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February 22, 2001

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

Attention: Document Control Desk

Subject: Grand Gulf Nuclear Station  
Unit 1  
Docket No. 50-416  
License No. NPF-29  
Request for Enforcement Discretion from Technical Specification 3.8.1  
Required Action B.4

GNRO-2001/00015

Ladies and Gentlemen:

In a telephone conference on February 21, 2001 at 1430, Entergy Operations, Inc. (EOI) informed the NRC staff of the need for enforcement discretion from the requirements of Grand Gulf Nuclear Station (GGNS) Technical Specification (TS) section 3.8.1 Required Action B.4 Completion Time. Technical Specification 3.8.1 Required Actions require that an inoperable Diesel generator be restored to an OPERABLE status within 72 hours. If this completion time cannot be met, the unit must be in at least HOT SHUTDOWN (Mode 3) within the following 12 hours and in COLD SHUTDOWN (Mode 4) within the following 36 hours.

The Division 1 Diesel Generator (DG) was declared inoperable on February 19<sup>th</sup> at 0100, therefore, the time allowed for continued operation would end on February 22<sup>nd</sup> at 0100. The Division 1 DG had been declared inoperable due to a cooling water leak that occurred during a planned 18 month surveillance. Following the repair to the cooling water leak we recommenced the surveillance at which time a fuel oil leak occurred requiring DG shutdown. The time interval of the Technical Specification limit on continued operation in Mode 1 is insufficient to restore the system to operability for TS 3.8.1.

As a result, enforcement discretion was requested to extend the 72 hour limit on continued operation in Mode 1 contained in TS 3.8.1 Required Action B.4 to 108 hours. This extension to the TS Required Action Completion Time will provide sufficient time to restore the inoperable DG and prevent a unit shutdown. Surveillances or maintenance activities that are not required by the Technical Specifications and have the potential to cause a plant transient will not be performed while this condition exists.

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Entergy Operations Inc., is submitting by this letter, written documentation supporting our verbal request for enforcement discretion. At approximately 1530 hours on February 21, 2001 NRC Region IV verbally approved our request for enforcement discretion. This request has been reviewed and accepted by the Plant Safety Review Committee. Based on the guidelines of 10CFR50.92, Entergy Operations has concluded that this request involves no significant hazards considerations. This letter does not contain any commitments.

Yours truly,



JCR/MJL/RRJ

attachment: Discussion of the enforcement discretion

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**I. Discussion of the Requirements for which Enforcement Discretion is Requested**

Enforcement discretion is requested for the following requirements:

Technical Specification (TS) Limiting Condition for Operation (LCO) 3.8.1, "AC Sources - Operating" requires that the following AC electrical power sources shall be OPERABLE: a. Two qualified circuits between the offsite transmission network and the onsite Class 1E AC Electric Power Distribution System; b. Three diesel generators (DG); and c. Division 1 and Division 2 automatic load sequencers to be OPERABLE in operational Conditions 1, 2, and 3. Technical Specification LCO 3.8.1, ACTION B.4 requires that if one required Diesel Generator (DG) is inoperable for reasons other than Condition F, that the DG be restored to OPERABLE status within 72 hours or that the unit be in at least HOT SHUTDOWN (Mode 2) within the following 12 hours and in COLD SHUTDOWN (Mode 3) within the following 36 hours (Required Action G).

An extension of the 72 hour allowed out of service time by 36 hours to 108 hours allowed out of service time for the above TS LCO Completion Times is requested.

NRC Inspection Manual, Part 9900 (issue dated 12/12/00), "Operations - Notices of Enforcement Discretion," Section B, 2.1, Item 1, states:

For an operating plant, the NOED is intended to (a) avoid undesirable transients as a result of forcing compliance with the license condition and, thus, minimize potential safety consequences and operational risks or (b) eliminate testing, inspection, or system realignment that is inappropriate for the particular plant conditions.

EOI believes that the circumstances described below meet the intended use of the NOED policy.

**II. Circumstances Surrounding the Need for Enforcement Discretion**

The Division 1 Diesel Generator was declared inoperable on February 19<sup>th</sup> at 0100; therefore, the time allowed for continued operation would end on February 22<sup>nd</sup> at 0100. The Division 1 DG had been removed from service due to a cooling water leak which occurred during a planned 18 month surveillance. This cooling water leak was corrected and the surveillance was recommenced. During the recommenced surveillance, a fuel oil leak occurred requiring DG shutdown. The time interval of the Technical Specification LCO in Mode 1 is insufficient to restore the system to operability for TS 3.8.1. The initial apparent cause for the cooling water leak was misalignment of pipe causing stress resulting in cracking of the pipe. The fuel oil leak appears to have been caused by a loose plug on the DG fuel oil pump. There are currently no identified historical events related to these failures.

