actually 0.89, the licensee has revised the proposed change to read as follows:

"If performed with the DG synchronized with offsite power, it shall be performed at a power factor #0.9 for DG 11 and DG 13 and #0.89 for DG 12. However, if grid conditions do not permit, the power factor limit is not required to be met. Under this condition the power factor shall be maintained as close to the limit as practicable."

Based on the above revision, the NRC staff finds that its concern is resolved.

Also, the licensee, in its supplemental letter dated November 21, 2005, requested that the modified SRs for DG 12 be performed at the next regularly scheduled performance rather than immediately upon implementation of the amendment. The licensee stated that SR 3.0.1 requires SRs to be met in applicable MODES or other specified conditions. Failure to meet the SR either during performance of the surveillance or between surveillance performances constitutes a failure to meet the Limiting Condition for Operation (LCO). The modified SRs are, therefore, required to be met upon amendment implementation unless otherwise specified.

The modified SRs for DG 11 and DG 13 are less restrictive than the current SRs and the power factor limit is not changed. Therefore, these SRs will immediately be met upon amendment implementation without the need to perform the surveillances. However, the modified SRs for DG 12 are slightly more restrictive, due to the reduced power factor limit. Since documentation is not available to confirm that the DG 12 surveillances met the modified requirements during their last performance, the DG 12 surveillances would need to be revised and performed immediately upon amendment implementation. The licensee believes that performance of the DG 12 modified surveillances immediately upon implementation of the amendment is unnecessary.

The licensee stated that the last DG 12 surveillances were performed using procedures that have a power factor limit of #0.90, which is consistent with the current SRs. Performance of the modified surveillances immediately upon implementation of the amendment at the slightly lower power factor limit of #0.89 would be unnecessary because the small difference between the power factor limits does not significantly affect the ability of the surveillances to verify that DG 12 is capable of performing its safety function. In addition, two of the three modified SRs for DG 12 are typically performed during plant refueling outages to avoid the potential for any on-line transients. The amendment is expected to be issued between refueling outages, which would make immediate performance of the modified surveillances impractical. Therefore, the licensee requested that the modified SRs for DG 12 be performed at the next regularly scheduled performance rather than immediately upon implementation of the amendment.

The NRC staff asked the licensee to describe the grid conditions that would not permit the power factor limit to be satisfied and how often these grid conditions are expected to occur in the future. The licensee, in its letter dated November 21, 2005, stated that the use of the Note to allow a slight deviation from the power factor limit during surveillance testing is limited to times when grid conditions do not permit the power factor limit to be met. The primary intent of the allowance is to avoid testing conditions that could be harmful to the bus or to the DG. These conditions have been described in the TS Bases changes contained in TSTF-276 and in Attachment 3 of the licensee's letter dated March 30, 2005. The revised Bases describe two conditions for which the allowance may be applied. The first condition is when grid voltage is high and the additional field excitation needed to meet the power factor limit results in bus voltages that are too high. The second condition is when the excitation levels needed to meet the power factor limit are in excess of those recommended for the DG.

The licensee has not experienced any limitations in meeting the power factor limit during previous surveillances and does not anticipate such limitations in the future. The maximum specified grid voltage is 5% above nominal with a normal expected grid voltage of 2% above nominal. These grid voltages are not expected to limit the ability of the DG to meet the power factor requirement. However, if the two conditions listed above are encountered, it is expected that the allowance of the Note would only be used for power factors in the range of 0.9 to 0.92.

The allowance of the Note is considered to be only a contingency for unexpected circumstances. The licensee understands that the Note is not to be used routinely or used for convenience, and that the surveillances should be scheduled to meet the limit whenever



possible. Since SR 3.8.1.9 and SR 3.8.1.10 are typically performed during refueling outages, the time window for performing the SRs may be limited. However, since the refueling outages are typically scheduled during off-peak seasons when power demand is lower, the licensee does not foresee any grid conditions that would prohibit meeting the power factor limit.

