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10 CFR 50.90

CNRO-2020-00009

February 26, 2020

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Application to Revise Technical Specifications to Adopt TSTF-501
"Relocate Stored Fuel Oil and Lube Oil Volumes to Licensee Control,"
Revision 1

Grand Gulf Nuclear Station, Unit 1
NRC Docket No. 50-416
Renewed Facility Operating License No. NPF-29

River Bend Station, Unit 1
NRC Docket No. 50-458
Renewed Facility Operating License No. NPF-47

- References:
- 1) Technical Specifications Task Force (TSTF) Improved Standard Technical Specifications (STS) Change Traveler TSTF-501, Revision 1, "Relocate Stored Fuel Oil and Lube Oil Volume Values to Licensee Control"
 - 2) U. S. Nuclear Regulatory Commission (NRC) Letter to TSTF, dated April 3, 2014, "Identification and Resolution of Issues Regarding Plant-Specific Adoption of Traveler TSTF-501, Revision 1, 'Relocate Stored Fuel Oil and Lube Oil Volume Values to Licensee Control' "

In accordance with Title 10 of the Code of Federal Regulations (CFR) Part 50, Section 50.90, "Application for amendment of license, construction permit, or early site permit," Entergy Operations, Inc. (Entergy) is submitting a request for an amendment to Renewed Facility Operating License, Appendix A, "Technical Specifications" (TS) for Grand Gulf Nuclear Station, Unit 1 (GGNS); and River Bend Station, Unit 1 (RBS).

Entergy proposes to adopt Technical Specification Task Force (TSTF) Traveler TSTF-501, Revision 1, "Relocate Stored Fuel Oil and Lube Oil Volume Values to Licensee Control" (Reference 1) into the GGNS and RBS TS.

The proposed changes revise GGNS and RBS TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air" by removing the current stored diesel fuel oil and lube oil numerical volume requirements from the TS and placing them in the TS Bases so that they may be modified under licensee control. The TS are also revised such that the stored diesel fuel oil and lube oil inventory will require that a 7-day supply be available for each diesel generator at GGNS and RBS. Corresponding Surveillance Requirements (SR) and TS Bases are also revised to reflect the above changes.

The proposed changes are consistent with TSTF-501, Revision 1. The availability of this TS improvement was announced in the *Federal Register* on May 26, 2010 (75 FR 2595881) as part of the consolidated line item improvement process (CLIP).

The Enclosure to this letter provides a description and assessment of the proposed changes. Attachments 1.a and 1.b provide the existing TS pages for GGNS and RBS, respectively, marked-up to show the proposed changes. Attachments 2.a and 2.b provide revised (clean) TS pages. Attachments 3.a and 3.b provide, for information only, marked-up versions of existing TS Bases pages that reflect the proposed changes.

Attachment 4 provides a list of regulatory commitments which are based on an NRC letter to the TSTF dated April 14, 2014 (Reference 2), regarding issues associated with plant-specific adoption of TSTF-501, Revision 1.

In accordance with 10 CFR 50.91, Entergy is providing notification of this LAR by transmitting a copy of this letter and enclosure to the designated State Officials.

Approval of the proposed amendment is requested by March 29, 2021. Once approved, the amendment shall be implemented within 90 days.

If there are any questions or if additional information is needed, please contact Ron Gaston, Director, Nuclear Licensing at (601) 368-5138.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on February 26, 2020.

Sincerely,

A handwritten signature in black ink, appearing to read "Ron W. Gaston", with a long horizontal flourish extending to the right.

Ron Gaston

RWG/jls

Enclosure:

Evaluation of the Proposed Change

Attachments to Enclosure:

- 1.a. Markup of Technical Specification (TS) Pages - Grand Gulf Nuclear Station, Unit 1
- 1.b. Markup of Technical Specification (TS) Pages - River Bend Station, Unit 1
- 2.a. Clean Technical Specification (TS) Pages - Grand Gulf Nuclear Station, Unit 1
- 2.b. Clean Technical Specification (TS) Pages - River Bend Station, Unit 1
- 3.a. Markup of Technical Specification (TS) Bases Pages - For Information Only- Grand Gulf Nuclear Station, Unit 1
- 3.b. Markup of Technical Specification (TS) Bases Pages - For Information Only- River Bend Station, Unit 1
4. List of Regulatory Commitments

cc: NRC Region IV Regional Administrator
NRC Senior Resident Inspector - Grand Gulf Nuclear Station, Unit 1
NRC Senior Resident Inspector - River Bend Station, Unit 1
NRC Project Manager - Entergy Fleet
State Health Officer, Mississippi Department of Health
Louisiana of Department of Environmental Quality

