



**ENTERGY**

Entergy Operations, Inc.  
P.O. Box 756  
Fort Gibson, MO 64501  
Tel 801.437.6406

**W. T. Cottle**  
Vice President  
Operations  
Grand Gulf Nuclear Station

May 6, 1992

U.S. Nuclear Regulatory Commission  
Mail Station P1-137  
Washington, D.C. 20555

Attention: Document Control Desk

Subject: Grand Gulf Nuclear Station  
Unit 1  
Docket No. 50-416  
License No. NPF-29  
Primary Containment Penetration Conductor Overcurrent  
Protective Devices Technical Specification Change Under  
Exigent Circumstances  
Proposed Amendment to the Operating License (PCOL-92/04)

GNRO-92/00053

Gentlemen:

By this letter, Entergy Operations, Inc. is requesting a change to the Grand Gulf Nuclear Station (GGNS) Technical Specifications (TS) under exigent circumstances. The change would increase the trip setpoints of four circuit breakers for the Suppression Pool Makeup (SPMU) valves.

On March 29, 1992, during the review of motor-operated valves in accordance with Generic Letter 89-10, GGNS determined that the actuators for the SPMU dump valves were undersized. This could result in a torque up to 200% of rated on the actuator. During startup testing these actuators had been overtorqued several times. Lowtorque states that the actuators are capable of surviving a one time overtorque of two times the rated torque without sacrifice to the actuator qualification. The overtorqued actuators were replaced with identical actuators already onsite that had never been overtorqued. Since the valves are only required to stroke open one time to perform their safety function, continued operation until the current refueling outage was justified.

Additionally, a design change was initiated to replace these actuators with properly-sized actuators during the current refueling outage which began April 17, 1992. During the design change process, it was determined that the larger valve actuator motors would require circuit breakers with higher trip setpoints. These trip setpoints are located in TS Table 3.8.4.1-1.

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The SPMU system and the associated circuit breakers are required Operable in Operational Conditions 1, 2 and 3. After the replacement of the actuators and the associated circuit breakers, GGNS will be unable to start up until the trip setpoint values in the table are changed to reflect the higher values. Allowing for the standard 30-day Federal Register notice would delay approval of the requested change beyond the scheduled end of the current refueling outage. This is the basis for requesting an expedited TS amendment.

In accordance with the provisions of 10CFR50.4, the signed original of the requested amendment is enclosed. Attachment 2 provides the discussion and technical justification to support the requested amendment. Attachment 3 is a copy of the affected TS pages, marked up to show the requested change. This proposed amendment has been reviewed and accepted by the Plant Safety Review Committee and the Safety Review Committee.

Based on the guidelines presented in 10CFR50.92, Entergy Operations has concluded that this proposed amendment involves no significant hazards considerations.

Yours truly,

*WTC/BSF*

WTC/BSF/mtc

attachments: 1. Affirmation per 10CFR50.30  
2. GGNS PCOL-92/04  
3. Mark-up of Affected Technical Specification Pages  
4. Sample Proposed Technical Specification Pages

cc: Mr. D. C. Hintz (w/a)  
Mr. J. L. Mathis (w/a)  
Mr. R. B. McGehee (w/a)  
Mr. N. S. Reynolds (w/a)  
Mr. H. L. Thomas (w/o)

Mr. Stewart D. Ebmeter (w/a)  
Regional Administrator  
U.S. Nuclear Regulatory Commission  
Region II  
101 Marietta St., N.W., Suite 2900  
Atlanta, Georgia 30323

Mr. P. W. O'Connor, Project Manager (w/2)  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Mail Stop 13H3  
Washington, D.C. 20555

BEFORE THE  
UNITED STATES NUCLEAR REGULATORY COMMISSION

LICENSE NO. NPI-29

DOCKET NO. 50-416

IN THE MATTER OF  
MISSISSIPPI POWER & LIGHT COMPANY  
and  
SYSTEM ENERGY RESOURCES, INC.  
and  
SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION  
and  
ENERGY OPERATIONS, INC.

AFFIRMATION

I, W. T. Cottle, being duly sworn, state that I am Vice President, Operations GGNS of Entergy Operations, Inc.; that on behalf of Entergy Operations, Inc., System Energy Resources, Inc., and South Mississippi Electric Power Association I am authorized by Entergy Operations, Inc. to sign and file with the Nuclear Regulatory Commission, this application for amendment of the Operating License of the Grand Gulf Nuclear Station; that I signed this application as Vice President, Operations GGNS of Entergy Operations, Inc.; and that the statements made and the matters set forth therein are true and correct to the best of my knowledge, information and belief.

W. T. Cottle  
W. T. Cottle

STATE OF MISSISSIPPI  
COUNTY OF CLAIBORNE

SUBSCRIBED AND SWORN TO before me, a Notary Public, in and for the County and State above named, this 6 day of May, 1992.

(SEAL)

Patricia Utogbegan  
Notary Public

My commission expires:  
My Commission Expires July 1, 1993

- A. Subject: PCOL-92/04, Primary Containment Penetration Conductor  
Overcurrent Protective Devices Technical Specification (TS) Change  
Under Exigent Circumstances

TS Table 3.8.4.1-1

Affected Pages: 3/4 8-29 and 3/4 8-36

- B. DISCUSSION AND JUSTIFICATION:

UFSAR Section 6.2.7 describes the Suppression Pool Makeup (SPMU) system and applicable transient and accident analyses. The SPMU system consists of two 100% sub-systems, where each is capable of dumping the makeup volume from the upper containment pool to the suppression pool by gravity flow. The SPMU system consists of two 30" lines which penetrate the separator end of the upper containment pool through the side walls. The lines are routed down to the suppression pool on opposite sides of the steam tunnel. Each SPMU line has two normally-closed motor-operated butterfly valves in series. The valves in each line are of the same electrical division.

