



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

July 30, 2015

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

SUBJECT: RIVER BEND STATION, UNIT 1 - ISSUANCE OF AMENDMENT REGARDING APPLICATION FOR CHANGE TO TECHNICAL SPECIFICATION 3.8.1, "AC SOURCES – OPERATING" (TAC NO. MF4421)

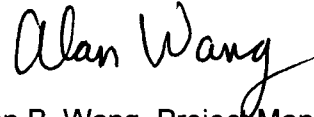
Dear Sir or Madam:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 187 to Facility Operating License No. NPF-47 for the River Bend Station, Unit 1 (RBS). The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated July 9, 2014, as supplemented by letters dated February 24, June 3, and July 16, 2015.

The amendment revises the RBS TSs Surveillance Requirements (SRs) related to the steady state voltage, frequency and test load limits for the emergency diesel generators Diesel Generator (DG) 1A, DG 1B and DG 1C. Specifically, the amendment revises the SR Acceptance Criteria Tolerance Band (ACTB) for TS SRs 3.8.1.2, 3.8.1.3, 3.8.1.7, 3.8.1.10, 3.8.1.11, 3.8.1.12, 3.8.1.14, 3.8.1.15, 3.8.1.19 and 3.8.1.20. The changes will lower the upper bound of the frequency SR ACTB, lower the upper bound of the voltage SR ACTB for DG 1A and DG 1B (existing DG 1C voltage SR ACTB is retained), and raise the lower bound of the test load SR ACTB.

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

Sincerely,

A handwritten signature in black ink that reads "Alan Wang". The signature is written in a cursive style with a long, sweeping tail on the letter "g".

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

Docket No. 50-458

Enclosures:

1. Amendment No. 187 to NPF-47
2. Safety Evaluation

cc w/encls: Distribution via Listserv



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

ENERGY GULF STATES LOUISIANA, LLC

AND

ENERGY OPERATIONS, INC.

DOCKET NO. 50-458

RIVER BEND STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 187
License No. NPF-47

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Entergy Operations, Inc. (the licensee), dated July 9, 2014, as supplemented by letters dated February 24, June 3, and July 16, 2015, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

Enclosure 1

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

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 187 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. EOI shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION



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

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

Date of Issuance: July 30, 2015

ATTACHMENT TO LICENSE AMENDMENT NO. 187

FACILITY OPERATING LICENSE NO. NPF-47

DOCKET NO. 50-458

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

Facility Operating License

<u>Remove</u>	<u>Insert</u>
-3-	-3-

Technical Specifications

<u>Remove</u>	<u>Insert</u>
3.8-5	3.8-5
3.8-6	3.8-6
3.8-7	3.8-7
3.8-8	3.8-8
3.8-9	3.8-9
3.8-10	3.8-10
3.8-11	3.8-11
3.8-12	3.8-12
3.8-13	3.8-13
3.8-14	3.8-14
3.8-15	3.8-15

- (3) EOI, pursuant to the Act and 10 CFR Part 70, to receive, possess and to use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;
- (4) EOI, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (5) EOI, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (6) EOI, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

