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January 22, 2004

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

Attention: Document Control Desk

Subject: Technical Specification Bases Update to the NRC for Period Dated
January 22, 2004

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

GNRO-2004/00002

Ladies and Gentlemen:

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-2003/00064 letter dated November 20, 2003 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 "M. Larson".

CAB/MJL
attachment:
cc:

GGNS Technical Specification Bases Revised Pages
(See Next Page)

A001

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cc:

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U.S. Nuclear Regulatory Commission ATTN: Mr. Bruce Mallett (w/2) 611 Ryan Plaza Drive, Suite 400 Arlington, TX 76011-4005	ALL LETTERS
U.S. Nuclear Regulatory Commission ATTN: Mr. Bhalchandra Vaidya, NRR/DLPM (w/2) ATTN: ADDRESSEE ONLY 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*****

ATTACHMENT to GNRO-2004/00002

Grand Gulf Technical Specification Bases Revised Pages

dated

January 22, 2004

LDC#	BASES PAGES AFFECTED	TOPIC of CHANGE
03090	B 3.1-46, B 3.1-47	Technical Specification Amendment 161 implementation
03033	B 3.3-150, B 3.3-150a, B 3.3-159, B 3.3-162, B 3.3-162a	Technical Specification Amendment 162 implementation
03020	B 3.9-4, B 3.9-4a	Update to refueling interlocks surveillance to allow one time performance of refueling interlocks surveillance each outage

BASES

APPLICABLE
SAFETY ANALYSES
(continued)

allow continuous drainage of the SDV during normal plant operation to ensure the SDV has sufficient capacity to contain the reactor coolant discharge during a full core scram. To automatically ensure this capacity, a reactor scram (LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation") is initiated if the SDV water level exceeds a specified setpoint. The setpoint is chosen such that all control rods are inserted before the SDV has insufficient volume to accept a full scram.

SDV vent and drain valves satisfy Criterion 3 of the NRC Policy Statement.

LCO

The OPERABILITY of all SDV vent and drain valves ensures that, during a scram, the SDV vent and drain valves will close to contain reactor water discharged to the SDV piping. Since the vent and drain lines are provided with two valves in series, the single failure of one valve in the open position will not impair the isolation function of the system. Additionally, the valves are required to be open to ensure that a path is available for the SDV piping to drain freely at other times.

APPLICABILITY

In MODES 1 and 2, scram may be required, and therefore, the SDV vent and drain valves must be OPERABLE. In MODES 3 and 4, control rods are not able to be withdrawn since the reactor mode switch is in shutdown and a control rod block is applied. This provides adequate controls to ensure that only a single control rod can be withdrawn. Also, during MODE 5, only a single control rod can be withdrawn from a core cell containing fuel assemblies. Therefore, the SDV vent and drain valves are not required to be OPERABLE in these MODES since the reactor is subcritical and only one rod may be withdrawn and subject to scram.

ACTIONS

The ACTIONS table is modified by Note 1 indicating that a separate Condition entry is allowed for each SDV vent and drain line. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable SDV line. Complying with the Required Actions may allow for continued operation, and subsequent inoperable SDV lines are governed by subsequent Condition entry and application of associated Required Actions.

(continued)

BASES

ACTIONS
(continued)

The ACTIONS table is modified by a second Note stating that an isolated line may be unisolated under administrative control to allow draining and venting of the SDV. When a line is isolated, the potential for an inadvertent scram due to high SDV level is increased. During these periods, the line may be unisolated under administrative control. This allows any accumulated water in the line to be drained, to preclude a reactor scram on SDV high level. This is acceptable, since the administrative controls ensure the valve can be closed quickly, by a dedicated operator, if a scram occurs with the valve open.

A.1

When one SDV vent or drain valve is inoperable in one or more lines, the associated line must be isolated to contain the reactor coolant during a scram. The 7 day Completion Time is reasonable, given the level of redundancy in the lines and the low probability of a scram occurring during the time the valve(s) are inoperable and the line is not isolated. The SDV is still isolable since the redundant valve in the affected line is OPERABLE. During these periods, the single failure criterion may not be preserved, and a higher risk exists to allow reactor water out of the primary system during a scram.

B.1

If both valves in a line are inoperable, the line must be isolated to contain the reactor coolant during a scram.

