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GNRO-2008/00014

June 30, 2008

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

SUBJECT: License Amendment Request, Application for Technical Specification Changes Using the Consolidated Line Item Improvement Process (CLIIP) – TSTF-475 Control Rod Notch Testing

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

REFERENCE: Federal Register Notice 72 FR 63935, published November 13, 2007

Dear Sir or Madam:

In accordance with the provisions of 10CFR50.90 Entergy Operations, Inc. (Entergy) is submitting a request for an amendment to the technical specifications (TS) for Grand Gulf Nuclear Station, Unit 1 (GGNS). The proposed amendment would: (1) revise the TS surveillance requirement (SR) frequency in TS 3.1.3, "Control Rod OPERABILITY", (2) clarify the requirement to fully insert all insertable control rods for the limiting condition for operation (LCO) in TS 3.3.1.2, required Action E.2, "Source Range Monitoring Instrumentation," and (3) revise Example 1.4-3 in Section 1.4 "Frequency" to clarify the applicability of the 1.25 surveillance test interval extension.

Attachment 1 provides a description of the proposed change, the requested confirmation of applicability, and plant-specific verifications. Attachment 2 provides the existing TS pages marked up to show the proposed change. Attachment 3 provides the associated TS Bases changes. The proposed change includes one new commitment as summarized in Attachment 4.

The proposed change has been evaluated in accordance with 10CFR50.91(a)(1) using criteria in 10CFR50.92(c) and it has been determined that this change involves no significant hazards consideration. The bases for these determinations are included in the attached submittal.

Entergy requests approval of the proposed as soon as practical. Once approved, the amendment will be implemented within 60 days of receipt of the approval letter. Although this request is neither exigent nor emergency, your prompt review is requested.

If you should have any questions regarding this submittal, please contact Michael Larson, 601-437-6685.

I declare under penalty of perjury that the foregoing is true and correct. Executed on June 30, 2008.

Sincerely,



Michael A. Krupa
Director, Nuclear Safety Assurance

MAK/MJL

- Attachments:
1. Analysis of Proposed Technical Specification Change
 2. Proposed Technical Specification Changes (markup)
 3. Technical Specification Bases Changes (markup) – For Information Only.
 4. List of Regulatory Commitments

cc:

NRC Senior Resident Inspector Grand Gulf Nuclear Station Port Gibson, MS 39150
Mr. Brian W. Amy, MD, MHA, MPH Mississippi Department of Health P. O. Box 1700 Jackson, MS 39215-1700
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U. S. Nuclear Regulatory Commission ATTN: Mr. Jack N. Donohew, NRR/DORL (w/2) ATTN: ADDRESSEE ONLY ATTN: U. S. Postal Delivery Address Only Mail Stop OWFN/O-8G14 Washington, DC 20555-0001

Attachment 1

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Analysis of Proposed Technical Specification Change

1.0 Description

This letter is a request to amend Operating License NPF-29 for Grand Gulf Nuclear Station, Unit 1 (GGNS).

The proposed amendment would: (1) revise the TS surveillance requirement (SR 3.1.3.2) frequency in TS 3.1.3, "Control Rod OPERABILITY", (2) clarify the requirement to fully insert all insertable control rods for the limiting condition for operation (LCO) in TS 3.3.1.2, Required Action E.2, "Source Range Monitoring Instrumentation", and (3) revise Example 1.4-3 in Section 1.4 "Frequency" to clarify the applicability of the 1.25 surveillance test interval extension.

The changes are consistent with Nuclear Regulatory Commission (NRC) approved Industry/Technical Specification Task Force (TSTF) change traveler TSTF-475, Revision 1. The Federal Register notice published on November 13, 2007 announced the availability of this Technical Specification (TS) improvement through the consolidated line item improvement process (CLIP).

2.0 Assessment

2.1 Applicability of Published Safety Evaluation

Entergy has reviewed the safety evaluation dated November 13, 2007 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-475, Revision 1.

Entergy 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 (GGNS) and justify this amendment for the incorporation of the changes to the GGNS TS.

2.2 Optional Changes and Variations

Entergy is not proposing any variations or deviations from the applicable TS changes described in the modified TSTF-475, Revision 1 and the NRC staff's model safety evaluation dated November 13, 2007 other than administrative differences associated with the plant specific TS format or numbering.