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

(1) Maximum Power Level

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

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 187 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. EOI shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.1	Verify correct breaker alignment and indicated power availability for each required offsite circuit.	7 days
SR 3.8.1.2	<p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Performance of SR 3.8.1.7 satisfies this SR. 2. All DG starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. 3. A modified DG start involving gradual acceleration to synchronous speed may be used for this SR as recommended by the manufacturer. When modified start procedures are not used, the time, voltage, and frequency tolerances of SR 3.8.1.7 must be met. <p>-----</p> <p>Verify each DG starts from standby conditions and achieves:</p> <ol style="list-style-type: none"> a. For DG 1A and DG 1B, steady state voltage ≥ 3740 V and ≤ 4368 V and frequency ≥ 58.8 Hz and ≤ 60.2 Hz. b. For DG 1C: <ol style="list-style-type: none"> 1. Maximum of 5400 V, and 66.75 Hz, and 2. Steady state voltage ≥ 3740 V and ≤ 4580 V and frequency ≥ 58.8 Hz and ≤ 60.2 Hz. 	31 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.3</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. DG loadings may include gradual loading as recommended by the manufacturer. 2. Momentary transients outside the load range do not invalidate this test. 3. This Surveillance shall be conducted on only one DG at a time. 4. This SR shall be preceded by, and immediately follow, without shutdown, a successful performance of SR 3.8.1.2 or SR 3.8.1.7. <p>-----</p> <p>Verify each DG operates for ≥ 60 minutes at a load ≥ 3050 kW and ≤ 3100 kW for DG 1A and DG 1B, and ≥ 2525 kW and ≤ 2600 kW for DG 1C.</p>	<p>31 days</p>
<p>SR 3.8.1.4</p> <p>Verify each day tank contains ≥ 316.3 gal of fuel oil.</p>	<p>31 days</p>
<p>SR 3.8.1.5</p> <p>Check for and remove accumulated water from each day tank.</p>	<p>31 days</p>
<p>SR 3.8.1.6</p> <p>Verify the fuel oil transfer system operates to automatically transfer fuel oil from the storage tank to the day tank.</p>	<p>31 days</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.7</p> <p>-----NOTE----- All DG starts may be preceded by an engine prelube period.</p> <p>-----</p> <p>Verify each DG starts from standby conditions and achieves:</p> <p>a. For DG 1A and DG 1B:</p> <ol style="list-style-type: none"> 1. In ≤ 10 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz; and 2. Steady state voltage ≥ 3740 V and ≤ 4368 V and frequency ≥ 58.8 Hz and ≤ 60.2 Hz. <p>b. For DG 1C:</p> <ol style="list-style-type: none"> 1. Maximum of 5400 V, and 66.75 Hz, and 2. In ≤ 13 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz; and 3. Steady state voltage ≥ 3740 V and ≤ 4580 V and frequency ≥ 58.8 Hz and ≤ 60.2 Hz. 	<p>184 days</p>
<p>SR 3.8.1.8</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR. 2. SR 3.8.1.8.b is only required to be met if 22 kV onsite circuit is supplying Division III safety related bus E22-S004 from normal power transformer STX-XNS1C. <p>-----</p> <p>a. Verify manual transfer of unit power supply from the normal offsite circuit to required alternate offsite circuit.</p> <p>b. Verify automatic transfer of bus E22-S004 through NNS-SWG1A or NNS-SWG1B from the 22 kV onsite circuit to required offsite circuit.</p>	<p>24 months</p> <p>24 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.9</p> <p>-----NOTE-----</p> <ol style="list-style-type: none"> 1. Credit may be taken for unplanned events that satisfy this SR. 2. If performed with DG synchronized with offsite power, it shall be performed at a power factor ≤ 0.9 <p>-----</p> <p>Verify each DG rejects a load greater than or equal to its associated single largest post accident load and following load rejection, the engine speed is maintained less than nominal plus 75% of the difference between nominal speed and the overspeed trip setpoint or 15% above nominal, whichever is lower.</p>	<p>24 months</p>
<p>SR 3.8.1.10</p> <p>-----NOTE-----</p> <p>Credit may be taken for unplanned events that satisfy this SR.</p> <p>-----</p> <p>Verify each DG operating at a power factor ≤ 0.9 does not trip and voltage is maintained ≤ 4784 V for DG 1A and DG 1B and ≤ 5400 V for DG 1C during and following a load rejection of a load ≥ 3050 kW and ≤ 3130 kW for DGs 1A and 1B and ≥ 2525 kW and ≤ 2600 kW for DG 1C.</p>	<p>24 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.11</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1, 2, or 3. (Not applicable to DG 1C) However, credit may be taken for unplanned events that satisfy this SR. <p>-----</p> <p>Verify on an actual or simulated loss of offsite power signal:</p> <ol style="list-style-type: none"> a. De-energization of emergency buses; b. Load shedding from emergency buses for Divisions I and II; and c. DG auto-starts from standby condition and: <ol style="list-style-type: none"> 1. energizes permanently connected loads in ≤ 10 seconds for DG 1A and DG 1B and ≤ 13 seconds for DG 1C, 2. energizes auto-connected shutdown loads, 3. maintains steady state voltage <ol style="list-style-type: none"> i. for DG 1A and DG 1B ≥ 3740 V and ≤ 4368 V, ii. for DG 1C ≥ 3740 V and ≤ 4580 V 4. maintains steady state frequency ≥ 58.8 Hz and ≤ 60.2 Hz, and 5. supplies permanently connected and auto-connected shutdown loads for ≥ 5 minutes. 	<p>24 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.12</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1 or 2. (Not applicable to DG 1C) However, credit may be taken for unplanned events that satisfy this SR. <p>-----</p> <p>Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each DG auto-starts from standby condition and:</p> <ol style="list-style-type: none"> a. For DG 1C during the auto-start maintains voltage ≤ 5400 V and frequency ≤ 66.75 Hz; b. In ≤ 10 seconds for DG 1A and DG 1B and ≤ 13 seconds for DG 1C after auto-start and during tests, achieves voltage ≥ 3740 V and frequency ≥ 58.8 Hz. c. Achieves steady state voltage <ol style="list-style-type: none"> 1. For DG 1A and DG 1B ≥ 3740 V and ≤ 4368 V, 2. For DG 1C ≥ 3740 V and ≤ 4580 V, and 3. For DG 1A, 1B, and 1C, frequency of ≥ 58.8 and ≤ 60.2 Hz; and d. Operates for ≥ 5 minutes. 	<p>24 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.13</p> <p>-----NOTE----- This Surveillance shall not be performed in MODE 1, 2, or 3. (Not applicable to DG 1C) However, credit may be taken for unplanned events that satisfy this SR. -----</p> <p>Verify each DG's automatic trips are bypassed on an actual or simulated ECCS initiation signal except:</p> <ul style="list-style-type: none"> a. Engine overspeed; and b. Generator differential current. 	<p>24 months</p>
<p>SR 3.8.1.14</p> <p>-----NOTES-----</p> <ul style="list-style-type: none"> 1. Momentary transients outside the load and power factor ranges do not invalidate this test. 2. Credit may be taken for unplanned events that satisfy this SR. <p>-----</p> <p>Verify each DG operating at a power factor ≤ 0.9, operates for ≥ 24 hours:</p> <ul style="list-style-type: none"> a. For DG 1A and DG 1B loaded ≥ 3050 kW and ≤ 3130 kW; and b. For DG 1C: <ul style="list-style-type: none"> 1. For ≥ 2 hours loaded ≥ 2750 kW and ≤ 2850 kW, and 2. For the remaining hours of the test loaded ≥ 2525 kW and ≤ 2600 kW. 	<p>24 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.15 -----NOTES-----</p> <ol style="list-style-type: none"> 1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated ≥ 1 hour loaded ≥ 3050 kW and ≤ 3100 kW for DG 1A and DG 1B, and ≥ 2525 kW and ≤ 2600 for DG 1C, or operating temperatures have stabilized, which ever is longer. Momentary transients outside of the load range do not invalidate this test. 2. All DG starts may be preceded by an engine prelube period. <p>-----</p> <p>Verify each DG starts and achieves:</p> <ol style="list-style-type: none"> 1. In ≤ 10 seconds for DG 1A and DG 1B and ≤ 13 seconds for DG 1C voltage ≥ 3740 V and frequency ≥ 58.8 Hz, and 2. Steady state voltage <ol style="list-style-type: none"> a) For DG 1A and DG 1B ≥ 3740 V and ≤ 4368 V b) For DG 1C ≥ 3740 V and ≤ 4580 V and c) For DG 1A, 1B, and 1C frequency ≥ 58.8 Hz and ≤ 6460.2 Hz. 	<p>24 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.16</p> <p>-----NOTE----- This Surveillance shall not be performed in MODE 1, 2, or 3. (Not applicable to DG 1C) However, credit may be taken for unplanned events that satisfy this SR.</p> <p>-----</p> <p>Verify each DG:</p> <ul style="list-style-type: none"> a. Synchronizes with offsite power source while loaded with emergency loads upon a simulated restoration of offsite power; b. Transfers loads to offsite power source; and c. Returns to ready-to-load operation. 	<p>24 months</p>
<p>SR 3.8.1.17</p> <p>-----NOTE----- This Surveillance shall not be performed in MODE 1, 2, or 3. (Not applicable to DG 1C) However, credit may be taken for unplanned events that satisfy this SR.</p> <p>-----</p> <p>Verify, with a DG operating in test mode and connected to its bus, an actual or simulated ECCS initiation signal overrides the test mode by:</p> <ul style="list-style-type: none"> a. Returning DG to ready-to-load operation; and b. Automatically energizing the emergency loads from offsite power. 	<p>24 months</p>
<p>SR 3.8.1.18</p> <p>-----NOTE----- This Surveillance shall not be performed in MODE 1, 2, or 3. (Not applicable to DG 1C) However, credit may be taken for unplanned events that satisfy this SR.</p> <p>-----</p> <p>Verify sequence time is within $\pm 10\%$ of design for each load sequencer timer.</p>	<p>24 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.19</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1, 2, or 3. (Not applicable to DG 1C) However, credit may be taken for unplanned events that satisfy this SR. <p>-----</p> <p>Verify, on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ECCS initiation signal:</p> <ol style="list-style-type: none"> a. De-energization of emergency buses; b. Load shedding from emergency buses for Divisions I and II; and c. DG auto-starts from standby condition and: <ol style="list-style-type: none"> 1. energizes permanently connected loads in ≤ 10 seconds for DG 1A and DG 1B and ≤ 13 seconds for DG 1C, 2. energizes auto-connected emergency loads, 3. achieves steady state voltage <ol style="list-style-type: none"> i. for DG 1A and DG 1B ≥ 3740 V and ≤ 4368 V, ii. for DG 1C ≥ 3740 V and ≤ 4580 V, 4. achieves steady state frequency ≥ 58.8 Hz and ≤ 60.2 Hz, and 5. supplies permanently connected and auto-connected emergency loads for ≥ 5 minutes. 	<p>24 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.20</p> <p>-----NOTE----- All DG starts may be preceded by an engine prelube period. -----</p> <p>Verify, when started simultaneously from standby condition, each DG achieves:</p> <ol style="list-style-type: none"> 1. In ≤ 10 seconds for DG 1A and DG 1B and ≤ 13 seconds for DG 1C voltage ≥ 3740 V and frequency ≥ 58.8 Hz, and 2. Steady state voltage <ol style="list-style-type: none"> a) For DG 1A and DG 1B ≥ 3740 V and ≤ 4368 V, b) For DG 1C ≥ 3740 V and ≤ 4580 V, and c) For DG 1A, 1B, and 1C a frequency ≥ 58.8 Hz and ≤ 60.2 Hz. 	<p>10 years</p>