As a result, enforcement discretion is requested to extend the 72 hour LCO, contained in Technical Specification 3.8.1 Required Action B.4 Completion Time, to 108 hours. Any surveillance or maintenance activities not required by Technical Specification activities will be evaluated for their potential to introduce plant perturbations and postponed consistent with the compensatory actions described below. The NEOD is intended to avoid a plant shutdown as a result of compliance with Technical Specification 3.8.1.

### III. Evaluation of the Safety Significance and Potential Consequences of the Proposed Request

The currently degraded condition of Division 1 Diesel Generator has two potential outcomes: either the plant is maintained in an at-power condition for an additional period of 36 hours to effect repairs on the Diesel Generator, or the plant proceeds to cold shutdown in accordance with the Technical Specifications. In assessing the safety significance and potential consequences of the proposed enforcement discretion, it is necessary to characterize the effects on plant safety for these two conditions.

An assessment of the change in the GGNS core damage frequency due to allowing continued operation while repairing the Division 1 diesel generator beyond the TS AOT (Allowed Outage Time) of 72 hours was performed for an additional period of 36 hours. This assessment was performed with the GGNS at power risk monitor (EOOS). The EOOS model is an at-power, internal events probabilistic risk analysis (PRA) model. This model was used to determine the core damage frequency associated with the Division 1 DG out of service. This value is then compared to the baseline risk (no equipment out of service) for the additional 36 hours to determine the delta associated with the evolution.

	CDF (/reactor-yr)	CDP for 36 hours
Baseline	2.27E-06	9.33E-09
Div 1 DG Out of Service	2.08E-05	8.55E-08
Increase in CDP		7.62E-08

Since the additional AOT increase is expected to be a one-time occurrence, the delta CDP (core damage probability) also represents the increase in risk on a yearly basis. Therefore, the change in annual risk is in Region III (very small risk) of the NRC's CDF (core damage frequency) acceptance guidelines in Figure 3 of RG 1.174. The values obtained for the incremental risk demonstrate that the proposed increase in AOT has only a small quantitative impact on plant risk. Planned compensatory measures would also serve to further reduce the risk of continued power operation.

The very small change in risk does not justify the alternative of shutting the plant down to effect the repairs. While not quantifiable at GGNS (GGNS does not have a quantitative transition and shutdown model), there are risks associated with manually shutting the plant down from a stable condition. They include challenging systems that are currently in standby and requiring the operation of the decay heat removal systems with one train without its full complement of support systems. Therefore, we believe that the relative safety significance of the proposed enforcement discretion is low and the potential consequences of the proposed request are preferable to the potential consequences associated with plant shutdown.

Based on the above evaluation and the planned compensatory measures, Entergy Operations, Inc. concludes that the proposed enforcement discretion does not involve an increase in radiological risk and that the granting of enforcement discretion will not be a potential detriment to the public health and safety.

#### IV. No Significant Hazards Considerations

1. The Commission has provided standards for determining whether a no significant hazards consideration exists. The enforcement discretion involves no significant hazards consideration if operation of the facility in accordance with the enforcement discretion would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.
2. Entergy Operations has evaluated the no significant hazards considerations associated with this request for enforcement discretion as follows:

**a. No significant increase in the probability or consequences of an accident previously evaluated results from this change.**

The Division 1 DG is not the initiator of any evaluated accident and the normal method of powering the unit is unaffected by this condition. Therefore, this extension in the allowed out of service time does not result in a significant increase in the probability of an accident previously evaluated. The proposed compensatory actions being taken provide an added level of assurance that the unaffected safety systems remain OPERABLE and that the probability of accident precursors is minimized.

Without additional failures, adequate safety systems will remain available to support the accident analysis presented in the UFSAR (Updated Final Safety Analysis Report) for GGNS. The compensatory actions being taken are providing an added level of assurance that these unaffected safety systems remain OPERABLE and that the consequences of previously analyzed accidents are not significantly increased.

Therefore, the requested enforcement discretion does not result in a significant increase in the probability or consequences of an accident previously evaluated.

**b. The change would not create the possibility of a new or different kind of accident from any previously analyzed.**

The requested change will not create any new modes of plant or equipment operation. Therefore, operating the plant with the proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

**c. This change would not involve a significant reduction in a margin of safety.**

Since there are no changes to the plant design and safety analysis, and no changes to the DG design, including any instrument setpoints, no margin of safety assumed in the safety analysis is affected. If a margin of safety is

ascribed to DG availability and plant risk, it has also been determined that such a margin of safety is not significantly reduced, as the proposed changes have been evaluated. Applicable regulatory requirements will continue to be met, adequate defense-in-depth will be maintained, sufficient safety margins will be maintained, and any increase in CDF is small and consistent with the NRC Safety Goal Policy Statement. Furthermore, increases in risk posed by potential unplanned combinations of equipment out of service during the proposed AOT extension will be managed under a configuration risk management program consistent with 10CFR50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," paragraph (a)(4).