SR 3.8.1.14, the DG 24-hour endurance run, may be performed on-line, which provides more scheduling flexibility to perform the surveillance during favorable grid conditions. However, the licensee noted that even though the power factor may be set below the limit at the start of the 24-hour DG run, grid conditions and the power factor could unexpectedly change during the run. The allowance of the Note may also be applied to unexpected conditions that occur during performance of the surveillance.

In summary, the licensee does not foresee any specific need for use of the Note in the future. The allowance of the Note is considered to be only a contingency for unexpected circumstances. Based on the above, the NRC staff finds that the licensee has adequately addressed the staff's concern.

Based on the review of information in the March 30, 2005, license amendment request and the supplemental letter dated November 21, 2005, the NRC staff finds that running DGs at a power factor as close to the load power factor as practicable, with the excitation current representative of #0.9 power factor for DG 11 and DG13 and #0.89 power factor for DG 12, will adequately detect failures or weaknesses in the regulator and exciter components or field windings due to reactive loading without exceeding excitation system limits. Additionally, the NRC staff finds it acceptable that performance of these modified SRs be at the next regularly scheduled performance rather than immediately upon implementation. This is consistent with the TS changes used for improved TS conversions for modified acceptance criteria. Therefore, the NRC staff finds the licensee's proposed changes to be acceptable.

### 3.6 TSTF-300, Rev. 0, Elimination of DG LOCA-Start SRs while in shutdown when no ECCS is required

Currently, SR 3.8.2.1 lists the Surveillances that are applicable to the alternating current (AC) sources during shutdown. Listed among the applicable Surveillances are SR 3.8.1.12, verification of DG auto-start capability on an ECCS initiation signal, and SR 3.8.1.19, verification of load shedding and DG auto-start on a loss of offsite power signal in conjunction with an ECCS initiation signal.

The licensee proposed to change SR 3.8.2.1 by adding a new Note 2 and naming the existing Note as Note 1. The new Note 2 will eliminate the requirement of verification of DG's auto start capability on an ECCS signal when ECCS are not required to be operable. The new Note 2 would read as follows:

"SR 3.8.1.12 and SR 3.8.1.19 are not required to be met when the associated ECCS subsystem(s) are not required to be OPERABLE per LCO 3.5.2, "ECCS - Shutdown."

The licensee stated in its submission that, according to TS LCO 3.5.2, only two ECCS systems are required to be OPERABLE in MODE 4 and in certain MODE 5 conditions. No ECCS systems are required in MODE 5 when the upper containment pool gates are removed and the reactor cavity is flooded. In such conditions when the ECCS systems are not required to be OPERABLE, the ECCS start functions of the DGs serve no safety significant support function. As such, the SRs that verify the DG capability to respond to an ECCS start signal may be removed from DG OPERABILITY considerations at these times when the ECCS systems are not required to be OPERABLE. Therefore, the proposed change still affords adequate assurance of safety when judged against current regulatory standards.

The change in TSTF-300 is that exceptions are added to the DG SRs for LCO 3.8.2, AC Sources - Shutdown. These exceptions will eliminate the requirement that the DG be capable of responding to ECCS signals (i.e., eliminate the requirement of SR 3.8.1.12 and 3.8.1.19 to be met) while the ECCS subsystems are not required to be OPERABLE.

During shutdown Modes, when the vessel is de-fueled or when the reactor cavity is flooded, the ECCS is not required to be Operable. Therefore, the ECCS-start functions of the DGs serve no safety-significant support function. As such, the SRs that test/prove the DG capability to respond to an ECCS-start signal may be removed from DG OPERABILITY considerations at those times when the ECCS is not required to be Operable. However, prior to entry into Modes 1,2,3, and 4; SR 3.8.1.12 and SR 3.8.1.19 are required to be met in accordance with SR 3.0.4.

On the basis of its review, the NRC staff finds that the proposed changes are less restrictive than current TS requirements. The NRC staff finds that when the ECCS is not required to be OPERABLE, the ECCS start functions of the DGs serve no safety-significant support function and, hence, the proposed change is acceptable. Additionally, the proposed change is consistent with TSTF-300.

### 3.7 TSTF-322, Rev. 2, Secondary Containment Integrity SRs

The licensee's March 30, 2005, submittal proposed to modify Secondary Containment boundary integrity SRs 3.6.4.1.3 and 3.6.4.1.4 by adoption of approved TSTF-322.