3.0 Regulatory Analysis

3.1 No Significant Hazards Consideration Determination

Entergy has reviewed the proposed no significant hazards consideration determination (NSHCD) published in the Federal Register as part of the CLIP. Entergy has concluded that the proposed NSHCD presented in the Federal Register notice is applicable to GGNS and is hereby incorporated by reference to satisfy the requirements of 10CFR50.91(a).

3.2 Verification and Commitments

As discussed in the notice of availability published in the Federal Register on November 13, 2007 for this TS improvement, Entergy verified the applicability of TSTF-475 to GGNS, and will establish TS Bases consistent with those proposed in TSTF-475, Revision 1.

These changes are based on TSTF change traveler TSTF-475 Revision 1 that proposes revisions to the Standard Technical Specifications (STS) by: (1) revising the frequency of SR 3.1.3.2, notch testing of fully withdrawn control rod, from "7 days after the control rod is withdrawn and THERMAL POWER is greater than the LPSP of RPCS" to "31 days after the control rod is withdrawn and THERMAL POWER is greater than the LPSP of the RPCS", (2) adding the word "fully" to LCO 3.3.1.2 Required Action E.2 to clarify the requirement to fully insert all insertable control rods in core cells containing one or more fuel assemblies when the associated SRM instrument is inoperable, and (3) revising Example 1.4-3 in Section 1.4 "Frequency" to clarify that the 1.25 surveillance test interval extension in SR 3.0.2 is applicable to time periods discussed in NOTES in the "SURVEILLANCE" column in addition to the time periods in the "FREQUENCY" column.

4.0 Environmental Evaluation

Entergy has reviewed the environmental evaluation included in the model safety evaluation dated November 13, 2007 as part of the CLIP. Entergy has concluded that the staff's findings presented in that evaluation are applicable to GGNS and the evaluation is hereby incorporated by reference for this application.

Attachment 2

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Proposed Technical Specification Changes (markup)

1.4 Frequency

EXAMPLES

EXAMPLE 1.4-2 (continued)

"Thereafter" indicates future performances must be established per SR 3.0.2, but only after a specified condition is first met (i.e., the "once" performance in this example). If reactor power decreases to < 25% RTP, the measurement of both intervals stops. New intervals start upon reactor power reaching 25% RTP.

EXAMPLE 1.4-3

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>-----NOTE----- Not required to be performed until 12 hours after \geq 25% RTP. -----</p>	
<p>Perform channel adjustment.</p>	<p>7 days</p>

The interval continues whether or not the unit operation is < 25% RTP between performances.

As the Note modifies the required performance of the Surveillance, it is construed to be part of the "specified Frequency." Should the 7 day interval be exceeded while operation is < 25% RTP, this Note allows 12 hours after power reaches \geq 25% RTP to perform the Surveillance. The Surveillance is still considered to be within the "specified Frequency." Therefore, if the Surveillance were not performed within the 7 day interval (plus the extension allowed by SR 3.0.2), but operation was < 25% RTP, it would not constitute a failure of the SR or failure to meet the LCO. Also, no violation of SK 3.0.4 occurs when changing MODES, even with the 7 day Frequency not met, provided operation does not exceed 12 hours, with power \geq 25% RTP.

(Plus the extension Allowed by SR 3.0.2)

(continued)

1.4 Frequency

EXAMPLES

EXAMPLE 1.4-3 (continued)

Once the unit reaches 25% RTP, 12 hours would be allowed for completing the Surveillance. If the Surveillance were not performed within this 12 hour interval, there would then be a failure to perform a Surveillance within the specified Frequency, and the provisions of SR 3.0.3 would apply.