The availability of offsite power coupled with the availability of the other DGs and the use of on-line risk assessment tools provide adequate compensation for the potential small incremental increase in plant risk of the extended AOT. The proposed extended DG AOT in conjunction with the availability of the other DGs continues to provide adequate assurance of the capability to provide power to the engineered safety features (ESF) buses. Therefore, implementation of the proposed changes will not involve a significant reduction in the margin of safety.

3. Based on the above evaluation, operation in accordance with the proposed enforcement discretion involves no significant hazards considerations.

## **V. Basis That This Does Not Involve Irreversible Environmental Consequences**

Entergy Operations has evaluated the requested enforcement discretion against the criteria for categorical exclusion specified in 10CFR51.22. We have concluded that the proposed enforcement discretion:

- (i) involves no significant hazards consideration,
- (ii) does not significantly change the types or increase the amounts of any effluents that may be released offsite, and
- (iii) does not significantly increase individual or cumulative occupational radiation exposure,

Therefore, we have concluded that the enforcement discretion does not involve irreversible environmental consequences and meets the eligibility criteria for categorical exclusion set forth in 10CFR51.22(c)(9).

## **VI. Proposed Compensatory Measures**

The following compensatory actions are being taken to provide an added level of assurance that unaffected safety systems remain OPERABLE and that the probability of accident precursors is minimized.

### **Unit staffing and management oversight**

1. Increased around the clock staffing, including management personnel.

### **Electrical support availability**

2. All three off site power sources are available (one more than required by Technical Specifications).
3. The load dispatcher has been requested to suspend work which could affect the stability to the GGNS offsite power sources.
4. Work will not be performed in the GGNS switchyard that is not necessary.
5. The electrical cross tie of the Division 3 diesel generator to selected Division 1 or 2 loads is proceduralized. The procedure for performing this activity will be reviewed by licensed Operations Shift, Electrical and I&C Maintenance personnel.

### **Availability of other systems**

6. Voluntary maintenance and surveillance activities that affect Division 1 functionality and Division 2 & 3 operability will be suspended for the duration of the enforcement discretion.
7. All Division 2 and Division 3 equipment will be maintained OPERABLE and reviewed as required by Technical Specifications LCO 3.0.6 and the Safety Function Determination Program.
8. The Reactor Core Isolation Cooling (RCIC) system will be maintained OPERABLE.
9. The equipment for the alternate water injection using the fire water system is proceduralized and available.
10. All ECCS pumps will be maintained available for auto injection.

### **Surveillances**

11. Verified that no surveillances are currently scheduled which would require equipment to be unavailable on the unaffected divisions.
12. Verified that no surveillances are currently scheduled which would affect electrical power availability.
13. Verified that no surveillances will go past their required TS required surveillance periodicity.
14. Verified that no surveillances would be performed which could cause a plant transient.

The compensatory measures will be added to the "standing orders" and will be reviewed in pre-shift briefings for the oncoming Operations shifts.

**VII. Justification of Enforcement Discretion Duration**

The temporary enforcement discretion is requested until 1300 hours on February 23, 2001, for the Technical Specification required Actions. This extension is sufficient to complete necessary repairs and perform necessary post maintenance testing. During this period, Grand Gulf proposes to conduct parallel activities to restore the DG to an OPERABLE status and to minimize the risk associated with the degraded condition.

**VIII. Onsite Plant Safety Review Committee Review**

This request has been reviewed and accepted by the Plant Safety Review Committee.

**IX. NOED Criteria Satisfied for the Current Plant Conditions**

At the time the enforcement discretion was verbally requested (approximately 1430 hours CST on February 21, 2001), the plant was in Mode 1, "Power Operations," at 100 percent power. As of the date of this letter, the plant continues to operate at or near full power. Approval of the request was appropriate and needed to avoid undesirable transients as a result of forcing compliance with the Actions for a Limiting Condition for Operation, thus, minimizing potential adverse safety consequences and operational risks as outlined in NRC Inspection Manual, Part 9900 (issue date 12/12/00), "Operations - Notices of Enforcement Discretion," Section B, 2.1, Item 1. EOI believes that the circumstances described in the above sections meet the intended use of the NOED policy.

**X. Follow-up License Amendment Required**

No follow-up licensee amendment is required.

**XI. For NOEDs Involving Severe Weather Or Other Natural Events, The Licensee's Request Must Be Sufficiently Detailed For The Staff To Evaluate The Likelihood That The Event Could Affect The Plant, The Capability Of The Ultimate Heat Sink, On-Site And Off-Site Emergency Preparedness Status, Access To And From The Plant, Acceptability Of Any Increased Radiological Risk To The Public And The Overall Public Benefit.**

This criterion is not applicable to this request.