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GNRO-2018/00038

August 27, 2018

50.71(e)

54.37(b)

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

SUBJECT: Updated Final Safety Analysis Report Submittal  
Grand Gulf Nuclear Station, Unit 1  
Docket No. 50-416  
License No. NPF-29

REFERENCES:

Dear Sir or Madam:

Pursuant to the 10 CFR 50.71(e) and 50.4(b)(6), Entergy Operations Inc. (Entergy) hereby submits one pdf copy on CD-ROM (Enclosure) of the Grand Gulf Nuclear Station (GGNS) Updated Final Safety Analysis Report (UFSAR). The UFSAR pdf is a complete copy of the 10 CFR 50 Appendix B controlled copy of the UFSAR. This revision of the UFSAR includes changes made in the facility as described in the UFSAR during the period of May 1, 2016 through April 30, 2018. In addition, one pdf copy of a redacted version of the UFSAR is included on a second CD-ROM (Enclosure).

This submittal is a significant revision to the UFSAR that incorporates the extended power uprate final safety analysis report, MELLLA+, the identification of information which is historical and retained for completeness and clarity of understanding, as well as deletion of obsolete material. Attachment 1 provides a list of the GGNS license bases document changes incorporated into this revision of the UFSAR, as well as the Fire Protection Program, and supersedes the version submitted in 2017 (GNRO-2017/00032). The GGNS UFSAR maintenance program is under review. Inconsistencies and errors found as a result of this review will be entered into the corrective action program.

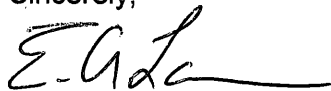
Due to the number of changes, in 2017 the entire document was repaginated and reformatted into a single book versus multiple sub-books. This enhancement simplifies movement through, searching, and understanding the material contained within the UFSAR. Changes made since the 2017 conversion are noted with the change number on the affected UFSAR pages. To comply with NRC requirements for electronic media, each chapter is broken into separate pdfs.

In addition, pursuant to the requirements of 10 CFR 54.37(b) and the guidance specified in Regulatory Issue Summary 2007-16, Revision 1, "Implementation of the Requirements of 10 CFR 54.37(b) for Holders of Renewed Licenses," the UFSAR update required by 10 CFR 50.71(e) must include any Structures, Systems, or Components (SSCs) newly identified that would have been subject to an aging management review or evaluation of Time-Limited Aging Analyses in accordance with 10 CFR 54.21. There were no newly identified SSCs subject to aging management review or evaluation during the specified period.

This letter contains no new commitments. If you have any questions or require additional information, please contact Douglas Neve at 601-437-2103.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 27<sup>th</sup> day of August 2018.

Sincerely,

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

Eric A. Larson  
Site Vice President  
Grand Gulf Nuclear Station  
EAL/tdf

Attachment: Licensing Basis Document Changes Incorporated into this Revision

cc: (See Next Page)

cc: NRC Senior Resident Inspector  
Grand Gulf Nuclear Station  
Port Gibson, MS 39150

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

U.S. Nuclear Regulatory Commission  
ATTN: Ms. Jennifer Bridges  
1600 East Lamar Boulevard  
Arlington, TX 76011-4511

