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GNRO-2005/00067

December 5, 2005

U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attention: Document Control Desk

Subject: Technical Specification Bases Update to the NRC for Period Dated  
December 5, 2005

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

Dear Sir and Madam:

Pursuant to Grand Gulf Nuclear Station (GGNS) Technical Specification 5.5.11, Entergy Operations, Inc. hereby submits an update of all changes made to GGNS Technical Specification Bases since the last submittal (GNRO-2005/00065 letter dated November 17, 2005 to the NRC from GGNS). This update is consistent with update frequency listed in 10CFR50.71(e).

**This letter does not contain any commitments.**

Should you have any questions, please contact Michael Larson at (601) 437-6685.

Yours truly,

A handwritten signature in black ink, appearing to be "CAB" followed by a stylized flourish.

CAB/MJL  
attachment:  
cc:

GGNS Technical Specification Bases Revised Pages  
(See Next Page)

cc:

Compton	J. N.		(w/o)
Levanway	D. E.	(Wise Carter)	(w/a)
Reynolds	N. S.		(w/a)
Smith	L. J.	(Wise Carter)	(w/a)

NRC Senior Resident Inspector Grand Gulf Nuclear Station Port Gibson, MS 39150	
U.S. Nuclear Regulatory Commission ATTN: Dr. Bruce S. Mallett (w/2) 611 Ryan Plaza Drive, Suite 400 Arlington, TX 76011-4005	ALL LETTERS
U.S. Nuclear Regulatory Commission ATTN: Mr. <b>Bhalchandra Vaidya</b> , NRR/DLPM (w/2) <b>ATTN: ADDRESSEE ONLY</b> ATTN: Courier Delivery Only Mail Stop OWFN/7D-1 11555 Rockville Pike Rockville, MD 20852-2378	ALL LETTERS – COURIER DELIVERY (FEDEX, ETC.) ADDRESS ONLY - ****DO NOT USE FOR U.S. POSTAL SERVICE ADDRESS***** NOT USED IF EIE USED

**ATTACHMENT to GNRO-2005/00067**

**Grand Gulf Technical Specification Bases Revised Pages**

**dated**

**December 5, 2005**

<b>LDC#</b>	<b>BASES PAGES AFFECTED</b>	<b>TOPIC of CHANGE</b>
05076	B 3.3-102, 102a, 128	Changes to Condensate Storage Tank (CST) level non-conservative Technical Specification.
05013	B 3.5-18, 18a	Change to Condensate Storage Tank (CST) level non-conservative Technical Specification.

BASES

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APPLICABLE  
SAFETY ANALYSES,  
LCO, and  
APPLICABILITY

3.d. Condensate Storage Tank Level—Low (continued)

HPCS injection would be taken from the CST. However, if the water level in the CST falls below a preselected level, first the suppression pool suction valve automatically opens, and then the CST suction valve automatically closes.

This ensures that an adequate supply of makeup water is available to the HPCS pump. To prevent losing suction to the pump, the suction valves are interlocked so that the suppression pool suction valve must be open before the CST suction valve automatically closes. The Function is implicitly assumed in the accident and transient analyses (which take credit for HPCS) since the analyses assume that the HPCS suction source is the suppression pool.

Condensate Storage Tank Level—Low signals are initiated from two level transmitters. The logic is arranged such that either transmitter and associated trip unit can cause the suppression pool suction valve to open and the CST suction valve to close. The Condensate Storage Tank Level—Low Function Allowable Value is high enough to ensure adequate pump suction head while water is being taken from the CST.

Two channels of the Condensate Storage Tank Level—Low Function are only required to be OPERABLE when HPCS is required to be OPERABLE to ensure that no single instrument failure can preclude HPCS swap to suppression pool source. Thus, the Function is required to be OPERABLE in MODES 1, 2, and 3. In MODES 4 and 5, the Function is required to be OPERABLE only when HPCS is required to be OPERABLE to fulfill the requirements of LCO 3.5.2, HPCS is aligned to the CST and the CST water level is not within the limits of SR 3.5.2.2. With CST water level within limits, a sufficient supply of water exists for injection to minimize the consequences of a vessel draindown event. Refer to LCO 3.5.1 and LCO 3.5.2 for HPCS Applicability Bases.

The currently specified allowable value is non-conservative for certain postulated events (e.g., seismic, tornado) that cause a failure of the non-safety related portion of the suction piping. Pending approval of a TS Amendment for a new allowable value, more conservative setpoint requirements are established by the Technical Requirements Manual and plant procedures.