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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-47

ENTERGY OPERATIONS, INC.

RIVER BEND STATION, UNIT 1

DOCKET NO. 50-458

1.0 INTRODUCTION

By application dated July 9, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14212A396), as supplemented by letters dated February 24, June 3, and July 16, 2015 (ADAMS Accession No. ML15168A234, ML15159A190, and ML15211A377, respectively), Entergy Operations, Inc. (the licensee), requested changes to the Technical Specifications (TSs) for the River Bend Station, Unit 1 (RBS). The supplements dated February 24, June 3, and July 16, 2015, 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 November 12, 2014 (79 FR 67201).

The proposed changes would revise the RBS TSs Surveillance Requirements (SRs) related to the steady state voltage, frequency and test load limits for the emergency diesel generators (EDGs) Diesel Generator (DG) 1A, DG 1B and DG 1C. Specifically, the amendment revises the SR Acceptance Criteria Tolerance Band (ACTB) for TS SRs 3.8.1.2, 3.8.1.3, 3.8.1.7, 3.8.1.10, 3.8.1.11, 3.8.1.12, 3.8.1.14, 3.8.1.15, 3.8.1.19 and 3.8.1.20. The changes will lower the upper bound of the frequency SR ACTB, lower the upper bound of the voltage SR ACTB for DG 1A and DG 1B (existing DG 1C voltage SR ACTB is retained), and raise the lower bound of the test load SR ACTB.