Enclosure to
CNRO-2020-00009

Evaluation of the Proposed Change

Application to Revise Technical Specifications to Adopt TSTF-501 "Relocate Stored Fuel Oil
and Lube Oil Volumes to Licensee Control," Revision 1

Grand Gulf Nuclear Station, Unit 1
River Bend Station, Unit 1

(6 Pages)

- 1.0 Description
- 2.0 Proposed Changes
- 3.0 Background
- 4.0 Technical Analysis
 - 4.1 Applicability of Published Safety Evaluation
 - 4.2 Variations
- 5.0 Regulatory Safety Analysis
 - 5.1 No Significant Hazards Determination
 - 5.2 Applicable Regulatory Requirements/Criteria
 - 5.3 Conclusions
- 6.0 Environmental Consideration
- 7.0 References

EVALUATION OF THE PROPOSED CHANGE

1.0 DESCRIPTION

Entergy Operations, Inc. (Entergy) requests adoption of Technical Specification Task Force (TSTF) Traveler TSTF-501, Revision 1, "Relocate Stored Fuel Oil and Lube Oil Volume Values to Licensee Control" (Reference 7.1), which is an U.S. Nuclear Regulatory Commission (NRC)-approved change to the Improved Standard Technical Specifications (ISTS), into the Grand Gulf Nuclear Station, Unit 1 (GGNS), and River Bend Station, Unit 1 (RBS) Technical Specifications (TS).

The proposed changes revise GGNS and RBS TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," by removing the current stored diesel fuel oil and lube oil numerical volume requirements from the TS and placing them in the TS Bases so that they may be modified under licensee control.

The TS are also revised such that the stored diesel fuel oil and lube oil inventory will require that a 7-day supply be available for each diesel generator at GGNS and RBS. Corresponding Surveillance Requirements (SR) and TS Bases are also revised to reflect the above changes.

2.0 PROPOSED CHANGES

Specifically, the proposed changes modify GGNS and RBS TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air;" as described below

- Condition A in the Action Table is revised. Currently, Condition A is entered when the stored diesel fuel oil numerical volume requirement is not met. As discussed in the current TS Bases, the numerical volume requirements for GGNS and RBS are based on volumes less than a 7-day supply, but greater than a 6-day supply. The proposed TS revision incorporates the volumetric requirements from the TS into the TS Bases. In addition, the GGNS and RBS TS are revised so that Condition A is entered when the stored diesel fuel oil inventory is less than a 7-day supply, but greater than a 6-day supply.
- Condition B in the Action Table for GGNS and RBS is revised. Currently, Condition B is entered when the stored lube oil numerical volume requirement is not met. As discussed in the current TS Bases, the numerical volume requirements are based on volumes less than a 7-day supply, but greater than a 6-day supply. The revision incorporates the volumetric requirements from the TS into the TS Bases. The TS are revised such that Condition A is entered when the stored lube oil inventory is less than a 7-day supply, but greater than a 6-day supply.
- SR 3.8.3.1 is revised. Currently, SR 3.8.3.1 verifies that the stored diesel fuel oil numerical volume requirements are met. As discussed in the current TS Bases, the numerical volume requirements of SR 3.8.3.1 are based on maintaining at least a 7-day supply. The revision incorporates the volumetric requirements from the TS into the TS Bases. The TS are modified so that SR 3.8.3.1 verifies that the stored

diesel fuel oil inventory is greater than or equal to a 7-day supply for each diesel generator at GGNS and RBS.

- SR 3.8.3.2 is revised. Currently, SR 3.8.3.2 verifies that the stored lube oil numerical volume requirements are met. As discussed in the current TS Bases, the numerical volume requirements of SR 3.8.3.2 are based on maintaining at least a 7-day supply. The revision incorporates the volumetric requirements from the TS into the TS Bases. The TS are modified so that SR 3.8.3.2 verifies that the stored lube oil inventory is greater than or equal to a 7-day supply for each diesel generator at GGNS and RBS.

Proposed revisions to the TS Bases are also included in this application, for information only. Adoption of the TS Bases associated with TSTF Traveler-501, Revision 1 is an integral part of implementing this TS amendment. The changes to the affected TS Bases pages will be incorporated in accordance with the TS Bases Control Program upon approval of the license amendment.