TSTF-322 was approved on February 16, 2000, and subsequently incorporated into Revision 2 of the STS. For the BWR/6 STS, the secondary containment boundary integrity SRs were modified to clarify their intent and prevent a possible misinterpretation of the interplay between standby gas treatment (SGT) operability and secondary containment operability surveillances. The secondary containment boundary integrity SRs ensure the secondary containment is operable and the leak tightness of the boundary is within the assumptions of the accident analyses. However, before TSTF-322, the SRs were written in such a manner that they implied that if a SGT subsystem was inoperable, then secondary containment would always fail its SR. To ensure this misinterpretation does not occur, TSTF-322 rephrased several SRs, including SR 3.6.4.1.4 and SR 3.6.4.1.5. The revised SRs say "using one SGT subsystem" perform the



secondary containment vacuum tests instead of "verify each SGT subsystem" can meet the vacuum tests.

The NRC staff finds that the GGNS application, with respect to this TSTF, is consistent with the TSTF, except that both of the GGNS SRs are re-numbered relative to TSTF-322; the proposed GGNS SR 3.6.4.1.3 is equivalent to TSTF-322 SR 3.6.4.1.4, and the proposed GGNS SR 3.6.4.1.4 is the same as TSTF-322 SR 3.6.4.1.5. The NRC staff finds that the renumbering does not preclude use of the TSTF.

The GGNS secondary containment boundary integrity SR 3.6.4.1.3 and SR 3.6.4.1.4 are modified to clarify their intent. The changes are administrative in nature and do not materially alter the original intents of the requirements of the original TS. Accordingly, the proposed changes to the SRs are acceptable.

### 3.8 TSTF-400, Rev. 1, Clarification of SR on bypass of DG automatic trips

Currently, SR 3.8.1.13 requires verification that each DG's automatic trips are bypassed on an actual or simulated ECCS initiation signal except,

- a. Engine overspeed;
- b. Generator differential current; and
- c. Low lube oil pressure for DG 11 and DG 12.

In revising SR 3.8.1.13, the licensee is proposing to verify that each DG's non-critical automatic trips are bypassed on an actual or simulated ECCS initiation signal.

In its submittal, the licensee stated that SR 3.8.1.13 is revised to make the purpose of Surveillance clear. The current SR incorrectly implies that two tests are required: 1) verification that DG non-critical trips are bypassed, and 2) verification that DG critical trips are not bypassed. The proposed changes make it clear that SR 3.8.1.13 is for verification that non-critical automatic trips are bypassed on an actual or simulated ECCS initiation signal.

The licensee further stated that the proposed change clarifies that SR 3.8.1.13 is for verification that non-critical automatic trips are bypassed on an actual or simulated ECCS initiation signal. Branch Technical Position (BTP) Instrumentation and Control System Branch (ICSB)-17, "Diesel Generator Protective Trip Circuit Bypasses," was replaced by the position established in Regulatory Guide (RG) 1.9, "Selection, Design, Qualification, and Testing of Emergency Diesel Generator Units Used as Class 1E Onsite Electric Power Systems at Nuclear Power Plants." Section 2.2.12 of RG 1.9 only requires verification that the non-critical trips (e.g., jacket water temperature high, engine bearing temperature high) are bypassed and does not require verification that the critical trips (e.g., engine over-speed, generator differential current) are not bypassed. This test is intended to verify that the bypass function is OPERABLE so that a spurious actuation of a non-critical trip does not trip the DG during an emergency. Testing to verify that critical DG trips are not bypassed is not required to satisfy the requirements of 10 CFR 50.36(c)(3).

The NRC staff was concerned about not testing DG critical trips. The NRC staff asked the licensee to discuss how the NRC staff can be assured that these critical trips will function (that is, trip the DG when a condition is present in order to avert substantial damage to the DG unit but not trip when a condition is not present) unless these trips are periodically tested. In response to the above concern, in the letter dated November 21, 2005, the licensee stated that per plant procedures, the DG critical trips will be tested at least once every 18 months to ensure proper functioning. In addition, the other more frequent surveillances that require DG operation verify that the trip function is not failed in a manner that would prevent the DG from starting and performing its safety function. Based on the above, the NRC staff's concern is resolved.