GNRO-2018/00038

**Attachment 1 to GNRO 2018/00038**

License Basis Document Changes Incorporated in this Revision

Document Record Number	Change Description
LBDCR 2010-016	Update UFSAR Section 8.3 to add Non 1E Uninterruptible Power Supply (UPS)
LBDCR 2013-003	Update miscellaneous UFSAR Figures
LBDCR 2013-009	Change surveillance frequencies from 18 to 24 months in Technical Requirements Manual Section 6.2 (Fire Protection Plan components)
LBDCR 2013-011	Update UFSAR Section 9.5.10.1.2 to addresses changes in water chemistry control
LBDCR 2014-003	Update UFSAR Figure 7.2-1A and 7.2-11 to reflect change to Reactor Protection System Motor-Generator Set Protection
LBDCR 2014-008	Update UFSAR Figures 5.4-021 and 7.6-017
LBDCR 2014-036	Update UFSAR Section 11.4 to reflect liquid radwaste discharge to solid radwaste system
LBDCR 2014-042	Update UFSAR Chapter 13 to reflect relocation of information to Quality Assurance Program Manual
LBDCR 2015-002	Update UFSAR Section 6.2.3.3 for secondary containment drawdown time
LBDCR 2015-003	Load Reject Relay replacement and additional Electrohydraulic Control trip function (turbine trip)
LBDCR 2015-013	Update UFSAR Figures 10.3-001 and 10.4-010 for replacement of Main Steam drain valve
LBDCR 2015-028	Update air receiver isolation valves on UFSAR Figure 9.3-33
LBDCR 2015-033	Update UFSAR Figure 9.5-13B
LBDCR 2015-034	Update UFSAR Figure 9.1-26A
LBDCR 2015-036	Revise Reactor Pressure Vessel Level 9 setpoint in Figure 5.3-2
LBDCR 2015-042	Update UFSAR Figure 9.2-027
LBDCR 2015-047	Update UFSAR Section 9.1 to reflect additional control rod blade hangers in the Spent Fuel Pool
LBDCR 2015-048	Update UFSAR Figure 11.5-006
LBDCR 2015-052	Update UFSAR Sections 7.5 and 9.2 to reflect new SGTs Rad Monitor
LBDCR 2015-059	Add groundwater monitoring wells to Update UFSAR Section 2.4.13.2.3 and Table 2.4-29A
LBDCR 2015-062	Update UFSAR Figure 10.4-005 with new Circ Water Ph Monitors
LBDCR 2015-067	Update Survey Information in Chapter 2
LBDCR 2015-083	Update UFSAR Figure 2.4-44
LBDCR 2015-084	Revise UFSAR Section 9.1 to reflect storage of irradiated material in Spent Fuel Pool
LBDCR 2015-088	Remove primary water pump vibration automatic trip function from Section 10.2
LBDCR 2016-006	Update UFSAR Figure 10.4-001
LBDCR 2016-011	Update Table 7.5-2 note 11 and add new Note 31 to Table 6.2-49
LBDCR 2016-014	Update In Service Test program codes in Sections 3.9 and 6.2
LBDCR 2016-024	Update UFSAR Figure 10.2-001
LBDCR 2016-026	Remove TORMIS code methodology from UFSAR Sections 3.5 and 3.8
LBDCR 2016-032	Update UFSAR Figure 8.3-007 to reflect new power supply to Central Alarm Station
LBDCR 2016-036	Remove reference to UFSAR Tables 8.3-1, 8.3-2, & 8.3-3 from Section 8.3.
LBDCR 2017-037	Incorporate time critical operator actions for MELLLA+ and feedwater leakage control system into Sections 6.7.2 and 15.8.1
LBDCR 2016-039	Update UFSAR Section 5.3.2.2 to address negative reactor vessel pressure

Document Record Number	Change Description
	during startup
LBDCR 2016-047	Update Div III fuel tank inspection requirements in Section 3A
LBDCR 2016-048	Delete conflicting information on Standby Service Water room temperatures from Update UFSAR Section 3.11.4.5
LBDCR 2016-049	Update UFSAR Figure 8.3-007 to reflect new power supply to Central Alarm Station
LBDCR 2016-052	Update UFSAR Section 9.4 to delete Freon Detection from the Control Room HVAC
LBDCR 2016-054	Update UFSAR Appendix 3A/8.4-1 to capture revised REG GUIDE 8.4
LBDCR 2016-055	Update UFSAR Section 9.3 Table 9.3-4 Sheet 1 for MELLLA+
LBDCR 2016-060	Update UFSAR Figures 9.2-024 and 11.2-008
LBDCR 2016-061	Update UFSAR Section Chapter 13 Conduct of operations
LBDCR 2016-065	Update UFSAR Figure 8.1-001
LBDCR 2016-074	Update UFSAR Section 6.2.2.3 to reflect secondary containment drawdown analysis
LBDCR 2016-076	Update UFSAR Figure 1.8-001
LBDCR 2016-077	Update UFSAR Section 2.1 to address editorial changes and historical information
LBDCR 2016-078	Update UFSAR Section 2.2 to address editorial changes and historical information
LBDCR 2016-079	Update UFSAR Section 2.3 to address editorial changes and historical information
LBDCR 2016-087	Update UFSAR Section 4.1 to address editorial changes and historical information
LBDCR 2016-088	Update UFSAR Section 4.2 to implement editorial changes, identify historical information, and delete obsolete information.
LBDCR 2016-089	Update UFSAR Section 4.3 to implement editorial changes, identify historical information, and delete obsolete information.
LBDCR 2016-090	Update UFSAR Section 4.4 to address editorial changes and historical information
LBDCR 2016-091	Update UFSAR Section 4.5 to implement editorial changes, identify historical information, and delete obsolete information.
LBDCR 2016-092	Update UFSAR Section 15.5 to implement editorial changes, identify historical information, and delete obsolete information.
LBDCR 2016-100	Update UFSAR Section 5.3 to implement editorial changes, identify historical information, and delete obsolete information.
LBDCR 2016-101	Update UFSAR Section 5.4 and 5.5 to implement editorial changes, identify historical information, and delete obsolete information.
LBDCR 2016-113	Revise Standby Liquid Control Discharge Pressure in UFSAR Table 9.3-4
LBDCR 2016-115	Update UFSAR Figure 5.1-1 with correct enthalpy
LBDCR 2016-128	Update UFSAR Section 1.1 & 1.2 to address editorial changes and historical information
LBDCR 2016-129	Update UFSAR Section 1.3 to address editorial changes and historical information
LBDCR 2016-130	Update UFSAR Section 1.5 & 1.6 to address editorial changes and historical information
LBDCR 2016-131	Update UFSAR Section 1.7 & 1.8 to address historical information
LBDCR 2016-133	Update UFSAR Section 9.1 to address editorial changes and historical