The 8 hour Completion Time to isolate the line is based on the low probability of a scram occurring while the line is not isolated and unlikelihood of significant CRD seal leakage.

C.1

If any Required Action and associated Completion Time is not met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to MODE 3 within 12 hours. The allowed Completion

(continued)

BASES

APPLICABLE
SAFETY ANALYSIS
LCO, and
APPLICABILITY

3.b. RCIC Steam Line Flow High Time Delay (continued)

Two channels for RCIC Steam Line Flow Time Delay Functions are available and are required to be OPERABLE to ensure that no single instrument failure can preclude the isolation function.

3.c. RCIC Steam Supply Line Pressure—Low

Low RCIC steam supply line pressure indicates that the pressure of the steam may be too low to continue operation of the RCIC turbine. In addition to protecting the RCIC equipment from the low pressure steam conditions, this isolation ensures the system is isolated following a DBA LOCA thereby minimizing containment leakage through the RCIC system. The isolation also provides a diverse signal to indicate a possible system break. These instruments are included in the Technical Specifications (TS) because the accident analysis implicitly assumes that the penetration is closed during a DBA LOCA and because of the potential for risk due to possible failure of the instruments preventing RCIC initiations.

The RCIC Steam Supply Line Pressure—Low signals are initiated from two transmitters that are connected to the system steam line. Two channels of RCIC Steam Supply Line Pressure—Low Functions are available and are required to be OPERABLE to ensure that no single instrument failure can preclude the isolation function.

This function is not required to be OPERABLE during reactor startup when reactor steam dome pressure is less than 150 psig (footnote d). This allows the steam supply isolation valves to be open in order to prepare the RCIC turbine for standby service. This is acceptable because the likelihood of a steam line break or DBA is low during the short period when reactor power and reactor pressure are low. In addition, the manual isolation capability (Function 3.k) and other diverse system leak detection functions are maintained.

The Allowable Value is selected to be low enough to ensure that the RCIC system operates as long as possible following an accident and high enough to prevent damage to the system turbine.

(continued)

BASES

APPLICABLE
SAFETY ANALYSIS
LCO, and
APPLICABILITY

3.c. RCIC Steam Supply Line Pressure—Low (continued) |

This Function isolates the Group 4 and 9 valves.

3.d. RCIC Turbine Exhaust Diaphragm Pressure—High

High turbine exhaust diaphragm pressure indicates that the pressure may be too high to continue operation of the associated system's turbine. That is, one of two exhaust diaphragms has ruptured and pressure is reaching turbine casing pressure limits. This isolation is for equipment protection and is not assumed in any transient or accident analysis in the UFSAR. These instruments are included in the TS because of the potential for risk due to possible failure of the instruments preventing RCIC initiations (Ref. 3).

(continued)

BASES

APPLICABLE
SAFETY ANALYSES,
LCO, and
APPLICABILITY

5.a. Ambient Temperature—High (continued)

Function are available and are required to be OPERABLE to ensure that no single instrument failure can preclude the isolation function.

The Allowable Values are set low enough to detect a leak equivalent to 25 gpm.

The RHR Equipment Room Ambient Temperature—High Functions are only required to be OPERABLE in MODES 1, 2, and 3. In MODES 4 and 5, insufficient pressure and temperature are available to develop a significant steam leak in this piping and significant water leakage is protected by the Reactor Vessel Water Level—Low, Level 3 Function.

This function isolates the Group 3 valves.

5.b. Reactor Vessel Water Level—Low, Level 3

Low RPV water level indicates the capability to cool the fuel may be threatened. Should RPV water level decrease too far, fuel damage could result. Therefore, isolation of some reactor vessel interfaces occurs to begin isolating the potential sources of a break. The Reactor Vessel Water Level—Low, Level 3 Function associated with RHR Shutdown Cooling System isolation is not directly assumed in any transient or accident analysis, since bounding analyses are performed for large breaks such as MSLBs. The RHR Shutdown Cooling System isolation on Level 3 supports actions to ensure that the RPV water level does not drop below the top of the active fuel during a vessel draindown event through the 1E12-F008 and 1E12-F009 valves caused by a leak (e.g., pipe break or inadvertent valve opening) in the RHR Shutdown Cooling System.

