



Entergy Operations, Inc.
P. O. Box 756
Port Gibson, MS 39150

Vincent Fallacara
Site Vice President
Tel. (601) 437-2129

GNRO-2016/00051

October 26, 2016

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

SUBJECT: Application to Revise the Grand Gulf Nuclear Station Unit 1 Technical Specifications to Allow the Adoption of Technical Specification Task Force Traveler TSTF-427, Revision 2, "Allowance for Non Technical Specification Barrier Degradation on Supported System OPERABILITY"
Grand Gulf Nuclear Station, Unit 1
Docket No. 50-416
License No. NPF-29

REFERENCE: TSTF-427, Revision 2, "Allowance for Non Technical Specification Barrier Degradation on Supported System OPERABILITY"

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, Entergy Operation Inc. (Entergy) is submitting a request for an amendment to the Technical Specifications (TS) for the Grand Gulf Nuclear Station Unit 1.

The proposed amendment would modify TS requirements for unavailable barriers by adding LCO 3.0.9.

Attachment 1 provides a description and assessment of the proposed changes. Attachment 2 provides the existing TS pages marked up to show the proposed changes. Attachment 3 provides revised (clean) TS pages. Attachment 4 provides the marked-up copy of the TS Bases pages. Attachment 5 provides a summary of the regulatory commitments made in this submittal.

Approval of the proposed amendment is requested by September 1, 2017. Once approved, the amendment shall be implemented within 90 days following issuance of the amendment.

In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated Mississippi Official.

If you have any questions or require additional information, please contact James Nadeau at 601-437-2103.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 26th day of October, 2016.

Sincerely,



VF/ram

- Attachment(s):
1. Description and Assessment of Technical Specifications Changes
 2. Proposed Technical Specification Changes (Marked-Up)
 3. Revised Technical Specification Pages (Clean)
 4. Proposed Technical Specification Bases Pages (Marked-Up)
 5. Regulatory Commitments

cc: with Attachment(s)

Mr. John P. Boska, Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Mail Stop O-8-C2
Washington, DC 20555

cc: without Attachment(s)

Mr. Mark Dapas
Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
1600 East Lamar Boulevard
Arlington, TX 76011-4511

U.S. Nuclear Regulatory Commission
ATTN: Mr. James Kim, NRR/DORL (w/2)
Mail Stop OWFN/8 B1
11555 Rockville Pike
Rockville, MD 20852-2738

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

Dr. Mary Currier, M.D., M.P.H
State Health Officer
Mississippi Department of Health
P.O. Box 1700
Jackson, MS 39215-1700
Email: mary.currier@msdh.ms.gov

Attachment 1 to GNRO-2016/00051

Description and Assessment of Technical Specifications Changes

Description and Assessment

1.0 DESCRIPTION

The proposed amendment would modify technical specifications (TS) requirements for unavailable barriers by adding LCO 3.0.9.

The changes are consistent with Nuclear Regulatory Commission (NRC) approved Industry/Technical Specification Task Force (TSTF) STS change TSTF-427 Revision 2. The availability of this TS improvement was published in the *Federal Register* on October 3, 2006, 71 Fed. Reg. 58444 as part of the consolidated line item improvement process (CLIP).

2.0 ASSESSMENT

2.1 Applicability of Published Safety Evaluation

Entergy Operations, Inc. has reviewed the safety evaluation dated October 3, 2006 as part of the CLIP. This review included a review of the NRC staff's evaluation, as well as the supporting information provided to support TSTF-427. Entergy Operations, Inc. has concluded that the justifications presented in the TSTF proposal and the safety evaluation prepared by the NRC staff are applicable to Grand Gulf Nuclear Station Unit 1 and justify this amendment for the incorporation of the changes to the Grand Gulf Nuclear Station TS.

2.2 Optional Changes and Variations

Entergy Operations, Inc. is not proposing any variations or deviations from the TS changes described in the TSTF-427 Revision 2 or the NRC staff's model safety evaluation dated October 3, 2006 (71 FR 58444).

On November 27, 2012, the NRC published a Federal Register Notice stating that Regulatory Guide (RG) 1.182 has been withdrawn and the subject matter has been incorporated into RG 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." (77 FR 70846). RG 1.160 endorses Revision 2 of NUMARC 93-01, dated April 2011. TSTF-427 and the proposed Bases, the model application and commitments, the model Safety Evaluation, and the implementation guidance reference RG 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants," which endorses the February 2000 version of NUMARC 93-01, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." References and commitments to RG 1.182 in these documents are assumed to refer to RG 1.160 and Revision 2 of NUMARC 93-01 instead of RG 1.182. References to RG 1.182 in the Technical Specification Bases and model application have been revised to refer to RG 1.160.