- The reference to Appendix B of ANSI N195-1976, "Fuel Oil Systems for Standby Diesel-Generators," in the GGNS and RBS TS Bases is deleted. As a result, the only reference will be to ANSI N195-1976.

The proposed TS and TS Bases changes are consistent with NRC-approved Revision 1 to TSTF-501. The availability of this TS improvement was announced in the *Federal Register* on May 26, 2010 (75 FR 2595881) as part of the consolidated line item improvement process (CLIIP).

3.0 BACKGROUND

The background for this application is addressed by the model safety evaluation referenced in the NRC's Notice of Availability published on May 26, 2010 (75 FR 2595881) and TSTF-501, Revision 1.

4.0 TECHNICAL ANALYSIS

4.1 Applicability of Published Safety Evaluation

Entergy has reviewed the NRC Safety Evaluation (SE) for TSTF-501, Revision 1. This included a review of the NRC SE, as well as the information provided in TSTF-501. Entergy has concluded that the justifications presented in TSTF-501 and the NRC SE are applicable to GGNS and RBS and justify this amendment for the incorporation in the changes to each plant's TS.

Additionally, Entergy has reviewed the April 3, 2014 NRC letter to the TSTF (Reference 7.2) regarding the resolution of issues related to the plant-specific adoption of TSTF-501. In that implementation of TSTF-501 relies on the use of an NRC-approved diesel generator fuel oil calculation methodology to determine the run-duration equivalent diesel fuel oil volume, the

NRC determined that the NRC-approved calculation methodology must be described in the Final Safety Analysis Report (FSAR).

Accordingly, Entergy is providing a regulatory commitment to verify that the FSARs for GGNS and RBS describe, in a level of detail consistent with that specified in Reference 7.2, the NRC-approved calculation methodology for diesel generator fuel oil volumes necessary to ensure run-duration requirements, and to include any resulting revisions in the next FSAR update following NRC issuance of the requested license amendment.

4.2 Variations

Entergy is not proposing any variations from the TS changes described in TSTF-501, or the applicable parts of the NRC SE dated May 26, 2010 for GGNS and RBS.

5.0 **REGULATORY EVALUATION**

5.1 No Significant Hazards Consideration Analysis

Entergy Operations Inc. (Entergy) proposes changes to the Technical Specifications (TS) for Grand Gulf Nuclear Station, Unit 1 (GGNS) and River Bend Station, Unit 1 (RBS). The proposed changes would adopt U. S. Nuclear Regulatory Commission (NRC)-approved Technical Specifications Task Force (TSTF) Traveler TSTF-501, Revision 1, "Relocate Stored Fuel Oil and Lube Oil Volume Values to Licensee Control."

The proposed changes revise TS by removing the current stored diesel fuel oil and lube oil numerical volume requirements from the TS and incorporating them into the TS Bases so that it may be modified under licensee control. The current diesel fuel oil and lube oil numerical volume requirements are based on a 7-day supply for GGNS and RBS. The TS are modified so that the stored diesel fuel oil and lube oil inventory will require that a 7-day diesel fuel oil and lube supply be available at GGNS and RBS.

Entergy has evaluated the proposed changes to the TS using the criteria in 10 CFR 50.92, "Issuance of Amendment," and has determined that the proposed changes do not involve a significant hazards consideration, as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The proposed changes remove the volume of diesel fuel oil and lube oil required to support 7-day operation of each diesel generator at GGNS and RBS and places them under licensee control.

The specific volume of fuel oil equivalent to a 7-day and 6-day supply for GGNS and RBS are calculated using the NRC-approved methodology described in Regulatory Guide 1.137, Revision 1, "Fuel-Oil Systems for Standby Diesel Generators," and ANSI N195-1976, "Fuel Oil Systems for Standby Diesel Generators." The specific volume of lube oil equivalent to a

7-day and 6-day supply is based on the diesel generator manufacturer's consumption values for the run-time of the diesel generators.

Because the requirement to maintain a 7-day supply of diesel fuel oil and lube oil at GGNS and RBS is not changed and is consistent with the assumptions of the accident analyses for each unit, and the actions taken when the volume of fuel oil and lube oil are less than a 6-day supply have not changed, neither the probability nor consequences of any accident previously evaluated will be affected.