2.0 REGULATORY EVALUATION

The following were used by the U.S. Nuclear Regulatory Commission (NRC) staff to review this license amendment request (LAR):

General Design Criterion (GDC) 17, "Electric power systems," of Appendix A, "General Design Criteria for Nuclear Power Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, requires, in part, that nuclear plants have an offsite and onsite electric power system to permit functioning of structures, systems, and components important to safety. "The safety function for each system... shall be to provide sufficient capacity and capability to assure that

(1) specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded as a result of anticipated operational occurrences and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents.” Offsite power is required to be supplied by two physically independent circuits that 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. In addition, this criterion requires provisions to minimize the probability of losing electric power from the remaining electric power supplies as a result of, or coincident with, the loss of power generated by the nuclear power unit, or loss of power from the offsite transmission network, or the onsite power supplies.

GDC 18, “Inspection and testing of electric power systems,” requires, in part, that electric power systems important to safety shall be designed with a capability to periodically test the full operation sequence that brings the systems into operation, including operation of applicable portions of the protection system, and the transfer of power among the nuclear power unit, the offsite power system, and the onsite power system.

The regulations in 10 CFR Section 50.36, “Technical specifications,” require that TSs shall be included by applicants for a license authorizing operation of a production or utilization facility. The TS must include items in five specific categories related to station operation, as required by 10 CFR 50.36(c). These categories are (1) safety limits, limiting safety system settings, and limiting control settings, (2) limiting condition of operations, (3) SRs, (4) design features, and (5) administrative controls. The proposed changes to the TSs discussed in this safety evaluation are within the SRs category. As stated in 10 CFR 50.36(c)(3), SRs are “requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met.”

NRC Regulatory Guide (RG) 1.9, Selection, Design, and Qualification of Diesel-Generator Units Used as Standby (Onsite) Electric Power Systems at Nuclear Power Plants, Revision 2, dated December 1979 (ADAMS Accession No. ML12305A253), describes a method acceptable to the NRC staff for complying with the Commission’s regulations with regard to design and testing of onsite EDG. The LAR states that the licensee used RG 1.9, Revision 2 as a guidance document, however, requirements for EDG slow starts were clarified in RG 1.9, Application and Testing of Safety-Related Diesel Generators in Nuclear Power Plants, Revision 4, dated March 2007 (ADAMS Accession No. ML070380553). The NRC staff used sections of Revision 4 to review this LAR in areas where no guidance was previously available.

3.0 TECHNICAL EVALUATION

3.1 RBS Electrical Power Sources

The offsite and onsite power systems at RBS are designed to comply with the requirements of GDC 17 and GDC 18. The RBS alternating current (AC) electrical power sources consist of three EDGs that constitute the onsite standby Class 1E power sources and two offsite power sources. The RBS has two standby EDGs (DG 1A and DG 1B) that provide power to the emergency 4.16-kV (kilovolt) buses and a high pressure core spray (HPCS) EDG (DG 1C). The Class 1E AC distribution system supplies electrical power to three divisional load groups, with each division powered by an independent Class 1E engineered safety feature (ESF) bus. Each

bus has two separate and independent offsite sources of power and a dedicated onsite EDG. 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.

The onsite standby power source for each ESF bus is a dedicated EDG that starts automatically on a loss-of-coolant accident (LOCA) signal or an ESF bus degraded voltage or undervoltage signal. The onsite AC emergency power system has the required redundancy; meets the single-failure criterion; is testable; and has the capacity, capability, and reliability to supply power to all required safety loads. According to the RBS Updated Safety Analysis Report (USAR), the standby diesel generators DG1A and DG1B are manufactured by Transamerica Delaval, Inc., and have a continuous rating of 3500 kiloWatts (kW) and a 2 hour rating of 3850 kW. However, special requirements are imposed by the facility operating license for continuous operation of these two standby diesels above 3130 kW.

Standby diesel generator DG 1C supplies the HPCS Power Supply System and has a Stewart and Stevenson EMD 20645-E4 engine with a continuous 2,000-hour duty rating of 2850 kW. The HPCS EDG starts automatically on a LOCA signal from the plant protection system or undervoltage on the HPCS 4.16-kV bus and will be automatically connected to the HPCS bus when the plant preferred AC power supply is not available.

3.2 Proposed TS Changes

In its letters dated July 9, 2014, February 24, and July 16, 2015, the licensee proposed to revise the RBS TS SRs as follows:

Current SR 3.8.1.2.a states:

- a. For DG 1A and DG 1B, steady state voltage ≥ 3740 V [Volt] and ≤ 4580 V and frequency ≥ 58.8 Hz [Hertz] and ≤ 61.2 Hz

Revised SR 3.8.1.2.a would state:

- a. For DG 1A and DG 1B, steady state voltage ≥ 3740 Volt (V) and ≤ 4368 V, and frequency ≥ 58.8 Hz and ≤ 60.2 Hz .

Current SR 3.8.1.2.b.2 states:

- b. For DG 1C:
 2. Steady state voltage ≥ 3740 V and ≤ 4580 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.

Revised SR 3.8.1.2.b.2 would state:

- b. For DG 1C:
 2. Steady state voltage ≥ 3740 V and ≤ 4580 V and frequency ≥ 58.8 Hz and ≤ 60.2 Hz.

Current SR 3.8.1.3 states:

Verify each DG operates for ≥ 60 minutes at a load ≥ 3000 kW and ≤ 3100 kW for DG 1A and DG 1B, and ≥ 2500 kW and ≤ 2600 kW for DG 1C.

Revised SR 3.8.1.3 would state:

Verify each DG operates for ≥ 60 minutes at a load ≥ 3050 kW and ≤ 3100 kW for DG 1A and DG 1B, and ≥ 2525 kW and ≤ 2600 kW for DG 1C.