EXAMPLE 1.4-4

(Plus the extension allowed by SR 3.0.2.)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>-----NOTE----- Only required to be met in MODE 1. -----</p>	
<p>Verify leakage rates are within limits.</p>	<p>24 hours</p>

Example 1.4-4 specifies that the requirements of this Surveillance do not have to be met until the unit is in MODE 1. The interval measurement for the Frequency of this Surveillance continues at all times, as described in Example 1.4-1. However, the Note constitutes an "otherwise stated" exception to the Applicability of this Surveillance. Therefore, if the Surveillance were not performed within the 24 hour (plus the extension allowed by SR 3.0.2) interval, but the unit was not in MODE 1, there would be no failure of the SR nor failure to meet the LCO. Therefore, no violation of SR 3.0.4 occurs when changing MODES, even with the 24 hour Frequency exceeded, provided the MODE change was not made into MODE 1. Prior to entering MODE 1 (assuming again that the 24 hour Frequency were not met), SR 3.0.4 would require satisfying the SR.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	<p>A.3 Perform SR 3.1.3.2 and SR 3.1.3.3 for each withdrawn OPERABLE control rod.</p> <p><u>AND</u></p> <p>A.4 Perform SR 3.1.1.1.</p>	<p>24 hours from discovery of Condition A concurrent with THERMAL POWER greater than the low power setpoint (LPSP) of the Rod Pattern Control System (RPCS)</p> <p>72 hours</p>
B. Two or more withdrawn control rods stuck.	B.1 Be in MODE 3.	12 hours
C. One or more control rods inoperable for reasons other than Condition A or B.	<p>-----NOTE----- Inoperable control rods may be bypassed in RACS in accordance with SR 3.3.2.1.9, if required, to allow insertion of inoperable control rod and continued operation. -----</p> <p>C.1 Fully insert inoperable control rod.</p> <p><u>AND</u></p> <p>C.2 Disarm the associated CRD.</p>	<p>3 hours</p> <p>4 hours</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. -----NOTE----- Not applicable when THERMAL POWER > 10% RTP. -----</p> <p>Two or more inoperable control rods not in compliance with banked position withdrawal sequence (BPWS) and not separated by two or more OPERABLE control rods.</p>	<p>D.1 Restore compliance with BPWS.</p> <p><u>OR</u></p> <p>D.2 Restore control rod to OPERABLE status.</p>	<p>4 hours</p> <p>4 hours</p>
<p>E. Required Action and associated Completion Time of Condition A, C or D not met.</p> <p><u>OR</u></p> <p>Nine or more control rods inoperable.</p>	<p>E.1 Be in MODE 3.</p>	<p>12 hours</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.1.3.1 Determine the position of each control rod.	24 hours

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of next page*

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.1.3.2</p> <p><i>Deleted</i> →</p> <p>----- NOTE ----- Not required to be performed until 8 days 18 hours after the control rod is fully withdrawn and THERMAL POWER is greater than the LPSP of the RPCS.</p> <p>Insert each fully withdrawn control rod at least one notch.</p>	<p><i>7 days</i></p>
<p>SR 3.1.3.3</p> <p>----- NOTE ----- Not required to be performed until ³¹28 days 18 hours after the control rod is withdrawn and THERMAL POWER is greater than the LPSP of the RPCS.</p> <p>Insert each fully ^{partially} withdrawn control rod at least one notch.</p>	<p>31 days</p>
<p>SR 3.1.3.4</p> <p>Verify each control rod scram time from fully withdrawn to notch position 13 is ≤ 7 seconds.</p>	<p>In accordance with SR 3.1.4.1, SR 3.1.4.2, SR 3.1.4.3, and SR 3.1.4.4</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. One or more required SRMs inoperable in MODE 3 or 4.</p>	<p>D.1 Fully insert all insertable control rods.</p> <p><u>AND</u></p> <p>D.2 Place reactor mode switch in the shutdown position.</p>	<p>1 hour</p> <p>1 hour</p>
<p>E. One or more required SRMs inoperable in MODE 5.</p>	<p>E.1 Suspend CORE ALTERATIONS except for control rod insertion.</p> <p><u>AND</u></p> <p>E.2 Initiate action to insert all insertable control rods in core cells containing one or more fuel assemblies.</p>	<p>Immediately</p> <p>Immediately</p> 

Attachment 3

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Technical Specification Bases Changes (markup)

BASES

ACTIONS

A.1, A.2, A.3, and A.4 (continued)

control rod can be isolated from scram by isolating the hydraulic control unit from scram and normal drive and withdraw pressure, yet still maintain cooling water to the CRD.