Therefore, these changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

These changes do not involve a physical alteration of the plants (i.e., no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. These changes do not alter assumptions made in the safety analysis but ensures that each diesel generator operates as assumed in the accident analysis. The proposed changes are consistent with the safety analysis assumptions. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

Therefore, these changes do not create the possibility of a new or different kind of accident from an accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No

The proposed changes revise the TS by removing the current stored diesel fuel oil numerical volume requirements from the TS and replacing them with diesel operating time requirements. The numerical values will be placed in the TS Bases so that they may be modified under licensee control. As the bases for the existing limits on diesel fuel oil, and lube oil are not changed, no change is made to the accident analysis assumptions and no margin of safety is reduced as part of these changes. Therefore, the proposed change does not involve a significant reduction in a margin of safety. Therefore, these changes do not involve a significant reduction in a margin of safety.

Based upon the reasoning presented above, Entergy concludes that the requested changes involve no significant hazards consideration, as set forth in 10 CFR 50.92(c), "Issuance of Amendment."

5.2 Applicable Regulatory Requirement/Criteria

A description of the proposed TS changes and the relationship to applicable regulatory requirements were published in the *Federal Register* Notice of Availability on May 26, 2010 (75 FR 2595881). Entergy has reviewed the NRC staff's model SE referenced in the Consolidated Line Item Improvement Process (CLIIP) Notice of Availability and concluded that the regulatory evaluation section is applicable to GGNS and RBS.

5.3 Conclusions

In conclusion, based on the considerations discussed above, (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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

6.0 ENVIRONMENTAL CONSIDERATION

The proposed amendment would 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 would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

7.0 REFERENCES

- 7.1 Technical Specifications Task Force (TSTF) Improved Standard Technical Specifications (STS) Change Traveler TSTF-501, Revision 1, "Relocate Stored Fuel Oil and Lube Oil Volume Values to Licensee Control" (ADAMS Accession No. ML100850094)
- 7.2. USNRC Letter to Technical Specifications Task Force (TSTF), dated April 3, 2014, Identification and Resolution of Issues Regarding Plant-Specific Adoption of Traveler TSTF-501, Revision 1, "Relocate Stored Fuel Oil and Lube Oil Volume Values to Licensee Control" (ADAMS Accession No. ML14084A512)

ATTACHMENTS

Attachments to Enclosure:

- 1.a. Markup of Technical Specification (TS) Pages - Grand Gulf Nuclear Station, Unit 1
- 1.b. Markup of Technical Specification (TS) Pages - River Bend Station, Unit 1
- 2.a. Clean Technical Specification (TS) Pages - Grand Gulf Nuclear Station, Unit 1
- 2.b. Clean Technical Specification (TS) Pages - River Bend Station, Unit 1
- 3.a. Markup of Technical Specification (TS) Bases Pages - For Information Only - Grand Gulf Nuclear Station, Unit 1
- 3.b. Markup of Technical Specification (TS) Bases Pages - For Information Only - River Bend Station, Unit 1
- 4. List of Regulatory Commitments

Enclosure, Attachment 1.a

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Grand Gulf Nuclear Station Unit 1 (GGNS)

GGNS TS Pages

3.8-22

3.8-24

3.8 ELECTRICAL POWER SYSTEMS

3.8.3 Diesel Fuel Oil, Lube Oil, and Starting Air

LCO 3.8.3 The stored diesel fuel oil, lube oil, and starting air subsystem shall be within limits for each required diesel generator (DG).

APPLICABILITY: When associated DG is required to be OPERABLE.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each DG.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more DGs with fuel oil level less than a 7 day supply and greater than a 6 day supply.</p> <p>1. For DG 11 or 12, < 68,744 gal and ≥ 59,173 gal; and</p> <p>2. For DG 13, < 44,616 gal and ≥ 38,280 gal.</p>	<p>A.1 Restore fuel oil level to within limits.</p>	48 hours
<p>B. One or more DGs with lube oil inventory less than a 7 day supply.</p> <p>1. For DG 11 or 12, < 410 gal and ≥ 350 gal; and</p> <p>2. For DG 13, < 202 gal and ≥ 173 gal.</p>	<p>B.1 Restore lube oil inventory to within limits.</p>	48 hours

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains <u>≥ a 7 day supply of fuel.</u> a. ≥ 68,744 gal of fuel for DGs 11 and 12; and b. ≥ 44,616 gal of fuel for DG 13.	In accordance with the Surveillance Frequency Control Program
SR 3.8.3.2	Verify lube oil inventory is <u>≥ a 7 day supply.</u> a. ≥ 410 gal for DGs 11 and 12; and b. ≥ 202 gal for DG 13.	In accordance with the Surveillance Frequency Control Program
SR 3.8.3.3	Verify fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program.	In accordance with the Diesel Fuel Oil Testing Program
SR 3.8.3.4	Verify each required DG air start receiver pressure is: a. ≥ 160 psig for DGs 11 and 12; and b. ≥ 175 psig for DG 13.	In accordance with the Surveillance Frequency Control Program
SR 3.8.3.5	Check for and remove accumulated water from each fuel oil storage tank.	In accordance with the Surveillance Frequency Control Program