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Determination

Entergy Operations, Inc. has reviewed the proposed no significant hazards consideration determination (NSHCD) published in the *Federal Register* as part of the CLIIP. Entergy Operations, Inc. has concluded that the proposed NSHCD presented in the Federal Register notice is applicable to Grand Gulf and is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

3.2 Verification and Commitments

As discussed in the notice of availability published in the *Federal Register* on June 2, 2006 for this TS improvement, plant-specific verifications were performed as follows:

1. Entergy Operations, Inc. commits to the guidance of NUMARC 93-01 Section 11, Revision 2A, which provides guidance and details on the assessment and management of risk during maintenance.
2. Entergy Operations, Inc. will revise procedures to ensure that the risk assessment and management process described in NEI 04-08 is used whenever a barrier is considered unavailable and the requirements of LCO 3.0.9 are to be applied, in accordance with an overall configuration risk management program (CRMP) to ensure that potentially risk-significant configurations resulting from maintenance and other operational activities are identified and avoided.

3.3. Precedent

The NRC has approved TSTF-427 editorial variations similar to those described in "Section 2.2 Optional Changes and Variations" for a number of plants.

1. Letter from A Muñiz (U.S. Nuclear Regulatory Commission) to J.M. Davis (Detroit Edison Company), Fermi 2 – Issuance of Amendment RE: Consolidated Line Item Improvement Process (CLIIP) Application for Technical Specification Change (TSTF-427) to Add Limiting Condition for Operation (LCO) 3.0.9 Regarding the Unavailability of Barriers (TAC No. MD4434), dated August 1, 2007 (ADAMS Accession No. ML071490013).
2. Letter from P.S. Tam (U.S. Nuclear Regulatory Commission) to T.J. O'Connor (Northern States Power Company), Monticello Nuclear Generating Plant – Issuance of Amendment to Add New Limiting Condition for Operation 3.0.9 Regarding Unavailability of Barriers (TAC No. MD9490), dated October 22, 2008 (ADAMS Accession No. ML082550109).

4.0 ENVIRONMENTAL EVALUATION

Entergy Operations, Inc. has reviewed the environmental evaluation included in the model safety evaluation dated October 3, 2006 as part of the CLIIP. Entergy Operations, Inc. has concluded that the staff's findings presented in that evaluation are applicable to the Grand Gulf Nuclear Station and the evaluation is hereby incorporated by reference for this application.

Attachment 2 to GNRO-2016/00051

Proposed Technical Specification Changes (Marked-Up)

3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

LCO 3.0.1 LCOs shall be met during the MODES or other specified conditions in the Applicability, except as provided in LCO 3.0.2, LCO 3.0.7, and LCO 3.0.8.

LCO 3.0.2 Upon discovery of a failure to meet an LCO, the Required Actions of the associated Conditions shall be met, except as provided in LCO 3.0.5 and LCO 3.0.6.

If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required, unless otherwise stated.

LCO 3.0.3 When an LCO is not met and the associated ACTIONS are not met, an associated ACTION is not provided, or if directed by the associated ACTIONS, the unit shall be placed in a MODE or other specified condition in which the LCO is not applicable. Action shall be initiated within 1 hour to place the unit, as applicable, in:

- a. MODE 2 within 7 hours;
- b. MODE 3 within 13 hours; and
- c. MODE 4 within 37 hours.

Exceptions to this Specification are stated in the individual Specifications.

Where corrective measures are completed that permit operation in accordance with the LCO or ACTIONS, completion of the actions required by LCO 3.0.3 is not required.

LCO 3.0.3 is only applicable in MODES 1, 2, and 3.

LCO 3.0.4 When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made:

- a. When the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time;

(continued)

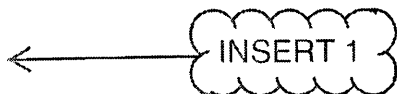
3.0 LCO APPLICABILITY (continued)

LCO 3.0.7 Special Operations LCOs in Section 3.10 allow specified Technical Specifications (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with Special Operations LCOs is optional. When a Special Operations LCO is desired to be met but is not met, the ACTIONS of the Special Operations LCO shall be met. When a Special Operations LCO is not desired to be met, entry into a MODE or other specified condition in the Applicability shall only be made in accordance with the other applicable Specifications.

