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

September 12, 2011

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-514, REVISION 3, "REVISE BWR OPERABILITY REQUIREMENTS AND ACTIONS FOR RCS LEAKAGE INSTRUMENTATION" (TAC NO. ME5989)

Dear Sir or Madam:

The Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 187 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 April 6, 2011.

The amendment modifies the TSs to define a new time limit for restoring inoperable reactor coolant system (RCS) leakage detection instrumentation to operable status; establish alternate methods of monitoring RCS leakage when one or more required monitors are inoperable; and make TS Bases changes which reflect the proposed changes and more accurately reflect the contents of the facility design basis related to operability of the RCS leakage detection instrumentation. These changes are consistent with NRC-approved Revision 3 to Technical Specification Task Force (TSTF) Change Traveler TSTF-514, "Revise BWR [Boiling-Water Reactor] Operability Requirements and Actions for RCS Leakage Instrumentation," as part of the consolidated line item improvement process.

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

Docket No. 50-416

Enclosures:
1. Amendment No. 187 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. 187
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 April 6, 2011, 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. 187 are hereby incorporated in the license. Entergy Operations, Inc. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Michael T. Markley, Chief
Plant Licensing Branch IV
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: September 12, 2011

ATTACHMENT TO LICENSE AMENDMENT NO. 187

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-

Technical Specifications

Remove	Insert
3.4-17	3.4-17
3.4-18	3.4-18

(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 10CFR 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 3898 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. 187 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

Amendment No. 187

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Drywell air cooler condensate flow rate monitoring system inoperable.	----------NOTE---------- Not applicable when the required drywell atmospheric monitoring system is inoperable. ---------- C.1 Perform SR 3.4.7.1.	Once per 8 hours
D. Drywell floor drain sump monitoring system inoperable. AND Drywell air cooler condensate flow rate monitoring system inoperable.	-------NOTE---------- Only applicable when the drywell atmospheric gaseous monitoring system is the only OPERABLE monitor. ---------- D.1 Analyze grab samples of the drywell atmosphere. AND D.2 Monitor RCS Leakage by administrative means. AND D.3.1 Restore drywell floor drain sump monitoring system to OPERABLE status. OR D.3.2 Restore drywell air cooler condensate flow rate monitoring system to OPERABLE status.	Once per 12 hours Once per 12 hours 7 days 7 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Required drywell atmospheric monitoring system inoperable. AND Drywell air cooler condensate flow rate monitoring system inoperable.	E.1 Restore required drywell atmospheric monitoring system to OPERABLE status. OR E.2 Restore drywell air cooler condensate flow rate monitoring system to OPERABLE status.	30 days 30 days
F. Required Action and associated Completion Time of Condition A, B, C, D, or E not met.	F.1 Be in MODE 3. AND F.2 Be in MODE 4.	12 hours 36 hours
G. All required leakage detection systems inoperable.	G.1 Enter LCO 3.0.3	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.7.1	Perform CHANNEL CHECK of required drywell atmospheric monitoring system.	12 hours
SR 3.4.7.2	Perform CHANNEL FUNCTIONAL TEST of required leakage detection instrumentation.	31 days
SR 3.4.7.3	Perform CHANNEL CALIBRATION of required leakage detection instrumentation.	18 months

UNITED STATES
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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 187 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 April 6, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML110960351), Entergy Operations, Inc. (Entergy, the licensee), proposed changes to the Technical Specifications (TSs) for Grand Gulf Nuclear Station Unit 1 (GGNS). The proposed changes would revise TS 3.4.7, "RCS [Reactor Coolant System] Leakage Detection Instrumentation," and include TS Bases changes that summarize and clarify the purpose of the TS and the specified safety function of the leakage detection monitors.

Specifically, the amendment would modify the TSs to define a new time limit for restoring inoperable reactor coolant system (RCS) leakage detection instrumentation to operable status; establish alternate methods of monitoring RCS leakage when one or more required monitors are inoperable; and make TS Bases changes which reflect the proposed changes and more accurately reflect the contents of the facility design basis related to operability of the RCS leakage detection instrumentation. These changes are consistent with U.S. Nuclear Regulatory Commission (NRC)-approved Revision 3 to Technical Specification Task Force (TSTF) Change Traveler TSTF-514, "Revise BWR [Boiling-Water Reactor] Operability Requirements and Actions for RCS Leakage Instrumentation." The availability of this TS improvement was announced in the *Federal Register* on December 17, 2010 (75 FR 79048), as part of the consolidated line item improvement process.