(continued)

Enclosure, Attachment 1.b

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**Proposed Technical Specification (mark-up)
River Bend Station, Unit 1 (RBS)**

RBS TS Pages

3.8-21

3.8-23

3.8 ELECTRICAL POWER SYSTEMS

3.8.3 Diesel Fuel Oil, Lube Oil, and Starting Air

LCO 3.8.3 The stored diesel fuel oil, lube oil, and starting air subsystem shall be within limits for each required diesel generator (DG).

APPLICABILITY: When associated DG is required to be OPERABLE.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each DG.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more DGs with fuel oil level <45,495 gal and ≥ 38,996 gal. <u>less than a 7 day supply and greater than a 6 day supply.</u>	A.1 Restore fuel oil level to within limits.	48 hours
B. One or more DGs with lube oil inventory <u>less than a 7 day supply and greater than a 6 day supply.</u> 1. For DG 1A or 12B < 367 gal and ≥ 350 gal, and 2. For DG 1C, < 295 gal and ≥ 265 gal.	B.1 Restore lube oil inventory to within limits.	48 hours
C. One or more DGs with stored fuel oil total particulates not within limit.	C.1 Restore fuel oil total particulates to within limit.	7 days

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains \geq a 7 day supply of fuel . 45,495 gal of fuel.	In accordance with the Surveillance Frequency Control Program
SR 3.8.3.2	Verify lube oil inventory is \geq a 7 day supply . a. \geq 367 gal for DGs 1A and 1B; and b. \geq 295 gal for DG 1C.	In accordance with the Surveillance Frequency Control Program
SR 3.8.3.3	Verify fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program.	In accordance with the Diesel Fuel Oil Testing Program
SR 3.8.3.4	Verify each DG air start receiver pressure is: a. \geq 160 psig for DGs 1A and 1B; and b. \geq 200 psig for DG 1C.	In accordance with the Surveillance Frequency Control Program
SR 3.8.3.5	Check for and remove accumulated water from each fuel oil storage tank.	In accordance with the Surveillance Frequency Control Program

Enclosure, Attachment 2.a

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**Revised (clean) Technical Specification Pages
Grand Gulf Nuclear Station Unit 1 (GGNS)**

GGNS TS Pages

3.8-22

3.8-24

3.8 ELECTRICAL POWER SYSTEMS

3.8.3 Diesel Fuel Oil, Lube Oil, and Starting Air

LCO 3.8.3 The stored diesel fuel oil, lube oil, and starting air subsystem shall be within limits for each required diesel generator (DG).

APPLICABILITY: When associated DG is required to be OPERABLE.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each DG.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more DGs with fuel oil level less than a 7 day supply and greater than a 6 day supply.	A.1 Restore fuel oil level to within limits.	48 hours
B. One or more DGs with lube oil inventory less than a 7 day supply.	B.1 Restore lube oil inventory to within limits.	48 hours

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains \geq a 7 day supply of fuel.	In accordance with the Surveillance Frequency Control Program
SR 3.8.3.2	Verify lube oil inventory is \geq a 7 day supply.	In accordance with the Surveillance Frequency Control Program
SR 3.8.3.3	Verify fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program.	In accordance with the Diesel Fuel Oil Testing Program
SR 3.8.3.4	Verify each required DG air start receiver pressure is: a. \geq 160 psig for DGs 11 and 12; and b. \geq 175 psig for DG 13.	In accordance with the Surveillance Frequency Control Program
SR 3.8.3.5	Check for and remove accumulated water from each fuel oil storage tank.	In accordance with the Surveillance Frequency Control Program

(continued)

Enclosure, Attachment 2.b

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**Revised (clean) Technical Specification Pages
River Bend Station, Unit 1 (RBS)**

RBS TS Pages

3.8-21

3.8-23

3.8 ELECTRICAL POWER SYSTEMS

3.8.3 Diesel Fuel Oil, Lube Oil, and Starting Air

LCO 3.8.3 The stored diesel fuel oil, lube oil, and starting air subsystem shall be within limits for each required diesel generator (DG).