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(continued)

BASES

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APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)	<u>3.e. Suppression Pool Water Level-High</u>
	Excessively high suppression pool water level could result in the loads on the suppression pool exceeding design values should there be a blowdown of the reactor vessel pressure through the S/RVs. Therefore, signals indicating high suppression pool water level are used to transfer the suction source of HPCS from the CST to the suppression pool

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(continued)

BASES

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APPLICABLE  
SAFETY ANALYSES,  
LCO, and  
APPLICABILITY

3. Condensate Storage Tank Level—Low (continued)

Allowable Value is set high enough to ensure adequate pump suction head while water is being taken from the CST.

Two channels of Condensate Storage Tank Level—Low Function are available and are required to be OPERABLE when RCIC is required to be OPERABLE to ensure that no single instrument failure can preclude RCIC swap to suppression pool source. Refer to LCO 3.5.3 for RCIC Applicability Bases.

The currently specified allowable value is non-conservative for certain postulated events (e.g., seismic, tornado) that cause a failure of the onon-safety related portion of the suction piping. Pending approval of a TS Amendment for a new allowable value, more conservative setpoint requirements are established by the Technical Requirements Manual and plant procedures.

4. Suppression Pool Water Level—High

Excessively high suppression pool water level could result in the loads on the suppression pool exceeding design values should there be a blowdown of the reactor vessel pressure through the safety/relief valves. Therefore, signals indicating high suppression pool water level are used to transfer the suction source of RCIC from the CST to the suppression pool to eliminate the possibility of RCIC continuing to provide additional water from a source outside primary containment. This Function satisfies Criterion 3 of the NRC Policy Statement. To prevent losing suction to the pump, the suction valves are interlocked so that the suppression pool suction valve must be open before the CST suction valve automatically closes.

Suppression pool water level signals are initiated from two level transmitters. The Allowable Value for the Suppression Pool Water Level—High Function is set low enough to ensure that RCIC will be aligned to take suction from the suppression pool before the water level reaches the point at which suppression design loads would be exceeded.

Two channels of Suppression Pool Water Level—High Function are available and are required to be OPERABLE when RCIC is required to be OPERABLE to ensure that no single instrument failure can preclude RCIC swap to suppression pool source. Refer to LCO 3.5.3 for RCIC Applicability Bases.

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BASES (continued)

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SURVEILLANCE  
REQUIREMENTS

SR 3.5.2.1 and SR 3.5.2.2

The minimum water level of 12 ft 8 inches required for the suppression pool is periodically verified to ensure that the suppression pool will provide adequate net positive suction head (NPSH) for the ECCS pumps, recirculation volume, and vortex prevention. With the suppression pool water level less than the required limit, all low pressure ECCS subsystems are inoperable. HPCS is also inoperable if the low CST level suction swap to the suppression pool is enabled with suppression pool level less than the required limit.

With the low CST level suction swap to the suppression pool disabled, HPCS is operable only if the CST level is > 18 ft. This level equates to a volume of approximately 169,000 gallons. Because of vortexing however, the usable volume will be less. At an indicated level of 18 ft with the suction swap disabled the usable volume will be approximately 137,000 gallons at 8175 gpm. This is sufficient volume to allow for operators time to attempt to terminate the inventory loss prior to fuel uncover. There is no analytical basis for a specific CST volume requirement in response to a draindown event during shutdown. At an indicated level of 22 ft (low CST alarm level) with the suction swap disabled the usable volume will be approximately 174,000 gallons at 8175 gpm.

The 12 hour Frequency of these SRs was developed considering operating experience related to suppression pool and CST water level variations during the applicable MODES. Furthermore, the 12 hour Frequency is considered adequate in view of other indications in the control room, including alarms, to alert the operator to an abnormal suppression pool or CST water level condition.

SR 3.5.2.3, SR 3.5.2.5, and SR 3.5.2.6

The Bases provided for SR 3.5.1.1, SR 3.5.1.4, and SR 3.5.1.5 are applicable to SR 3.5.2.3, SR 3.5.2.5, and SR 3.5.2.6, respectively.

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BASES

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SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.5.2.4

Verifying the correct alignment for manual, power operated, and automatic valves in the ECCS flow paths provides assurance that the proper flow paths will exist for ECCS operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position since these valves were verified to be in the correct position prior to locking, sealing, or securing. A valve that receives an

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