Reactor Vessel Water Level—Low, Level 3 signals are initiated from level transmitters that sense the difference between the pressure due to a constant column of water (reference leg) and the pressure due to the actual water level (variable leg) in the vessel. Four channels (two channels per trip system) of the Reactor Vessel Water Level—Low, Level 3 Function are available and are required to be OPERABLE to ensure that no single instrument failure can preclude the isolation function. As noted (footnote (e) to Table 3.3.6.1-1), only two channels of the Reactor Vessel

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BASES (continued)

ACTIONS

The ACTIONS are modified by two Notes. Note 1 allows penetrations flow path(s) to be unisolated intermittently under administrative controls. These controls consist of stationing a dedicated operator at the controls of the valve, who is in continuous communication with the control room. In this way, the penetration can be rapidly isolated when a need for primary containment or drywell isolation is indicated.

Note 2 has been provided to modify the ACTIONS related to isolation instrumentation channels. Section 1.3, Completion Times, specifies that once a Condition has been entered, subsequent divisions, subsystems, components, or variables expressed in the Condition discovered to be inoperable or not within limits will not result in separate entry into the Condition. Section 1.3 also specifies that Required Actions of the Condition continue to apply for each additional failure, with Completion Times based on initial entry into the Condition. However, the Required Actions for inoperable primary containment isolation instrumentation channels provide appropriate compensatory measures for separate inoperable channels. As such, a Note has been provided that allows separate Condition entry for each inoperable primary containment isolation instrumentation channel.

A.1

Because of the diversity of sensors available to provide isolation signals and the redundancy of the isolation design, an allowable out of service time of 12 hours or 24 hours, depending on the Function, has been shown to be acceptable (Refs. 5 and 6) to permit restoration of any inoperable channel to OPERABLE status. Functions that share common instrumentation with the RPS have a 12 hour allowed out of service time consistent with the time provided for the associated RPS instrumentation channels. This out of service time is only acceptable provided the associated Function is still maintaining isolation capability (refer to Required Action B.1 Bases). If the inoperable channel cannot be restored to OPERABLE status within the allowable out of service time, the channel must be placed in the tripped condition per Required Action A.1. Placing the inoperable channel in trip would conservatively compensate for the inoperability, restore capability to accommodate a

(continued)

BASES

ACTIONS

A.1 (continued)

single failure, and allow operation to continue with no further restrictions. Alternately, if it is not desired to place the channel in trip (e.g., as in the case where placing the inoperable channel in trip would result in an isolation), Condition C must be entered and its Required Action taken.

(continued)

BASES

ACTIONS

A.1, A.2.1, and A.2.2 (continued)

control rods to be withdrawn in accordance with LCO 3.10.6 while complying with these actions. This verification that all required control rods are fully inserted is in addition to the periodic verifications required by SR 3.9.3.1 and SR 3.10.6.2. Like Required Action A.1, Required Actions A.2.1 and A.2.2 ensure that unacceptable operations are blocked (e.g., loading fuel into a cell with the control rod withdrawn.)

The alternative option (Required Actions A.2.1 and A.2.2) also allows fuel movement to continue rather than halting refueling activities to perform SR 3.9.1.1 should it become due before completion of fuel movement activities. This option should not be used to eliminate the first performance of the SR before starting in-vessel fuel movements. The objective of the option is to provide flexibility under limited circumstances, not to disable the refueling interlocks indefinitely and is only allowed for a period not to exceed 31 days, after which time performance of the SR 3.9.1.1 would be required.

SURVEILLANCE
REQUIREMENTS

SR 3.9.1.1

Performance of a CHANNEL FUNCTIONAL TEST demonstrates each required refueling equipment interlock will function properly when a simulated or actual signal indicative of a required condition is injected into the logic. The CHANNEL FUNCTIONAL TEST may be performed by any series of sequential, overlapping, or total channel steps so that the entire channel is tested.

The 7 day Frequency is based on engineering judgment and is considered adequate in view of other indications of refueling interlocks and their associated input status that are available to unit operations personnel.

Should this SR become due before completion of fuel movement activities, fuel movement may continue rather than halting refueling activities to perform the SR provided that Required Actions A.2.1 and A.2.2 are met. As discussed above, this option should not be used to

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.9.1.1 (continued)

eliminate the first performance of the SR before starting in-vessel fuel movements and is only allowed for a period not to exceed 31 days, after which time performance of the SR 3.9.1.1 would be required.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 26.
 2. UFSAR, Section 7.6.1.1.
 3. UFSAR, Section 15.4.1.1.
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