Current SR 3.8.1.7.a.2 states:

a. For DG 1A and DG 1B:

2. Steady state voltage ≥ 3740 V and ≤ 4580 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.

Revised SR 3.8.1.7.a.2 would state:

a. For DG 1A and DG 1B:

- 2 Steady state voltage ≥ 3740 V and ≤ 4368 V and frequency ≥ 58.8 Hz and ≤ 60.2 Hz.

Current SR 3.8.1.7.b.3 states:

b. For DG 1C:

3. Steady state voltage ≥ 3740 V and ≤ 4580 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.

Revised SR 3.8.1.7.b.3 would state:

b. For DG 1C:

3. Steady state voltage ≥ 3740 V and ≤ 4580 V and frequency ≥ 58.8 Hz and ≤ 60.2 Hz.

Current SR 3.8.1.10 states:

Verify each DG operating at a power factor ≤ 0.9 does not trip and voltage is maintained ≤ 4784 V for DG 1A and DG 1B and ≤ 5400 V for DG 1C during and following a load rejection of a load ≥ 3030 kW and ≤ 3130 kW for DGs 1A and 1B and ≥ 2500 kW and ≤ 2600 for DG 1C.

Revised SR 3.8.1.10 would state:

Verify each DG operating at a power factor ≤ 0.9 does not trip and voltage is maintained ≤ 4784 V for DG 1A and DG 1B and ≤ 5400 V for DG 1C during and following a load rejection of a load ≥ 3050 kW and ≤ 3130 kW for DGs 1A and 1B and ≥ 2525 kW and ≤ 2600 kW for DG 1C.

Current SR 3.8.1.11.c.3 states:

- c. DG auto-starts from standby condition and:
 - 3. maintains steady state voltage ≥ 3740 V and ≤ 4500 V,

Revised SR 3.8.1.11.c.3 would state:

- c. DG auto-starts from standby condition and:
 - 3. maintains steady state voltage
 - i. for DG 1A and DG 1B ≥ 3740 V and ≤ 4368 V,
 - ii. for DG 1C ≥ 3740 V and ≤ 4580 V

Current SR 3.8.1.11.c.4 states:

- c. DG auto-starts from standby condition and:
 - 4. maintains steady state frequency ≥ 58.8 and ≤ 61.2 Hz, and

Revised SR 3.8.1.11.c.4 would state:

- c. DG auto-starts from standby condition and:
 - 4. maintains steady state frequency ≥ 58.8 and ≤ 60.2 Hz, and

Current SR 3.8.1.12.c states:

- c. Achieves steady state voltage ≥ 3740 V and ≤ 4580 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz; and

Revised SR 3.8.1.12.c would state:

- c. Achieves steady state voltage
 - 1. For DG 1A and DG 1B ≥ 3740 V and ≤ 4368 V,
 - 2. For DG 1C ≥ 3740 V and ≤ 4580 V, and
 - 3. For DG 1A, 1B, and 1C, frequency of ≥ 58.8 and ≤ 60.2 Hz; and

Current SR 3.8.1.14.a states:

- a. For DG 1A and DG 1B loaded ≥ 3030 kW and ≤ 3130 kW; and

Revised SR 3.8.1.14.a would state:

- a. For DG 1A and DG 1B loaded ≥ 3050 kW and ≤ 3130 kW; and

Current SR 3.8.1.14.b.2 states:

- b. For DG 1C:
 2. For the remaining hours of the test loaded ≥ 2500 kW and ≤ 2600 kW.

Revised SR 3.8.1.14.b.2 would state:

- b. For DG 1C:
 2. For the remaining hours of the test loaded ≥ 2525 kW and ≤ 2600 kW.

Current SR 3.8.1.15, Note 1, states:

- Note 1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated ≥ 1 hour loaded ≥ 3000 kW and ≤ 3100 kW for DG 1A and DG 1B, and ≥ 2500 kW and ≤ 2600 for DG 1C, or operating temperatures have stabilized, which ever is longer.

Revised SR 3.8.1.15, Note 1, would state:

- Note 1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated ≥ 1 hour loaded ≥ 3050 kW and ≤ 3100 kW for DG 1A and DG 1B, and ≥ 2525 kW and ≤ 2600 for DG 1C, or operating temperatures have stabilized, which ever is longer.

Current SR 3.8.1.15.2 states:

2. Steady state voltage ≥ 3740 V and ≤ 4580 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.

Revised SR 3.8.1.15.2 would state:

2. Steady state voltage
 - a) For DG 1A and DG 1B ≥ 3740 V and ≤ 4368 V
 - b) For DG 1C ≥ 3740 V and ≤ 4580 V, and
 - c) For DG 1A, 1B, and 1C frequency ≥ 58.8 Hz and ≤ 60.2 Hz.

Current SR 3.8.1.19.c.3 states:

3. achieves steady state voltage ≥ 3740 V and ≤ 4580 V,

Revised SR 3.8.1.19.c.3 would state:

3. achieves steady state voltage
 - i. for DG 1A and DG 1B ≥ 3740 V and ≤ 4368 V
 - ii. for DG 1C ≥ 3740 V and ≤ 4580 V,

Current SR 3.8.1.19.c.4 states:

4. achieves state frequency ≥ 58.8 Hz and ≤ 61.2 Hz, and

Revised SR 3.8.1.19.c.4 would state:

4. achieves state frequency ≥ 58.8 Hz and ≤ 60.2 Hz, and

Current SR 3.8.1.20.2 states:

2. Steady state voltage ≥ 3740 V and ≤ 4580 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.

Revised SR 3.8.1.20.2 would state:

2. Steady state voltage
 - a) For DG 1A and DG 1B ≥ 3740 V and ≤ 4368 V,
 - b) For DG 1C ≥ 3740 V and ≤ 4580 V, and
 - c) For DG 1A, 1B, and 1C frequency ≥ 58.8 Hz and ≤ 60.2 Hz.