The NRC staff finds that this change is consistent with RG 1.9, Section 2.2.12, and DG critical trips will be tested at least once every 18 months per plant procedure. Therefore, this change is acceptable.

### 3.9 TSTF-416, Rev. 0, SR 3.5.1.2 Notation

This TSTF describes the NRC-approved change to LCO 3.5.1, SR 3.5.1.2, LCO 3.5.2, and SR 3.5.2.4. The purpose of this TSTF is to clarify that the low pressure coolant injection (LPCI) subsystems are to be considered operable during alignment and operation for decay heat removal, if capable of being manually realigned and not otherwise inoperable. Specifically, the Note in SR 3.5.1.2, which states, "Low pressure coolant injection (LPCI) subsystems may be considered OPERABLE during alignment and operation for decay heat removal with reactor steam dome pressure less than the residual heat removal [RHR] cut in permissive pressure in MODE 3, if capable of being manually realigned and not otherwise inoperable," is being moved to be a Note in LCO 3.5.1. In addition, the Note in SR 3.5.2.4, which states, "One low pressure coolant injection (LPCI) subsystem may be considered OPERABLE during alignment and operation for decay heat removal, if capable of being manually realigned and not otherwise inoperable," is being moved to be a Note in LCO 3.5.2.

The NRC staff finds that the proposed changes are in accordance with NRC-approved TSTF-416, Rev. 0, with no deviations, and are consistent with NUREG-1434, Vol. 1, Rev. 3.0, "Standard Technical Specifications, General Electric Plants, BWR/6, Specifications," June 2004. Therefore, the NRC staff finds the changes to LCO 3.5.1, SR 3.5.1.2, LCO 3.5.2, and SR 3.5.2.4 acceptable.

### 3.10 Regulatory Commitments

The licensee included regulatory commitments in its March 30, 2005, application, as supplemented by letter dated November 21, 2005. The commitments are listed in the following table.

#### **Regulatory Commitments**

COMMITMENT	TYPE (Check one)		SCHEDULED COMPLETION DATE (If Required)
	ONE- TIME ACTION	CONTINUING COMPLIANCE	
Licensee Application dated March 30, 2005, included the following Commitment:			
A statement will be added to the TS Bases to clarify that the overlap verification is to be performed as part of the CHANNEL CHECK, SR 3.3.1.1.1.	X		Upon implementation of the TS amendment.
Licensee supplemental letter dated November 21, 2005, included the following Commitments:			
Plant procedures will require the DG critical trips to be tested at least once every 18 months to ensure proper functioning.		X	Within 60 days of amendment receipt.
SR 3.8.1.9, SR 3.8.1.10, and SR 3.8.1.14 will be performed and met within the 18 month frequency as measured from the previous performance.	X		Within 18 months from previous performance.

The NRC staff finds that reasonable controls for the implementation and for subsequent evaluation of proposed changes pertaining to the above regulatory commitments are provided by the licensee's administrative processes, including its commitment management program. Should the licensee choose to incorporate a regulatory commitment into the emergency plan, UFSAR, or other documents with established regulatory controls, the associated regulations would define the appropriate change-control and reporting requirements. The NRC staff has determined that the commitments do not warrant the creation of regulatory requirements, which would require prior NRC approval of subsequent changes. The NRC staff has agreed that Nuclear Energy Institute 99-04, Revision 0, "Guidelines for Managing NRC Commitment Changes," provides reasonable guidance for the control of regulatory commitments made to the NRC staff (see Regulatory Issue Summary 2000-17, "Managing Regulatory Commitments Made by Power Reactor Licensees to the NRC Staff," dated September 21, 2000). The commitments should be controlled in accordance with industry guidance or comparable criteria employed by a specific licensee. The NRC staff may choose to verify the implementation and maintenance of these commitments in a future inspection or audit.

#### 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 requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The 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 on May 24, 2005 (70 FR 29791). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

## 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) 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.

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Date: February 1, 2006

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