2.0 REGULATORY EVALUATION

The NRC's regulatory requirements related to the content of the TSs are contained in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36, "Technical specifications." Pursuant to 10 CFR 50.36, TSs are required to include items in the following five specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) surveillance requirements; (4) design features; and (5) administrative controls. The rule does not specify the particular requirements

to be included in a plant's TSs. The regulations in 10 CFR 50.26(c)(2)(i), "Limiting conditions for operations," state, in part, that

> 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 until the condition can be met.

The regulations in 10 CFR 50.36(c)(2)(ii) list four criteria for determining whether particular items are required to be included in the TS LCOs. Criterion 1 applies to "[i]nstalled instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary." As described in the *Federal Register* notice associated with this regulation (60 FR 36953; July 16, 1995), the scope of TSs includes two general classes of technical matters: (1) those related to prevention of accidents, and (2) those related to mitigation of the consequences of accidents. Criterion 1 addresses systems and process variables that alert the operator to a situation when accident initiation is more likely, and supports the first of these two general classes of technical matters which are included in TS.

The NRC's guidance for the format and content of boiling-water reactor (BWR) TSs can be found in NUREG-1434, Revision 3, "Standard Technical Specifications General Electric Plants, BWR/6" (STS) (ADAMS Accession No. ML041910220). STS 3.4.7, "RCS Leakage Detection Instrumentation," in NUREG-1434, Revision 3, contains the guidance specific to the RCS leakage detection instrumentation for BWRs.

The Bases for STS 3.4.7 contained in NUREG-1434, Revision 3, provide background information, the applicable safety analyses, a description of the LCO, the applicability for the RCS leakage detection instrumentation TS, and describe the Actions and Surveillance Requirements. The TS Bases provide the purpose or reason for the TS which are derived from the analyses and evaluation included in the safety analysis report, and for these Specifications, the RCS leakage detection instrumentation design assumptions and licensing basis for the plant.

As stated in NRC Information Notice (IN) 2005-24, "Nonconservatism in Leakage Detection Sensitivity," dated August 5, 2005 (ADAMS Accession No. ML051780073), the reactor coolant activity assumptions for primary containment/drywell atmosphere gaseous radioactivity monitors may be nonconservative. This means the monitors may not be able to detect a 1-gallon per minute (gpm) leak within 1 hour under all likely operating conditions.

The issue described in IN 2005-24 has raised questions regarding operability requirements for primary containment/drywell atmosphere gaseous radioactivity monitors. TSTF-514, Revision 3, revises the TS Bases to summarize the proposed TS changes and more accurately describe the contents of the facility design basis related to operability of the RCS leakage detection instrumentation. Part of the TS Bases changes revise the specified safety function of the RCS leakage detection monitors to specify the required instrument sensitivity level. In addition, TSTF-514, Revision 3, includes revisions to TS Actions for RCS leakage detection

instrumentation to establish limits for operation during conditions of reduced monitoring sensitivity because of inoperable gaseous radioactivity instrumentation.

The regulations in 10 CFR Part 50, Appendix A, General Design Criterion (GDC) 30, "Quality of reactor coolant pressure boundary," require means for detecting and, to the extent practical, identifying the location of the source of RCS leakage. NRC Regulatory Guide (RG) 1.45, Revision 0, "Reactor Coolant Pressure Boundary Leakage Detection Systems," May 1973, describes acceptable methods of complying the GDC 30 requirements with regard to the selection of leakage detection systems for the reactor coolant pressure boundary (RCPB).

RG 1.45, Revision 0, Regulatory Position C.2, states that,

> Leakage to the primary reactor containment from unidentified sources should be collected and the flow rate monitored with an accuracy of one gallon per minute (gpm) or better.

RG 1.45, Revision 0, Regulatory Position C.3 states that,

> At least three separate detection methods should be employed and two of these methods should be (1) sump level and flow monitoring and (2) airborne particulate radioactivity monitoring. The third method may be selected from the following:
>
> a. monitoring of condensate flow rate from air coolers, [or]
>
> b. monitoring of airborne gaseous radioactivity.
>
> Humidity, temperature, or pressure monitoring of the containment atmosphere should be considered as alarms or indirect indication of leakage to the containment.

RG 1.45, Revision 0, Regulatory Position C.5 states that,

> The sensitivity and response time of each leakage detection system in regulatory position 3. above employed for unidentified leakage should be adequate to detect a leakage rate, or its equivalent, of one gpm in less than one hour.

RG 1.45, Revision 0, "Detector Response Time," states, in part, that,

> In analyzing the sensitivity of leak detection systems using airborne particulate or gaseous radioactivity, a realistic primary coolant radioactivity concentration assumption should be used. The expected values used in the plant environmental report would be acceptable.