APPLICABILITY: When associated DG is required to be OPERABLE.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each DG.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more DGs with fuel oil level less than a 7 day supply and greater than a 6 day supply.	A.1 Restore fuel oil level to within limits.	48 hours
B. One or more DGs with lube oil inventory less than a 7 day supply and greater than a 6 day supply.	B.1 Restore lube oil inventory to within limits.	48 hours
C. One or more DGs with stored fuel oil total particulates not within limit.	C.1 Restore fuel oil total particulates to within limit.	7 days

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains \geq a 7 day supply of fuel.	In accordance with the Surveillance Frequency Control Program
SR 3.8.3.2	Verify lube oil inventory is \geq a 7 day supply.	In accordance with the Surveillance Frequency Control Program
SR 3.8.3.3	Verify fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program.	In accordance with the Diesel Fuel Oil Testing Program
SR 3.8.3.4	Verify each DG air start receiver pressure is: a. \geq 160 psig for DGs 1A and 1B; and b. \geq 200 psig for DC 1C.	In accordance with the Surveillance Frequency Control Program
SR 3.8.3.5	Check for and remove accumulated water from each fuel oil storage tank.	In accordance with the Surveillance Frequency Control Program

Enclosure, Attachment 3.a

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**Proposed Technical Specification Bases Changes (mark-up)
For Information Only
Grand Gulf Nuclear Station, Unit 1 (GGNS)**

GGNS TS Bases Pages

B 3.8-44

B 3.8-46

B 3.8-49

BASES (continued)

ACTIONS

The ACTIONS Table is modified by a Note indicating that separate Condition entry is allowed for each DG. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable DG subsystem. Complying with the Required Actions for one inoperable DG subsystem may allow for continued operation, and subsequent inoperable DG subsystem(s) are governed by separate Condition entry and application of associated Required Actions.

A.1

In this Condition, the 7 day fuel oil supply for a DG is not available. However, the Condition is restricted to fuel oil level reductions that maintain at least a 6 day supply. These circumstances may be caused by events such as:

Insert 1

- a. Full load operation required after an inadvertent start while at minimum required level; or
- b. Feed and bleed operations that may be necessitated by increasing particulate levels or any number of other oil quality degradations.

This restriction allows sufficient time for obtaining the requisite replacement volume and performing the analyses required prior to addition of the fuel oil to the tank. A period of 48 hours is considered sufficient to complete restoration of the required level prior to declaring the DG inoperable. This period is acceptable based on the remaining capacity (> 6 days), the fact that procedures will be initiated to obtain replenishment, and the low probability of an event during this brief period.

In this Condition, the 7 day

B.1

, is not

i.e.,

~~With lube oil inventory less than required, sufficient lube oil to support 7 days of continuous DG operation at full load conditions may not be available.~~ However, the Condition is restricted to lube oil volume reductions that maintain at least a 6 day supply. This restriction allows sufficient time for obtaining the requisite replacement volume. A period of 48 hours is considered sufficient to complete restoration of the required volume prior to declaring the DG inoperable. This period is acceptable

Insert 2

(continued)

BASES

ACTIONS
(continued)

E.1

With a Required Action and associated Completion Time not met, or the stored diesel fuel oil, lube oil or starting air subsystem not within limits for reasons other than addressed by Conditions A through D, the associated DG may be incapable of performing its intended function and must be immediately declared inoperable.

SURVEILLANCE
REQUIREMENTS

SR 3.8.3.1

This SR provides verification that there is an adequate inventory of fuel oil in the storage tanks to support each DG's operation for 7 days at its surveillance testing capacity as prescribed by Technical Specifications (5740 KW for Division 1 and 2, 3300 KW for Division 3). This capacity exceeds the maximum expected post LOCA loading. The 7 day period is sufficient time to place the unit in a safe shutdown condition and to bring in replenishment fuel from an offsite location.

Insert 3

The 31 day Frequency is adequate to ensure that a sufficient supply of fuel oil is available, since low level alarms are provided and unit operators would be aware of any large uses of fuel oil during this period.

SR 3.8.3.2

Insert 4

This Surveillance ensures that sufficient lube oil inventory is available to support at least 7 days of maximum expected post LOCA load operation for each DG. ~~This requirement is based on the DG manufacturer's consumption values for the run time of the DG. Implicit in this SR is the requirement to verify the capability to transfer the lube oil from its storage location to the DG when the DG lube oil sump does not hold adequate inventory for 7 days of maximum expected post LOCA load operation without the level reaching the manufacturer's recommended minimum level.~~

A 31 day Frequency is adequate to ensure that a sufficient lube oil supply is onsite, since DG starts and run times are closely monitored by the plant staff.