The LAR proposes more restrictive steady state voltage and frequency limits and test loads for the EDGs. The allowable voltage range would be revised to within plus 5 percent and minus 10 percent of the nominal safety-related bus voltage of 4160V for DG 1A and DG 1B.

The allowable voltage range for DG 1C would not change and is within 10 percent or minus 10 percent of the nominal safety-related bus voltage of 4160V. The frequency range would be revised to plus 0.8 percent or minus 1.5 percent tolerance band around the nominal frequency of 60 Hz for starts of the EDGs 1A and 1B and plus 0.3 percent minus 2 percent for DG 1C.

3.3 EVALUATION

3.3.1 Licensee Evaluation

The licensee evaluated the consequences of EDG operation at the extremes of the proposed frequency limits on safe shutdown equipment. In the LAR dated July 9, 2014, Section 3.2.1, "DG 1A and DG 1B Technical Evaluation," the licensee stated in part:

The new frequency nominal setpoint and upper limit have been evaluated, and no adverse effects have been identified with respect to the performance of the EDGs, EDG loads, mission time, or affected equipment. The engineering evaluation demonstrated that a decrease in EDG nominal frequency of 0.3 Hz

(from 60 Hz to 59.7 Hz) would not prevent the safety related equipment from performing their design functions. Additionally, safety related motor operated valves would not exceed their maximum allowed stroke times if the EDG nominal frequency was reduced by 0.3 Hz, because the allowed stroke times are based on the minimum SR ACTB, which remains unchanged at 58.8 Hz.

Since the standby diesel generator nominal frequency is being reduced (from 60 Hz to 59.7 Hz), the "ready to load" speed setpoint above which the DG output breaker will close has been verified to be below the new nominal frequency of the generator set. ... Therefore, the EDG sets will be able to start and load at the new nominal frequency setpoint of 59.7 Hz.

In the LAR dated July 9, 2014, Section 3.2.2, "DG 1C Technical Evaluation," the licensee stated in part:

Historical Plant Data System (PDS) frequency data for DG 1C surveillance tests from August through December of 2012 indicate that DG 1C starts and settles in at a steady state frequency of approximately 59.9 Hz.

Combining the setpoint, 60.0 Hz, with the governor tolerance band (+/- 0.15 Hz) yields a bounding range of 59.85 Hz to 60.15 Hz, which is within the SR ACTB of 58.8 Hz to 60.2 Hz....

The licensee evaluated the consequences of EDG operation at the extremes of the proposed voltage limits on safe shutdown equipment. In the LAR dated July 9, 2014, Section 3.3.1, "DG 1A and DG 1B Technical Evaluation," the licensee stated in part:

The voltage regulators are capable of maintaining the voltage within +/- 0.5% (+/- 21 V). The total loop uncertainty, including an allowance for meter reading is +/- 105 V. Combining the nominal voltage, 4160 V, with the regulator control (+/- 21 V) and total loop uncertainty (+/- 105 V), yields a range of 4034 V to 4286 V, which is within the SR ACTB of 3740 V to 4368 V.

In the LAR dated July 9, 2014, Section 3.3.2, "DG 1C Technical Evaluation," the licensee stated:

The DG 1C voltage SR ACTB is retained unchanged. Therefore, a technical evaluation is not required.

The licensee evaluated the consequences of EDG operation at the extremes of the allowable frequency and voltage on EDG loading criteria and concluded that the test load has to be increased. In the LAR dated July 9, 2014, Section 3.4.1, "DG 1A, DG 1B Technical Evaluation," the licensee stated, in part:

One result of increasing the minimum SR test load is to narrow the margin to the operating limit, 3130 kW indicated, from 130 kW (currently 3000 kW to 3130 kW) to 80 kW (proposed 3050 kW to 3130 kW). However, the 80 kW allowance is sufficient to ensure that controls currently in place can maintain the SR test load runs below the operating limit of 3130 kW indicated.

In the LAR dated July 9, 2014, Section 3.4.2, "DG 1C Technical Evaluation," the licensee stated, in part:

One result of increasing the minimum SR test load is to narrow the margin to the 2000 hr rating, 2850 kW indicated, from 350 kW (currently 2500 kW to 2600 kW) to 325 kW (proposed 2525 kW to 2850 kW). However, the 325 kW allowance is more than sufficient to ensure that controls currently in place can maintain the SR test load runs below the 2000 hour limit of 2850 kW indicated.

The licensee stated that the "increases in the minimum EDG SR test loads do not affect the EDG capability to accept the loads in the accident analysis."

The RBS USAR, Section 8.3, "Offsite Power Systems," states that the diesel generators are sized to accept full standby requirements and to ensure frequency and voltage stability during starting periods in accordance with RG 1.9, except for the HPCS diesel. RG 1.9, Position 4 Conformance: The design function of the HPCS diesel generator unit is considered to be a justifiable departure from strict conformance to RG 1.9, regarding voltage and frequency limits during the initial loading transient. The HPCS diesel generator loads consist of one large pump and motor combination (approximately 2,500 horsepower (hp)), one medium size pump (450 hp), and other miscellaneous loads; consequently, limiting the momentary voltage drop to 25 percent and the momentary frequency drop to 5 percent would not significantly enhance the reliability of HPCS operation.