Document Record Number	Change Description
	information
LBDCR 2016-134	Update UFSAR Section 9.2 to address editorial changes and historical information
LBDCR 2016-135	Update UFSAR Section 9.3 to address editorial changes and historical information
LBDCR 2016-136	Update UFSAR Section 9.4 to address editorial changes and historical information
LBDCR 2016-137	Update UFSAR Section 9.5 to address editorial changes and historical information
LBDCR 2016-138	Update UFSAR Section 6.3 to address editorial changes and historical information
LBDCR 2016-139	Update UFSAR Section 6.5 to address editorial changes and historical information
LBDCR 2016-140	Update UFSAR Section 6.6 to address editorial changes and historical information
LBDCR 2016-141	Update UFSAR Section 9.7 to address editorial changes and historical information
LBDCR 2016-150	Update UFSAR to clarify compliance with 10 CFR 50.100, 50.67 and GDC 19.
LBDCR 2016-151	Update UFSAR Figure 9.3-009-002
LBDCR 2016-152	Update UFSAR Section 2.4 to address editorial changes and historical information
LBDCR 2016-153	Update UFSAR Section 2.5 to address editorial changes and historical information
LBDCR 2016-154	Update UFSAR Section 6.2 to capture Extended Power Uprate (EPU) updates
LBDCR 2016-172	Update UFSAR Figure 10.2-001-01
LBDCR 2016-181	Update UFSAR Figures 9.1-34 and -36
LBDCR 2016-182	Reduce turbine bypass removal allowable value from <40% to <35.4% Reactor Thermal Power in UFSAR Sections 7.2, 7.7, 10.2, 10.4 & 15A
LBDCR 2016-183	Update UFSAR Section 15.2
LBDCR 2016-217	Update UFSAR Section 7.1 to address editorial changes and historical information
LBDCR 2016-218	Update UFSAR Section 7.2 to address editorial changes and historical information
LBDCR 2016-219	Update UFSAR Section 7.3 to address editorial changes and historical information
LBDCR 2016-220	Update UFSAR Section 7.4 to address editorial changes and historical information
LBDCR 2016-221	Update UFSAR Section 7.5 to address editorial changes and historical information
LBDCR 2016-222	Update UFSAR Section 7.6 to address editorial changes and historical information
LBDCR 2016-223	Update UFSAR Section 7.7 to address editorial changes and historical information
LBDCR 2016-225	Update UFSAR Section 6A to address editorial changes and historical information
LBDCR 2016-226	Update UFSAR Section 6E to address editorial changes and historical information
LBDCR 2016-227	Update UFSAR Figure 9.3-007
LBDCR 2016-230	Update UFSAR Section 3.2 to capture EPU updates
LBDCR 2016-235	Update UFSAR Section 8.1 to address editorial changes and historical information