The appropriate sensitivity of a plant's primary containment/drywell atmosphere gaseous radioactivity monitors is dependent on the design assumptions and the plant-specific licensing basis as described in the plant's updated final safety analysis report (UFSAR). The NRC staff's approval of the use of expected primary coolant radioactivity concentration values used in the environmental report created a potential licensing conflict when a licensee is able to achieve

and maintain primary coolant radioactivity concentration values lower than the value assumed in the environmental report.

RG 1.45, Revision 1, "Guidance on Monitoring and Responding to Reactor Coolant System Leakage," was issued in May 2008. RG 1.45, Revision 1, describes methods for implementing the GDC 30 requirements that are different from those in RG 1.45, Revision 0, and was developed and issued to support new reactor licensing. Revision 1 allows that having two TS leakage detection methods capable of detecting a 1 gpm leak within 1 hour provides adequate leakage detection capability from a safety perspective. It recommends that other potential indicators (including the gaseous radiation monitors) be maintained even though they may not have the same detection capability. These indicators, in effect, provide additional defense-in-depth.

GGNS UFSAR Section 3.1.2.4.1, "Criterion 30 - Quality of Reactor Coolant Pressure Boundary," states that,

> Components which are part of the reactor coolant pressure boundary shall be designed, fabricated, erected, and tested to the highest quality standards practical. Means shall be provided for detecting and, to the extent practical, identifying the location of the source of reactor coolant leakage.
>
> Discussion
>
> By utilizing conservative design practices and detailed quality control procedures, the pressure retaining components of the reactor coolant pressure boundary are designed and fabricated to retain their integrity during normal and postulated accident conditions. Accordingly, components which comprise the reactor coolant pressure boundary are designed, fabricated, erected, and tested in accordance with recognized industry codes and standards listed in Chapter 5. Further, product and process quality planning was provided in Chapter 17 of the Grand Gulf PSAR [Preliminary Safety Analysis Report] to assure conformance with the applicable code, and standards, and to retain appropriate documented evidence verifying compliance. Because the subject matter of this criterion deals with aspects of the reactor coolant pressure boundary, further discussion on this subject is treated in the response to Criterion 14, Reactor Coolant Pressure Boundary.
>
> Means are provided for detecting reactor coolant leakage. The leak detection system consists of sensors and instruments to detect, annunciate, and in some cases, isolate the reactor coolant pressure boundary from potential hazardous leaks before predetermined limits are exceeded. Small leaks are detected by temperature changes, increased frequency of sump pump operation, and by measuring fission product concentration in the containment atmosphere. In addition to these means of detection, large leaks are detected by changes in flow rates in process lines, and changes in reactor water level. The allowable leakage rates have been based on the predicted and experimentally determined behavior of cracks in pipes, the ability to make up coolant system leakage, the normally expected background leakage due to equipment design, and the detection

> capability of the various sensors and instruments. The total leakage rate limit is established so that, in the absence of normal ac [alternating current] power with loss of feedwater supply, makeup capabilities are provided by the RCIC [reactor core isolation cooling] system. While the leak detection system provides protection from small leaks, the emergency core cooling system network provides protection for the complete range of discharges from ruptured pipes. Thus, protection is provided for the full spectrum of possible discharges.
>
> The reactor coolant pressure boundary and leak detection system are designed to meet the requirements of Criterion 30.

GGNS UFSAR Section 5.2.5.2, "Leak Detection Devices," provides a description of the leakage detection devices associated with the RCPB. GGNS UFSAR Section 5.2.5.1.1, "Detection of Abnormal Leakage within Drywell," states that,

> Leaks within the drywell are detected by monitoring for abnormally high pressure and temperature within the drywell, high levels and fillup rates and long pump-out times of equipment and floor drain sumps, excessive temperature difference between the inlet and outlet cooling water for the drywell coolers, increased flow rate of the cooler condensate, a decrease in the reactor vessel water level, and high levels of fission products in the drywell atmosphere. Temperatures within the drywell are monitored at various elevations. Also, the temperature of the inlet and exit air to the atmosphere is monitored. Excessive temperatures in the drywell, increased drain sump pumping rate, increased cooler condensate flow, and drywell high pressure are annunciated by alarms in the control room and, in certain cases, cause automatic isolation of the containment. In addition, low reactor vessel water level will isolate the main steam lines. The systems within the drywell share a common area; therefore, their leakage detection systems are common. Each of the leakage detection systems inside the drywell is designed with a capability of detecting leakage less than established leakage rate limits.