3.3.2 NRC Evaluation

By e-mail dated January 20, 2015 (ADAMS Accession No. ML15020A465), the NRC staff issued a request for additional information (RAI) to clarify information provided in the LAR. The licensee provided responses to the 8 questions in this RAI by letter dated February 24, 2015 (ADAMS Accession No. ML15168A234). In RAI, Question 1, the NRC staff asked the licensee to clarify whether the minimum test load steady state SR ACTB loading for DG 1C was 2525 kW or 2530 kW because there was an inconsistency in pages of the LAR and the markups provided. In response to this RAI, the licensee indicated that the correct value was 2525 kW and provided the revised markup pages. Therefore, the NRC staff concludes that the response is acceptable because the licensee provided the correct steady state load value for DG 1C.

Section 2.3 of the LAR dated July 9, 2014, states in part that a NRC Component Design Basis Inspection (CDBI) identified that the "EDG electrical load calculations did not account for the EDG frequency variation and, therefore, did not provide for the maximum expected load conditions." In RAI, Question 4, the NRC staff asked the licensee to confirm that the proposed minimum loading for DGs 1A, 1B (3050 kW) and 1C (2525 kW) envelope the maximum postulated loads on the respective DGs if they were operating at the proposed extremes of the allowable voltage and frequency during a design bases accident. By letter dated February 24, 2015, the licensee provided a response to RAI Question 4, and stated that "the CDBI finding was documented in the River Bend corrective action program. As part of the corrective actions, the station diesel loading calculations were revised. The conclusions of the revised calculations confirm that the proposed minimum loading for the diesel generators envelop the maximum postulated loads on the respective DGs if they were operating at the proposed extremes of allowable voltage and frequency during a design basis accident." By e-mail dated May 4, 2015 (ADAMS Accession No. ML15124A793), the NRC staff requested supplemental information

about the documentation in the corrective action program. By letter dated June 3, 2015 (ADAMS Accession No. ML15159A190), the licensee provided the corrective action program information for NRC staff review. Based on the information provided by the licensee, the NRC staff concludes that the licensee had corrected EDG loading calculations to support the EDG operation at the allowable voltage and frequency range and concluded that the response is acceptable.

In RAI, Question 5, the NRC staff asked the licensee to confirm whether the updated EDG loading requirements will be included in the RBS USAR as stated in RBS LAR dated July 9, 2014, Section 2.1. By letter dated February 24, 2015, the licensee stated that the affected RBS USAR pages were updated as a result of the updated EDG loading requirements but did not provide the markup pages. By e-mail dated May 4, 2015, the staff requested that the licensee provide the USAR pages. By letter dated June 3, 2015, the licensee provided a copy of the marked up pages of the USAR. Based on its reviewed USAR markups provided, the NRC staff concludes that the updated EDG loading requirements are included in the RBS USAR, and that the RAI response is acceptable.

In RAI, Question 6, the NRC staff asked the licensee to confirm that the voltage and frequency transient observed during a large motor start does not adversely impact any operating loads with the bus voltage and frequency at the minimum allowable values for DG 1C. In response to RAI Question 6 by letter dated February 24, 2015, the licensee stated in part the following:

...HPCS diesel generator loads consist of one large pump and motor combination (approximately 2,500 HP), one medium size pump (450 hp), and other miscellaneous loads. The HPCS motor was tested with a reduced LRC [locked rotor current] voltage of 1830 (46%) and the reduced voltage LRC was 875.1 (111%) amps. The HPCS pump motor is capable of starting and accelerating load at 75% terminal voltage (3000V) applied. The 58.8Hz is 98% which is within the normal 5% frequency tolerance for induction motors. The service water pump [450 hp] was purchased with a requirement for starting and accelerating the driven equipment with 70% of motor nameplate voltage at the motor terminals.

The largest motor, 2500 HP is immediately loaded on the bus as soon as the diesel output breaker closes when the generator reaches rated voltage and speed. Review of the most recent ECCS [emergency core cooling system] LOCA Test for the HPCS diesel shows that the initial voltage transient envelopes the minimum allowable values. The voltage and frequency recover in less time than the voltage transient analyzed in the degraded voltage calculation, since multiple divisions are acting on the off-site source at the same time. During degraded voltage conditions the lower analytical limit for the Division III bus is 3650 V which is lower than the 3740 V minimum steady state voltage for the division III bus when connected to the grid. The degraded voltage calculation evaluates the operation of MOVs [motor operated valves] at the lower voltage and during a large motor starting transient.”

Based on the licensee response, the NRC staff concludes that the frequency and voltage transients associated with the starting of large motor powered from DG 1C will not adversely

impact other operating equipment at the minimum allowed voltage and frequency values and therefore the licensee's response is acceptable.

In RAI, Question 7a, the NRC staff asked the licensee to explain the impact of EDGs operating at the lower end of allowable frequency on flow rates for critical pumps assumed in accident analysis. In response to RAI, Question 7a, by letter dated February 24, 2015, the licensee explained that the core cooling analysis was reviewed and determined that the low pressure core spray pump and residual heat removal pumps have a flow margin greater than 10%. The diesel generator operation at 58.8 Hz was evaluated in an Engineering Change package. By e-mail dated May 4, 2015, the staff requested that the licensee provide the relative Engineering Change package information associated with this amendment. By letter dated June 3, 2015, the licensee provided a copy of the relevant Engineering Change package information regarding this amendment referenced. The licensee stated that there was adequate margin between the evaluated flow rates at lower EDG frequency and required accident flow rates and margin available in the design of heat removal pumps. Based on the licensee response, the NRC staff concludes that with the EDGs operating at the lowest allowed frequency, the flow rates associated with critical pumps powered from the EDGs are adequate and within the design tolerance and therefore the licensee's response is acceptable.