Document Record Number	Change Description
LBDCR 2016-236	Update UFSAR Section 3.3 and 3.4 to address editorial changes and historical information
LBDCR 2016-237	Update UFSAR Section 3 to address editorial changes and historical information
LBDCR 2016-238	Update UFSAR Section 3 to address editorial changes and historical information
LBDCR 2016-239	Update UFSAR Section 3.10 & 3.11 to address editorial changes and historical information
LBDCR 2016-240	Update UFSAR Section 8.1 & 8.3 to address editorial changes and historical information
LBDCR 2016-241	Update UFSAR Appendix 3A to address editorial changes and historical information
LBDCR 2016-242	Update UFSAR Appendix 3C, 3D and 3E to address editorial changes and historical information
LBDCR 2016-243	Update UFSAR Appendix 3F and 3G to address editorial changes and historical information
LBDCR 2016-245	Update UFSAR Figure 9.1-26A
LBDCR 2016-246	Update UFSAR Section 6.1 to address editorial changes and historical information
LBDCR 2016-248	Update UFSAR Section 15.4 to clarify function of audible rod drift alarm
LBDCR 2016-249	Update UFSAR Figure 10.3-004 and 005
LBDCR 2016-252	Update UFSAR Section 14 to address editorial changes and historical information
LBDCR 2016-253	Update UFSAR Figures 10.4-010-01 and 10.4-010-02.
LBDCR 2016-254	Update UFSAR Figures in Chapter 9 and 10 to reflect configuration changes
LBDCR 2016-255	Update UFSAR to Incorporate RG 1.182 and TSTF-427.
LBDCR 2016-256	Update UFSAR Table 9A.1
LBDCR 2016-263	Update the normal flow direction for Penetration 105A in UFSAR Table 6.2-44
LBDCR 2016-275	Update UFSAR Section 15A and 15B to address editorial changes, historical information, and the impact of MELLLA+ on Feedwater Heater Out of Service.
LBDCR 2016-277	Update UFSAR Appendix 15C to address editorial changes and historical information
LBDCR 2016-279	Update UFSAR Figure 9.2-027-02
LBDCR 2016-280	Update Div 3 EDG logic in Section 8.3.1
LBDCR 2016-281	Update UFSAR Section 18 to address editorial changes and historical information
LBDCR 2016-282	Correct line class for steam condensing in UFSAR Figure 5.4-010
LBDCR 2016-300	Update UFSAR Section 15.2 to address editorial changes and historical information
LBDCR 2016-304	Update UFSAR Section 15.3 to capture EPU updates
LBDCR 2016-306	Update UFSAR Section 15.4 & 15.5 to address editorial changes and historical information
LBDCR 2016-308	Update UFSAR Section 15.6 to address editorial changes and historical information
LBDCR 2016-310	Update UFSAR Section 15.8 to address editorial changes and historical information
LBDCR 2016-312	Update UFSAR Section 4.4 to capture post EPU updates
LBDCR 2016-313	Update UFSAR Section 15D to address editorial changes and historical information
LBDCR 2016-315	Remove discussion of boraflex coupons from UFSAR Section 9.1.2
LBDCR 2016-317	Update UFSAR Figures 5.4-002-01 and 02 to remove reactor recirculation pump



Document Record Number	Change Description
	Oil Level Hi alarms
LBD CR 2016-320	Clarify Reload analysis requirements in UFSAR Sections 15.0 and 15.2
LBD CR 2016-322	Update UFSAR Figure 6.4-002 to reflect new roofing material
LBD CR 2017-002	Update UFSAR Figure 9.5-013B to reflect refrigerant compressor instrumentation
LBD CR 2017-007	Update UPS Heat Load from Div I Low Pressure Core Spray in FSAR Section 9.2-5
LBD CR 2017-014	Update UFSAR Section 9.5.2 with new 2-way radio system
LBD CR 2017-022	Update UFSAR Figure 10.4-13B to reflect actual plant configuration
LBD CR 2017-024	Revise condensate pump seal cooling water piping configuration in UFSAR Figure 10.4-011
LBD CR 2017-032	Updates Figure 10.4-011 to reflect modifications to cooling water tubing for condensate booster pumps
LBD CR 2017-036	Update UFSAR 3.6A and 9.3 to include leakage limits for Standby Liquid Control
LBD CR 2017-038	Update UFSAR Chapter 3 to reflect organization changes
LBD CR 2017-045	Update UFSAR Section 15.2 to remove obsolete information regarding industry failures of residual heat removal injection valves
LBD CR 2017-056	Update UFSAR Section 15.2 to remove obsolete information regarding the auxiliary steam system
LBD CR 2017-060	Update UFSAR Figure 10.4-001 to delete intercondenser high level alarm from condenser air removal system
LBD CR 2017-062	Update ATWS time critical operator actions in UFSAR Sections 9.3 and 15.8.1
LBD CR 2017-068	Update description of Balance of Plan transformers in UFSAR Section 8.1
LBD CR 2017-069	Update UFSAR Tables 9.3-1 and 9.3-2 to reflected gagged open valves
LBD CR 2017-071	Update UFSAR Tables 6.2-13 and 6.2-47 with the correct containment test pressure of 12.1 PSIG
LBD CR 2017-091	Revise Environmental Qualification Pressure Envelopes in UFSAR Figure 3.11-19 and 20
LBD CR 2018-001	Remove Main Steam Line high point vents on UFSAR Figure 10.3-003
LBD CR 2018-004	Update containment and drywell peak pressures for main steam and recirc line breaks in UFSAR Section 6.2 consistent with EPU
LBD CR 2018-007	Update UFSAR Figure 9.2-023A with revised valve configurations
LBD CR 2018-008	Revise turbine generator description in UFSAR Section 1.2 consistent with EPU.
LBD CR 2018-013	Correct MSIV Leakage Control System initiation time to less than 20 minutes in Section 6.7.1
LBD CR 2018-030	Revise the single failure methodology for a Standby Service Water line break from Amendment 196 in UFSAR Section 9.2
LBD CR 2018-036	Incorporate the Aging Management Program as Appendix A to the UFSAR
EC 62041	Incorporate thermal-hydraulic response associated with fire in the Main Control Room into the GGNS Appendix R Safe Shutdown Analysis.