GGNS UFSAR Section 7.6.2.4.2.1, "Conformance to Regulatory Guides," states, in part, that

> General exceptions to and positions taken on the regulatory guides, and the revision to the guide that is followed, are discussed in Appendix 3A. Specific applications of selected guides to the leak detection system instrumentation and controls are discussed in this subsection....
>
> Regulatory Guide 1.45
>
> The leakage to the drywell from identified sources such as valve stem packing, recirculation pump seals, upper containment pool, head seal, etc. is separated so that containment flow rates are monitored separately from unidentified leakage and total flow rate can be established and monitored. The leakage from the main steam line safety/relief valves is identified leakage because of the location of the sensors which detect this leakage, but the leakage is not completely separated from unidentified sources. Separation of this leakage is not required since any leak from the main steam line safety/relief valves would not be from a crack or

break in the line and would necessitate a plant shutdown for repair, so there would be no identified leakage from the safety/relief valve lines during plant operation which necessitates separation from unidentified leakage.

Major components within the drywell that by nature of their design are sources of leakage (e.g., pump seals, valve stem packing), are contained and piped to the equipment drain sump and thereby identified.

The leakage to the reactor containment from unidentified sources is collected and this flow rate is monitored with a sensitivity of one gallon per minute.

Equipment associated with systems within the drywell (e.g., vessels, piping, fittings) share a common free volume; therefore, their leakage detection systems are common. Steam or water leaks from such equipment are collected ultimately in a floor drain sump.

Each of the sumps is protected against overflowing leaks from one source masking those from another.

The floor drains collecting system is designed to detect leakage in excess of 1 gpm.

The following required detection methods are used to monitor unidentified leakage:

a. Sump level and flow monitoring

b. Airborne particulate radioactivity monitoring

c. Air cooler condensate flow rate monitoring

d. Airborne gaseous radioactivity monitoring

Provisions are made to monitor systems connected to the RCPB for signs of intersystem leakage, including radioactivity monitoring of process fluids (component cooling water and standby service water) and reactor vessel water level monitoring.

The sensitivity of each system for detection of unidentified leakage is one gallon per minute within one hour except for the airborne particulate radioactivity and airborne gaseous activity monitoring channels, which have sensitivities of 10^{-10} $\mu Ci/cm^3$ Cs-137 and 10^{-6} $\mu Ci/cm^3$ for Kr-85, which are at least the sensitivities suggested for these channels by Regulatory Guide 1.45.

The particulate and gaseous radioactivity monitoring channels are qualified for operation following an SSE [Safe Shutdown Earthquake]. The equipment used for drywell floor drain sump level/flow monitoring and drywell air cooler condensate flow rate monitoring are not seismically qualified for an operating basis earthquake (OBE) as specified in Position 6 of NRC Regulatory Guide 1.45. This deviation is acceptable based on the following...

Note that GGNS is not committed to RG 1.45, Revision 1, "Guidance on Monitoring and Responding to Reactor Coolant System Leakage," issued on May 2008.

3.0 TECHNICAL EVALUATION

3.1 Proposed Changes

In adopting the changes to TSS included in TSTF-514, Revision 3, the licensee proposed to revise TS 3.4.7, "RCS Leakage Detection Instrumentation," Conditions and Required Actions. The licensee proposed adding new Condition D to TS 3.4.7, which would state:

---------- NOTE----------
Only applicable when the drywell atmospheric gaseous monitoring system is the only OPERABLE monitor.

D. Drywell floor drain sump monitoring system inoperable.

AND

Drywell air cooler condensate flow rate monitoring system inoperable.

The Required Actions for new Condition D would state:

D.1 Analyze grab samples of the drywell atmosphere.

AND

D.2 Monitor RCS Leakage by administrative means.

AND

D.3.1 Restore drywell floor drain sump monitoring system to OPERABLE status.

OR

D.3.2 Restore drywell air cooler condensate flow rate monitoring system to OPERABLE status.

In addition, the licensee proposed minor changes in TS 3.4.7 to ensure continuity of the TS format. These changes include re-lettering current Condition D, which applies when the drywell floor drain sump monitoring system is the only operable RCS leakage detection instrument, to Condition E, current Condition E, which applies when the required action and the associated Completion Time are not satisfied, to Condition F, and current Condition F, which applies when all required leakage detection systems are inoperable, to Condition G. Similar changes were made to the associated Required Actions.