In RAI, Question 7b, the NRC staff asked the licensee to explain the impact of change in pressure for systems with motors operating at the higher allowable frequency. In letter dated February 24, 2015, the licensee stated that there is no detrimental impact on the systems with motors operating at the higher allowable frequency. The NRC staff concludes that the licensee's response is acceptable because it shows that when the motors are operating at the high end of the allowed frequency range there is adequate margin between the system operating pressure and the design pressure.

In RAI, Question 7c, the NRC staff asked the licensee to explain the impact of change in stroke time for critical motor operated valves when the DGs are operating at the lower allowable frequency. In response to RAI, Question 7c, by letter dated February 24, 2015, the licensee explained that the impact of increased valve stroke time caused by a decrease in motor speed due to lower than nominal EDG frequency had been evaluated for critical valves and concluded that there was sufficient margin between the maximum allowable stroke time and the calculated new stroke time. Based on the licensee's response, the NRC staff concludes that the lower DG frequency will not adversely affect the valve performance and therefore the licensee's response is acceptable.

In RAI, Question 7d, the NRC staff asked the licensee to explain the impact of the change in torque when the EDGs are operating at the lower allowable voltage and frequency. In response to RAI, Question 7d, by letter dated February 24, 2015, the licensee explained that for "HPCS motor (largest motor), the maximum torque occurs at approximately 92.5% (1665 rpm [revolutions per minute]). The actual motor torque is dependent on its load so the pump speed-torque curves for the large injection pump show that for a 2.0% reduction in speed the torque is reduced by approximately 5%. This is typical for the other large injection pumps. Therefore the torque is adequate since the motors are sized to provide adequate torque at 75% voltage." The NRC staff concludes that that the licensee's response is acceptable because it shows margin between the design capability of large motors and a nominal reduction in torque due to frequency and voltage variation.

In RAI, Question 8, the NRC staff asked the licensee to explain why SRs 3.8.1.2 and 3.8.1.7 have allowable values of 5400 V and 66.75 Hz for DG 1C when it starts. These values are greater than a +/- 10% withstand voltage allowable for most equipment. The staff also asked the licensee to confirm that these allowable values do not have an adverse impact on safety-related equipment. In the letter dated May 7, 2015, the licensee explained that Technical Specification Task Force TSTF-163 Revision 2 eliminated the maximum voltage and frequency limits from the start test and that this was previously approved by the NRC via Amendment No. 165 dated August 11, 2009 (ADAMS Accession No. ML092010370). Also, since SRs 3.8.1.2 and 3.8.1.7 are manual starts, the EDG would reach steady state prior to loading, so there would not be any impact on the safety related loads. Based on the licensee's response, the NRC staff concludes that the allowed DG 1C values for voltage and frequency (5400 V, 66.75 Hz) are acceptable for the DG start test based on NRC approval of TSTF-163 and that the safety related loads would not be impacted because the DG would not be loaded until attaining steady state voltage and frequency values. Therefore, the licensee's response is acceptable.

3.4 Acceptability of Proposed SR Changes

The NRC staff has reviewed the licensee's proposed TS changes and supporting documentation for performance of equipment at allowable extremes of frequency and voltage. Based on the evaluation discussed above, the staff determined that the proposed TS changes, that narrow the allowable steady state operating voltage and frequency band of the DGs, are consistent with NRC guidance in RG 1.9, Revision 2, because the SR voltage and frequency are maintained within acceptable limits. The changes in the SR will also ensure that the DGs will continue to satisfy GDC 17 and 18, because the emergency diesel generators used as an onsite electric power system have sufficient independence, capacity, capability, redundancy, and testability to ensure the functioning of systems important to safety. Thus, the staff finds that the proposed changes to surveillance requirements assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met.

4.0 REGULATORY COMMITMENTS

By letter dated July 9, 2014, Entergy made the following commitment:

In addition to the above changes to the RBS Technical Specifications the BASES will be revised to be consistent with these changes upon implementation.

The NRC staff concludes that reasonable controls for the implementation and subsequent evaluation of the proposed change pertaining to the above regulatory commitment is best provided by the licensee's administrative processes, including its commitment tracking program. Because 50.36(a)(1) provide the TS bases are not part of the TSs, the above regulatory commitment does not warrant the creation regulatory requirements (items requiring NRC approval of subsequent changes).

In Attachment 3 to the LAR, the licensee identified changes to the TS Bases for the proposed LAR. The changes to the TS Bases are for the entirety of the proposed LAR dated July 9, 2014, and in identifying changes to the TS Bases, the licensee is not requesting that the NRC approve these changes. The identified changes to the TS Bases are controlled by TS 5.5.11, "Technical

Specifications (TS) Bases Control Program," which provides the means for the licensee to process TS Bases changes and therefore, the affected TS Bases pages are not included with this amendment. While the NRC staff does not approve these changes, the NRC staff did review the Bases changes and has no disagreement with the identified changes to the TS Bases.

5.0 STATE CONSULTATION

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

6.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and/or changes surveillance requirements. The NRC staff has determined that the amendments involve 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 amendments involve no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on November 12, 2014 (79 FR 67201). 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 amendments.

8.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: N. Otto

Date: July 30, 2015

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

Sincerely,

/RA/

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

Docket No. 50-458

Enclosures:

- 1. Amendment No. 187 to NPF-47
- 2. Safety Evaluation

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