Monitoring of the insertion capability for each withdrawn control rod must also be performed within 24 hours from discovery of Condition A concurrent with THERMAL POWER greater than the low power setpoint (LPSP) of the rod pattern controller (RPC). ~~SR 3.1.3.2 and SR 3.1.3.3~~ perform periodic tests of the control rod insertion capability of withdrawn control rods. Testing each withdrawn control rod ensures that a generic problem does not exist. This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." The Required Action A.2 Completion Time only begins upon discovery of Condition A concurrent with THERMAL POWER greater than the actual LPSP of the RPC, since the notch insertions may not be compatible with the requirements of rod pattern control (LCO 3.1.6) and the RPC (LCO 3.3.2.1, "Control Rod Block Instrumentation"). The allowed Completion Time of 24 hours from discovery of Condition A concurrent with THERMAL POWER greater than the LPSP of the RPC provides a reasonable time to test the control rods, considering the potential for a need to reduce power to perform the tests.

To allow continued operation with a withdrawn control rod stuck, an evaluation of adequate SDM is also required within 72 hours. Should a DBA or transient require a shutdown, to preserve the single failure criterion an additional control rod would have to be assumed to have failed to insert when required. Therefore, the original SDM demonstration may not be valid. The SDM must therefore be evaluated (by measurement or analysis) with the stuck control rod at its stuck position and the highest worth OPERABLE control rod assumed to be fully withdrawn.

The allowed Completion Time of 72 hours to verify SDM is adequate, considering that with a single control rod stuck in a withdrawn position, the remaining OPERABLE control rods

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BASES (continued)

SURVEILLANCE
REQUIREMENTS

SR 3.1.3.1

The position of each control rod must be determined, to ensure adequate information on control rod position is available to the operator for determining control rod OPERABILITY and controlling rod patterns. Control rod position may be determined by the use of OPERABLE position indicators, by moving control rods to a position with an OPERABLE indicator, or by the use of other appropriate methods. The 24 hour Frequency of this SR is based on operating experience related to expected changes in control rod position and the availability of control rod position indications in the control room.

SR 3.1.3.2 Deleted →

SR 3.1.3.2 and SR 3.1.3.3

Control rod insertion capability is demonstrated by inserting each partially or fully withdrawn control rod at least one notch and observing that the control rod moves. The control rod may then be returned to its original position. This ensures the control rod is not stuck and is free to insert on a scram signal. ~~These surveillances are modified by Notes identifying that the surveillances are not required to be performed when THERMAL POWER is less than or equal to the actual LPSP of the RPC since the notch insertions may not be compatible with the requirements of BPWS (LCO 3.1.6) and the RPC (LCO 3.3.2.1). These Notes also provide a time allowance such that the surveillances are not required to be performed until the next scheduled control rod testing for control rods of the same class (i.e., fully withdrawn or partially withdrawn). These Notes provide this allowance to prevent unnecessary perturbations in reactor operation to perform this testing on a control rod whose surveillance class (i.e., fully withdrawn or partially withdrawn) has changed.~~ The 7 day Frequency of SR 3.1.3.2 is based on operating experience related to the changes in CRD performance and the ease of performing notch testing for fully withdrawn control rods. Partially withdrawn control rods are tested at a 31 day Frequency, based on the potential power reduction required to allow the control rod movement, and considering the large testing sample of SR 3.1.3.2. Furthermore, the 31 day Frequency takes into account operating experience related to changes in CRD performance. At any time, if a control rod is immovable, a determination of that control rod's

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BASES

SURVEILLANCE
REQUIREMENTS

~~SR 3.1.3.2 and SR 3.1.3.3 (continued)~~

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trippability (OPERABILITY) must be made and appropriate action taken.

SR 3.1.3.4

Verifying the scram time for each control rod to notch position 13 is ≤ 7 seconds provides reasonable assurance that the control rod will insert when required during a DBA or transient, thereby completing its shutdown function. This SR is performed in conjunction with the control rod scram time testing of SR 3.1.4.1, SR 3.1.4.2, SR 3.1.4.3, and SR 3.1.4.4. The LOGIC SYSTEM FUNCTIONAL TEST in LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," and the functional testing of SDV vent and drain valves in LCO 3.1.8, "Scram Discharge Volume (SDV) Vent and Drain Valves," overlap this Surveillance to provide complete testing of the assumed safety function. The associated Frequencies are acceptable, considering the more frequent testing performed to demonstrate other aspects of control rod OPERABILITY and operating experience, which shows scram times do not significantly change over an operating cycle.