LCO 3.0.8 When one or more required snubbers are unable to perform their associated support function(s), any affected supported LCO(s) are not required to be declared not met solely for this reason if risk is assessed and managed, and:

- a. the snubbers not able to perform their associated support function(s) are associated with only one train or subsystem of a multiple train or subsystem supported system or are associated with a single train or subsystem supported system and are able to perform their associated support function within 72 hours; or
- b. the snubbers not able to perform their associated support function(s) are associated with more than one train or subsystem of a multiple train or subsystem supported system and are able to perform their associated support function within 12 hours.

At the end of the specified period the required snubbers must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met.



INSERT 1

LCO 3.0.9 When one or more required barriers are unable to perform their related support function(s), any supported system LCO(s) are not required to be declared not met solely for this reason for up to 30 days provided that at least one train or subsystem of the supported system is OPERABLE and supported by barriers capable of providing their related support function(s), and risk is assessed and managed. This specification may be concurrently applied to more than one train or subsystem of a multiple train or subsystem supported system provided at least one train or subsystem of the supported system is OPERABLE and the barriers supporting each of these trains or subsystems provide their related support function(s) for different categories of initiating events.

For the purposes of this specification, the High Pressure Core Spray system, the Reactor Core Isolation Cooling system, and the Automatic Depressurization System are considered independent subsystems of a single system.

If the required OPERABLE train or subsystem becomes inoperable while this specification is in use, it must be restored to OPERABLE status within 24 hours or the provisions of this specification cannot be applied to the trains or subsystems supported by the barriers that cannot perform their related support function(s).

At the end of the specified period, the required barriers must be able to perform their related support function(s) or the supported system LCO(s) shall be declared not met.

Attachment 3 to GNRO-2016/00051

Revised Technical Specification Pages (Clean)

3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

- LCO 3.0.1 LCOs shall be met during the MODES or other specified conditions in the Applicability, except as provided in LCO 3.0.2, LCO 3.0.7, LCO 3.0.8, and LCO 3.0.9.
-
- LCO 3.0.2 Upon discovery of a failure to meet an LCO, the Required Actions of the associated Conditions shall be met, except as provided in LCO 3.0.5 and LCO 3.0.6.
- If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required, unless otherwise stated.
-
- LCO 3.0.3 When an LCO is not met and the associated ACTIONS are not met, an associated ACTION is not provided, or if directed by the associated ACTIONS, the unit shall be placed in a MODE or other specified condition in which the LCO is not applicable. Action shall be initiated within 1 hour to place the unit, as applicable, in:
- MODE 2 within 7 hours;
 - MODE 3 within 13 hours; and
 - MODE 4 within 37 hours.
- Exceptions to this Specification are stated in the individual Specifications.
- Where corrective measures are completed that permit operation in accordance with the LCO or ACTIONS, completion of the actions required by LCO 3.0.3 is not required.
- LCO 3.0.3 is only applicable in MODES 1, 2, and 3.
-
- LCO 3.0.4 When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made:
- When the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time;

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3.0 LCO APPLICABILITY (continued)

LCO 3.0.7 Special Operations LCOs in Section 3.10 allow specified Technical Specifications (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with Special Operations LCOs is optional. When a Special Operations LCO is desired to be met but is not met, the ACTIONS of the Special Operations LCO shall be met. When a Special Operations LCO is not desired to be met, entry into a MODE or other specified condition in the Applicability shall only be made in accordance with the other applicable Specifications.

LCO 3.0.8 When one or more required snubbers are unable to perform their associated support function(s), any affected supported LCO(s) are not required to be declared not met solely for this reason if risk is assessed and managed, and:

- a. the snubbers not able to perform their associated support function(s) are associated with only one train or subsystem of a multiple train or subsystem supported system or are associated with a single train or subsystem supported system and are able to perform their associated support function within 72 hours; or
- b. the snubbers not able to perform their associated support function(s) are associated with more than one train or subsystem of a multiple train or subsystem supported system and are able to perform their associated support function within 12 hours.

At the end of the specified period the required snubbers must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met.

LCO 3.0.9 When one or more required barriers are unable to perform their related support function(s), any supported system LCO(s) are not required to be declared not met solely for this reason for up to 30 days provided that at least one train or subsystem of the supported system is OPERABLE and supported by barriers capable of providing their related support function(s), and risk is assessed and managed. This specification may be concurrently applied to more than one train or subsystem of a multiple train or subsystem supported system provided at least one train or subsystem

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3.0 LCO APPLICABILITY (continued)

LCO 3.0.9 of the supported system is OPERABLE and the barriers supporting each of these trains or subsystems provide their related support function(s) for different categories of initiating events.