New Condition D would be applicable when the drywell atmospheric gaseous radiation monitor is the only operable RCS leakage detection monitor. This new Condition is necessary because improved fuel integrity and the resulting lower primary coolant radioactivity concentration affect the response of a plant's drywell atmosphere gaseous radioactivity monitor to a greater extent than the response of other RCS leakage detection monitors to leakage radioactivity. The Completion Time proposed for Required Actions for new Condition D requires that the licensee analyze grab samples of the drywell atmosphere once per 12 hours, restore either the drywell air cooler condensate flow rate monitoring system or the required drywell floor drain sump monitoring system to operable status within 7 days, and monitor RCS leakage by administrative means once per 12 hours.

Administrative means of monitoring RCS leakage include trending parameters that may indicate an increase in RCS leakage. There are diverse alternative methods from which appropriate indicators for identifying RCS leakage may be selected based on plant conditions. Entergy will utilize the following methods considering the current plant conditions and historical or expected sources of unidentified leakage, as their administrative means: drywell pressure, drywell temperature, component cooling water system outlet temperatures, component cooling water system makeup, reactor recirculation system pump seal pressure and temperature, reactor recirculation system pump motor cooler temperatures, drywell cooling fan outlet temperatures, control rod drive system flange temperatures, and/or safety relief valve tailpipe temperature.

3.2 NRC Staff Evaluation

The NRC staff determined that the proposed Condition D is more restrictive than the current requirement, because there is no current TS condition for the plant condition of the drywell atmospheric gaseous radioactivity monitor being the only operable RCS leakage detection monitor. The associated proposed Actions and Completion Times are adequate because monitoring the RCS by administrative means, coupled with drywell atmospheric grab samples, are sufficient to alert the operating staff to an unexpected increase in unidentified leakage. The drywell atmospheric grab samples are comparable to the atmospheric particulate radiation monitor with respect to the ability to detect RCS leakage. However, taking frequent grab samples will ensure there is no significant loss of monitoring capability during the Required Action Completion Time. The 12-hour interval is reasonable given the availability of the drywell atmospheric gaseous radiation monitor. Allowing 7 days to restore another RCS leakage monitor to operable status is reasonable given the diverse methods employed in the Required Actions to detect an RCS leak and the low probability of a large RCS leak during this period. Proposed Condition D is conservative relative to the STS, sufficiently alerts the operating staff, provides a comparable ability to detect RCS leakage, and provides time intervals that are reasonable. Based on the above, the NRC staff concludes that proposed Condition D provides an adequate assurance of safety when judged against current regulatory standards and is, therefore, acceptable.

The licensee proposes minor changes to ensure continuity of the TS format. These changes re-letter current Condition D, which applies when the drywell floor drain sump monitoring system is the only operable RCS leakage detection instrument, to Condition E, current Condition E, which applies when the required action and the associated Completion Time are not satisfied, to Condition F, and current Condition F, which applies when all required leakage detection systems are inoperable, to Condition G. Similar changes were made to the associated

Required Actions. The NRC staff concludes that these changes are editorial and are, therefore, acceptable.

In adopting TSTF-514, Revision 3, the licensee proposed changes that would revise the Bases for TS 3.4.7 to reflect the proposed TS changes and more accurately describe the contents of the facility design basis related to operability of the RCS leakage detection instrumentation and reflect the proposed TS changes. The regulation at 10 CFR 50.36(a)(1) requires a summary statement of the TS Bases or reasons for such specifications be included with the application. The proposed TS Bases changes related to operability of the RCS leakage detection instrumentation are acceptable because they are consistent with the design basis of the facility and provide: background information, applicable safety analyses, a description of the limiting condition for operation, and the applicability for the RCS leakage detection instrumentation TS. These instruments satisfy Criterion 1 of 10 CFR 50.36(c)(2)(ii) in that they are installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the RCPB.

The NRC staff evaluated the licensee's proposed changes against the applicable regulatory requirements listed in Section 2.0 of this safety evaluation. The NRC staff also compared the proposed changes to the changes made to STS by TSTF-514, Revision 3. The NRC staff concludes that all the proposed changes afford adequate assurance of safety when judged against current regulatory standards and are, therefore, acceptable.

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 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 May 3, 2011 (76 FR 24928). 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) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: K Bucholtz

Date: September 12, 2011

September 12, 2011

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-514, REVISION 3, "REVISE BWR OPERABILITY REQUIREMENTS AND ACTIONS FOR RCS LEAKAGE INSTRUMENTATION" (TAC NO. ME5989)

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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/
Alan Wang, Project Manager
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Division of Operating Reactor Licensing
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Docket No. 50-416

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NAME	AWang	JBurkhardt	RElliott*	KRoach	MMarkley	AWang (NKalyanam for)
DATE	8/22/11	8/19/11	6/14/11	9/1/11	9/12/11	9/12/11

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