(continued)

BASES

SURVEILLANCE
REQUIREMENTS
(continued)

SR 3.8.3.5

Microbiological fouling is a major cause of fuel oil degradation. There are numerous bacteria that can grow in fuel oil and cause fouling, but all must have a water environment in order to survive. Removal of water from the storage tanks once every 92 days eliminates the necessary environment for bacterial survival. This is the most effective means of controlling microbiological fouling. In addition, it eliminates the potential for water entrainment in the fuel oil during DG operation. Water may come from any of several sources, including condensation, ground water, rain water, contaminated fuel oil, and from breakdown of the fuel oil by bacteria. Frequent checking for and removal of accumulated water minimizes fouling and provides data regarding the watertight integrity of the fuel oil system. The Surveillance Frequencies are established by Regulatory Guide 1.137 (Ref. 2). This SR is for preventive maintenance. The presence of water does not necessarily represent a failure of this SR provided that accumulated water is removed during performance of the Surveillance.

REFERENCES

1. UFSAR, Section 9.5.4.
2. Regulatory Guide 1.137.
3. ANSI N195, Appendix B, 1976.

(continued)

Insert 1 (GGNS TS Bases 3.8.3, page B 3.8-44)

The fuel oil level equivalent to a 6 day supply for DG 11 or DG 12 is $\geq 59,173$ gallons and for DG 13 is $\geq 38,280$ gallons.

Insert 2 (GGNS TS Bases 3.8.3, page B 3.8-44)

The lube oil level equivalent to a 6 day supply for DG 11 or 12 is 350 gallons and for DG 13 is 173 gallons.

Insert 3 (GGNS TS Bases 3.8.3, page B 3.8-46)

The fuel oil level equivalent to a 7 day supply for DG 11 or 12 is 68,744 gallons and for DG 13 is 44,616 gallons when calculated in accordance with References 2 and 3. The required fuel storage volume is determined using the most limiting energy content of the stored fuel. Using the known correlation of diesel fuel oil absolute specific gravity or API gravity to energy content, the required diesel generator output, and the corresponding fuel consumption rate, the onsite fuel storage volume required for 7 days of operation can be determined. SR 3.8.3.3 requires new fuel to be tested to verify that its properties are within the range assumed in the diesel fuel oil consumption calculations.

Insert 4 (GGNS TS Bases 3.8.3, page B 3.8-46)

The lube oil level equivalent to a 7 day supply for DG 11 or DG 12 is 410 gallons and for DG 13 is 173 gallons and

Enclosure, Attachment 3.b

CNRO-2020-00009

**Proposed Technical Specification and Bases Changes (mark-up)
For Information Only
River Bend Station, Unit 1 (RBS)**

RBS TS Bases Pages

B 3.8-41

B 3.8-43

B 3.8-45

B 3.8-49

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.3 Diesel Fuel Oil, Lube Oil, and Starting Air

BASES

and Regulatory Guide
1.137 (Ref. 2)

BACKGROUND

Each diesel generator (DG) is provided with a storage tank having a fuel oil capacity sufficient to operate that DG for a period of 7 days while the DG is supplying maximum post loss of coolant accident load demand (Ref. 1). The maximum load demand is calculated using the assumption that at least two DGs are available. This onsite fuel oil capacity is sufficient to operate the DGs for longer than the time to replenish the onsite supply from outside sources.

Fuel oil is transferred from each storage tank to its respective day tank by a transfer pump associated with each storage tank. Redundancy of pumps and piping precludes the failure of one pump, or the rupture of any pipe, valve, or tank to result in the loss of more than one DG. All outside tanks, pumps, and piping are located underground. The fuel oil level in the storage tank is indicated in the control room.

For proper operation of the standby DGs, it is necessary to ensure the proper quality of the fuel oil. Regulatory Guide 1.137 (Ref. 2) addresses the recommended fuel oil practices as supplemented by ANSI N195 (Ref. 3). The fuel oil properties governed by these SRs are the water and sediment content, the kinematic viscosity, specific gravity (or API gravity), and impurity level.

The DG lubrication system is designed to provide sufficient lubrication to permit proper operation of its associated DG under all loading conditions. The system is required to circulate the lube oil to the diesel engine working surfaces and to remove excess heat generated by friction during operation. Each engine oil sump contains an inventory capable of supporting a minimum of 7 days of operation. This supply is sufficient to allow the operator to replenish lube oil from outside sources.