For the purposes of this specification, the High Pressure Core Spray system, the Reactor Core Isolation Cooling system, and the Automatic Depressurization System are considered independent subsystems of a single system.

If the required OPERABLE train or subsystem becomes inoperable while this specification is in use, it must be restored to OPERABLE status within 24 hours or the provisions of this specification cannot be applied to the trains or subsystems supported by the barriers that cannot perform their related support function(s).

At the end of the specified period, the required barriers must be able to perform their related support function(s) or the supported system LCO(s) shall be declared not met.

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Attachment 4 to GNRO-2016/00051

Proposed Technical Specification Bases Pages (Marked-Up)

B 3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

BASES

3.0.9

LCOs LCO 3.0.1 through LCO 3.0.8 establish the general requirements applicable to all Specifications and apply at all times, unless otherwise stated.

LCO 3.0.1 LCO 3.0.1 establishes the Applicability statement within each individual Specification as the requirement for when the LCO is required to be met (i.e., when the unit is in the MODES or other specified conditions of the Applicability statement of each Specification).

LCO 3.0.2 LCO 3.0.2 establishes that upon discovery of a failure to meet an LCO, the associated ACTIONS shall be met. The Completion Time of each Required Action for an ACTIONS Condition is applicable from the point in time that an ACTIONS Condition is entered. The Required Actions establish those remedial measures that must be taken within specified Completion Times when the requirements of an LCO are not met. This Specification establishes that:

- a. Completion of the Required Actions within the specified Completion Times constitutes compliance with a Specification; and
- b. Completion of the Required Actions is not required when an LCO is met within the specified Completion Time, unless otherwise specified.

There are two basic types of Required Actions. The first type of Required Action specifies a time limit in which the LCO must be met. This time limit is the Completion Time to restore an inoperable system or component to OPERABLE status or to restore variables to within specified limits. If this type of Required Action is not completed within the specified Completion Time, a shutdown may be required to place the unit in a MODE or condition in which the Specification is not applicable. (Whether stated as a Required Action or not, correction of the entered Condition is an action that may always be considered upon entering ACTIONS.) The second type of Required Action specifies the remedial measures that permit continued operation of the

(continued)

BASES

LCO 3.0.8
(continued)

event that would require operation of the supported system occurring while the snubber(s) are not capable of performing their associated support function.

LCO 3.0.8 requires that risk be assessed and managed. Industry and NRC guidance on the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, use of LCO 3.0.8 should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process to the extent possible so that maintenance on any unaffected train or subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment need not be quantified, but a qualitative awareness of the vulnerability of systems and components when one or more snubbers are not able to perform their associated support function.

LCO 3.0.8 does not apply to non-seismic snubbers. The provisions of LCO 3.0.8 are not to be applied to supported TS systems unless the supported systems would remain capable of performing their required safety or support functions for postulated design loads other than seismic loads.

The risk impact of dynamic loadings other than seismic loads was not assessed as part of the development of LCO 3.0.8. These shock-type loads include thrust loads, blowdown loads, water-hammer loads, steam-hammer loads, LOCA loads and pipe rupture loads. However, there are some important distinctions between non-seismic (shock-type) loads and seismic loads which indicate that, in general, the risk impact of the out-of-service snubbers is smaller for non-seismic loads than for seismic loads. First, while a seismic load affects the entire plant, the impact of a non-seismic load is localized to a certain system or area of the plant. Second, although non-seismic shock loads may be higher in total force and the impact could be as much or more than seismic loads, generally they are of much shorter duration than seismic loads. Third, the impact of non-seismic loads is more plant specific, and thus harder to analyze generically, than for seismic loads. For these reasons, every time LCO 3.0.8 is applied, at least one train of each system that is supported by the inoperable snubber(s) should remain capable of performing their required safety or support functions for postulated design loads other than seismic loads.



INSERT 2

LCO 3.0.9 LCO 3.0.9 establishes conditions under which systems described in the Technical Specifications are considered to remain OPERABLE when required barriers are not capable of providing their related support function(s).