SR 3.1.3.5

Coupling verification is performed to ensure the control rod is connected to the CRDM and will perform its intended function when necessary. The Surveillance requires verifying that a control rod does not go to the withdrawn overtravel position when it is fully withdrawn. The overtravel position feature provides a positive check on the coupling integrity, since only an uncoupled CRD can reach the overtravel position. In addition, during this Surveillance any indicated response of the nuclear instrumentation while withdrawing the control rod is observed as a backup to the withdrawn overtravel position indication. The verification is required to be performed anytime a control rod is withdrawn to the "full out"

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.1.3.5 (continued)

position (notch position 48) or prior to declaring the control rod OPERABLE after work on the control rod or CRD System that could affect coupling. This includes control rods inserted one notch and then returned to the "full out" position during the performance of ~~SR 3.1.3.2~~ This 3.1.3.3 Frequency is acceptable, considering the low probability that a control rod will become uncoupled when it is not being moved and operating experience related to uncoupling events.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 26, GDC 27, GDC 28, and GDC 29.
 2. UFSAR, Section 4.3.2.5.5.
 3. UFSAR, Section 4.6.1.1.2.5.3.
 4. UFSAR, Section 5.2.2.2.3.
 5. UFSAR, Section 15.4.1.
 6. UFSAR, Section 15.4.9.
 7. NEDO-21231, "Banked Position Withdrawal Sequence," Section 7.2, January 1977.
 8. NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel (GESTAR II)."
 9. AECM-90/0146, Proposed Amendment to the Operating License (PCOL-90/07, Revision 1), dated August 15, 1990.
 10. MAEC-90/0285, Issuance of Amendment No. 73 to Facility Operating License No. NPF-29 - Grand Gulf Nuclear Station, Unit 1, Regarding Fuel Cycle 5 Reload (TAC No. 76992), dated November 15, 1990.
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BASES

ACTIONS

D.1 and D.2 (continued)

mode switch is locked in the shutdown position to prevent inadvertent control rod withdrawals. The allowed Completion Time of 1 hour is sufficient to accomplish the Required Action, and takes into account the low probability of an event requiring the SRM occurring during this time.

E.1 and E.2

With one or more required SRMs inoperable in MODE 5, the capability to detect local reactivity changes in the core during refueling is degraded. CORE ALTERATIONS must be immediately suspended, and action must be immediately initiated to insert all insertable control rods in core cells containing one or more fuel assemblies. Suspending CORE ALTERATIONS prevents the two most probable causes of reactivity changes, fuel loading and control rod withdrawal, from occurring. Inserting all insertable control rods ensures that the reactor will be at its minimum reactivity, given that fuel is present in the core. Suspension of CORE ALTERATIONS shall not preclude completion of the movement of a component to a safe, conservative position.

fully

Action (once required to be initiated) to insert control rods must continue until all insertable rods in core cells containing one or more fuel assemblies are inserted.

SURVEILLANCE
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The SRs for each SRM Applicable MODE or other specified condition are found in the SRs column of Table 3.3.1.2-1.

SR 3.3.1.2.1 and SR 3.3.1.2.3

Performance of the CHANNEL CHECK ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to the same parameter indicated on other similar channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the instrument channels could be an indication of excessive instrument drift in one of the channels or something even more serious. A CHANNEL CHECK will detect

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Attachment 4

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List of Regulatory Commitments

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 regulatory commitments.

COMMITMENT	TYPE (Check one)		SCHEDULED COMPLETION DATE (If Required)
	ONE- TIME ACTION	CONTINUING COMPLIANCE	
Entergy verifies applicability of TSTF-475 to Grand Gulf and will establish TS Bases consistent with those shown in TSTF-475, Revision 1, "Control Rod Notch Testing Frequency and SRM Insert Control Rod Action" as shown in Attachment 3.	X		Within 60 days of receipt of the amendment