Each DG has an air start system with adequate capacity for five successive attempts on the DG without recharging the air start receiver(s).

(continued)

BASES

ACTIONS
(continued)

E.1

With a Required Action and associated Completion Time not met, or the stored diesel fuel oil, lube oil, or starting air subsystem not within limits for reasons other than addressed by Conditions A through D, the associated DG may be incapable of performing its intended function and must be immediately declared inoperable.

SURVEILLANCE
REQUIREMENTS

SR 3.8.3.1

This SR provides verification that there is an adequate inventory of fuel oil in the storage tanks to support each DG's operation for 7 days at maximum expected post LOCA loading. The 7 day period is sufficient time to place the unit in a safe shutdown condition and to bring in replenishment fuel from an offsite location.

Insert 3

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.8.3.2

Insert 4

This Surveillance ensures that sufficient lube oil inventory is available to support at least 7 days of maximum expected post LOCA load operation for each DG. This requirement is based on the DG manufacturer's consumption values for the run time of the DG. Implicit in this SR is the requirement to verify the capability to transfer the lube oil from its storage location to the DG when the DG lube oil sump does not hold adequate inventory for 7 days of maximum expected post LOCA load operation without the level reaching the manufacturer's recommended minimum level. Note, the LCO for diesel generators I, II, and III lube oil inventory is based on volumes in the sump while the particular diesel is running and does not include the volume that would drain back to the sump in standby conditions.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.3.5 (continued)

of the fuel oil by bacteria. Frequent checking for and removal of accumulated water minimizes fouling and provides data regarding the watertight integrity of the fuel oil system. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. This SR is for preventive maintenance. The presence of water does not necessarily represent a failure of this SR provided that accumulated water is removed during performance of the Surveillance.

REFERENCES

1. USAR, Section 9.5.4.
2. Regulatory Guide 1.137.
3. ANSI N195, ~~Appendix B~~, 1976.
4. USAR, Chapter 6.
5. USAR, Chapter 15.
6. ASTM Standards: D4057-81; D975-81; D4176-82; D1522-79; D2622-82; D2276-78.
7. ASME, Boiler and Pressure Vessel Code, Section XI.

Insert 1 (RBS TS Bases 3.8.3, page B 3.8-43)

The fuel oil level equivalent to a 6 day supply for a DG is 38,996 gallons.

Insert 2 (RBS TS Bases 3.8.3, page B 3.8-43)

The lube oil equivalent to a 6 day supply for DG 1A or 1B is 350 gallons and for DG 1C is 265 gallons.

Insert 3 (RBS TS Bases 3.8.3, page B 3.8-45)

The fuel oil level equivalent to a 7 day supply for each DG is 45,495 gallons when calculated in accordance with References 2 and 3. The required fuel storage volume is determined using the most limiting energy content of the stored fuel. Using the known correlation of diesel fuel oil absolute specific gravity or API gravity to energy content, the required diesel generator output, and the corresponding fuel consumption rate, the onsite fuel storage volume required for 7 days of operation can be determined. SR 3.8.3.3 requires new fuel to be tested to verify that the absolute specific gravity or API gravity is within the range assumed in the diesel fuel oil consumption calculations.

Insert 4 (RBS TS Bases 3.8.3, page B 3.8-45)

The lube oil level equivalent to a 7 day supply for DG 1A or 1B is 367 gallons and is 265 gallons for DG 1C and

List of Regulatory Commitments

The following table identifies those actions committed to by Entergy in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments.

Commitment	Type (check one)		Scheduled Completion Date
	One-Time Action	Continuing Compliance	
Verify that the FSAR for GGNS describes in a level of detail consistent with that requested by Reference 2, the methodology for the calculation of the specific DG fuel oil volumes contained in the diesel fuel oil storage tank(s) necessary to ensure DG run-duration requirements, and include any resulting revisions in the next FSAR update following NRC issuance of the requested license amendment.	✓		Prior to the next FSAR update following approval of the license amendment.
Verify that the FSAR for RBS describes in a level of detail consistent with that requested by Reference 2, the methodology for the calculation of the specific DG fuel oil volumes contained in the diesel fuel oil storage tank(s) necessary to ensure DG run-duration requirements, and to includes any resulting revisions in the next FSAR update following NRC issuance of the requested license amendment.	✓		Prior to the next FSAR update following approval of the license amendment.