Barriers are doors, walls, floor plugs, curbs, hatches, installed structures or components, or other devices, not explicitly described in Technical Specifications, that support the performance of the safety function of systems described in the Technical Specifications. This LCO states that the supported system is not considered to be inoperable solely due to required barriers not capable of performing their related support function(s) under the described conditions. LCO 3.0.9 allows 30 days before declaring the supported system(s) inoperable and the LCO(s) associated with the supported system(s) not met. A maximum time is placed on each use of this allowance to ensure that as required barriers are found or are otherwise made unavailable, they are restored. However, the allowable duration may be less than the specified maximum time based on the risk assessment.

If the allowed time expires and the barriers are unable to perform their related support function(s), the supported system's LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

This provision does not apply to barriers which support ventilation systems or to fire barriers. The Technical Specifications for ventilation systems provide specific Conditions for inoperable barriers. Fire barriers are addressed by other regulatory requirements and associated plant programs. This provision does not apply to barriers which are not required to support system OPERABILITY (see NRC Regulatory Issue Summary 2001-09, "Control of Hazard Barriers," dated April 2, 2001).

The provisions of LCO 3.0.9 are justified because of the low risk associated with required barriers not being capable of performing their related support function. This provision is based on consideration of the following initiating event categories:

- Loss of coolant accidents;
- High energy line breaks;
- Feedwater line breaks;
- Internal flooding;
- External flooding;
- Turbine missile ejection; and
- Tornado or high wind.

The risk impact of the barriers which cannot perform their related support function(s) must be addressed pursuant to the risk assessment and management provision of the Maintenance Rule, 10 CFR 50.65 (a)(4), and the associated implementation guidance, Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants." Regulatory Guide 1.182 endorses the guidance in Section 11 of NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." This guidance provides for the consideration of dynamic plant configuration issues, emergent conditions, and other aspects pertinent to plant operation with the barriers unable to perform their related support function(s). These considerations may result in risk management and other

compensatory actions being required during the period that barriers are unable to perform their related support function(s).

LCO 3.0.9 may be applied to one or more trains or subsystems of a system supported by barriers that cannot provide their related support function(s), provided that risk is assessed and managed (including consideration of the effects on Large Early Release and from external events). If applied concurrently to more than one train or subsystem of a multiple train or subsystem supported system, the barriers supporting each of these trains or subsystems must provide their related support function(s) for different categories of initiating events. For example, LCO 3.0.9 may be applied for up to 30 days for more than one train of a multiple train supported system if the affected barrier for one train protects against internal flooding and the affected barrier for the other train protects against tornado missiles. In this example, the affected barrier may be the same physical barrier but serve different protection functions for each train.

The HPCS (High Pressure Core Spray) and RCIC (Reactor Core Isolation Cooling) systems are single train systems for injecting makeup water into the reactor during an accident or transient event. The RCIC system is not a safety system, nor required to operate during a transient, therefore, it does not have to meet the single failure criterion. The HPCS system provides backup in case of a RCIC system failure. The ADS (Automatic Depressurization System) and low pressure ECCS coolant injection provide the core cooling function in the event of failure of the HPCS system during an accident. Thus, for the purposes of LCO 3.0.9, the HPCS system, the RCIC system, and the ADS are considered independent subsystems of a single system and LCO 3.0.9 can be used on these single train systems in a manner similar to multiple train or subsystem systems.

If during the time that LCO 3.0.9 is being used, the required OPERABLE train or subsystem becomes inoperable, it must be restored to OPERABLE status within 24 hours. Otherwise, the train(s) or subsystem(s) supported by barriers that cannot perform their related support function(s) must be declared inoperable and the associated LCOs declared not met. This 24 hour period provides time to respond to emergent conditions that would otherwise likely lead to entry into LCO 3.0.3 and a rapid plant shutdown, which is not justified given the low probability of an initiating event which would require the barrier(s) not capable of performing their related support function(s). During this 24 hour period, the plant risk associated with the existing conditions is assessed and managed in accordance with 10 CFR 50.65(a)(4).

Attachment 5 to GNRO-2016/00051

Regulatory Commitments

List of Regulatory Commitment

The following table identifies the action 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 commitment.

Commitment	Type (Check One)		Scheduled Completion Date
	One-Time Action	Continuing Compliance	
Entergy Operations, Inc. commits to the guidance of NUMARC 93-01 Section 11, Revision 2, which provides guidance and details on the assessment and management of risk during maintenance.		X	
Entergy Operations, Inc. will revise procedures to ensure that the risk assessment and management process described in NEI 04-08 is used whenever a barrier is considered unavailable and the requirements of LCO 3.0.9 are to be applied, in accordance with an overall CRMP to ensure that potentially risk-significant configurations resulting from maintenance and other operational activities are identified and avoided.	X		