The safety function of the SPMU system is to transfer water from the upper containment pool to the suppression pool after a Loss of Coolant Accident (LOCA). The upper pool makeup volume is dumped by gravity flow after opening the two normally-closed valves in series in each line. The SPMU system is automatically initiated 30 minutes after a LOCA is detected or on low-low suppression pool water level following a LOCA. It can also be manually initiated provided a LOCA signal is present.

In accordance with Generic Letter 89-10, GGNS has continued efforts to establish the required torques/thrusts to open and close safety-related motor-operated valves with design differential pressures and flow rates. Based on this evaluation, it was determined that the actual maximum calculated flow through the SPMU valves and the required torques are higher than assumed in the initial design calculations and, therefore, valve stress levels would be higher than previously assumed. It was also determined that during startup testing these actuators had been overtorqued several times.

As a result of the deficiency, the actuators were replaced with identical actuators already onsite. Concurrently, the actuators that had been removed were disassembled and the gearing was inspected in accordance with the recommendations of Limitorque. No cracks or excessive wear were found in any of the actuators; therefore, it was concluded, based on the inspection results, that the actuators were capable of performing their design safety function.

GGNS decided to replace the undersized actuators with actuators that are properly sized for the application. During the design change process it was determined that, to support the larger actuators, circuit breakers with higher trip setpoints would be required. The circuit breakers and the associated trip setpoints are located in TS Table 3.8.4.1-1. Therefore, a TS change is required for this modification.

This proposed amendment to the Grand Gulf Nuclear Station (GGNS) TS requests changes to TS Table 3.8.4.1-1, Primary Containment Penetration Conductor Overcurrent Protective Devices. The proposed change would revise the trip setpoints of four circuit breakers (52-1521-07, 52-1521-44, 52-1641-35 and 52-1641-36) from 10 amperes to 32 amperes.

The modifications being made will restore the the reliability of the SPMU system by providing actuators which are capable of delivering the torque required to stroke the valves against the design differential pressure and flow rate, following a LOCA, without exceeding the actuator manufacturer's design torque rating for the actuators.

The replacement of the overcurrent protective devices to account for the larger valve actuator motors ensures that the equipment will operate without inadvertent actuation of the protective devices. Spurious trip avoidance for these devices is based on the valve actuator motors' inrush current as well as the valve stroke times and motor running currents. The proposed trip setpoints are high enough to prevent spurious tripping of the breakers while providing protection of the penetrations in accordance with the guidance of Regulatory Guide 1.63, Revision 0. Proper coordination is maintained between the primary and backup penetration overcurrent protection and the penetration conductors.

The Bases for TS 3/4.6.3 also address the fact that the SPMU system initiation logic is bypassed when the reactor mode switch is in the REFUEL position. This design change makes no changes to the SPMU system initiation logic. The adequacy of protection of primary containment electrical penetrations and penetration conductors as addressed by Bases for TS 3/4.8.4 will not be affected by the modification. The change to the overcurrent protective device trip setpoint will ensure that proper coordination is maintained for equipment operation and protection.

#### C. NO SIGNIFICANT HAZARDS CONSIDERATIONS

1. Entergy Operations, Inc. is proposing the revision of the trip setpoints for four breakers on Technical Specification Table 3.8.4.1-1, Primary Containment Conductor Overcurrent Protective Devices.
2. The Commission has provided standards for determining whether a no significant hazards consideration exists as stated in 10CFR50.92(c). A proposed amendment to an operating license involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment 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.

3. Entergy Operations has evaluated the no significant hazards considerations in its request for a license amendment. In accordance with 10CFR50.91(a), Entergy Operations is providing the analysis of the proposed amendment against the three standards in 10CFR50.92:

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

The breakers for which the trip setpoints are requested to be changed are addressed in Technical Specification 3.8.4.1 as primary containment penetration conductor overcurrent protective devices. The Suppression Pool Makeup (SPMU) system initiation logic will not be affected by this change. The breakers currently installed are to be replaced with breakers sized to account for the increased size of the valve actuator motors to be installed.

The replacement of the overcurrent protective devices to account for the larger valve actuator motors ensures that the equipment will operate without inadvertent actuation of the protective devices. Spurious trip avoidance for these devices is based on the valve actuator motors' inrush current as well as valve stroke times and motor running currents. The proposed trip setpoints are high enough to prevent spurious tripping of the breakers while providing protection of the penetrations in accordance with the guidance of Regulatory Guide 1.63, Revision 0. Proper coordination is maintained between the primary and backup penetration overcurrent protection and the penetration conductors.

The increased load placed by the larger valve actuator motor has been evaluated and found to have no adverse impact on the electrical distribution system.

Based on the above analysis increasing the trip setpoints for these breakers will not significantly increase the probability or consequences of a previously analyzed accident.

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

The replacement of the overcurrent protective devices to account for the larger valve actuator motors ensures that the equipment will operate without inadvertent actuation of the protective devices. Spurious trip avoidance for these devices is based on the valve actuator motors' inrush current as well as valve stroke times and motor running currents. The proposed trip setpoints are high enough to prevent spurious tripping of the breakers while providing protection of the penetrations in accordance with the guidance of Regulatory Guide 1.63, Revision 0. Proper coordination is maintained between the primary and backup penetration overcurrent protection and the penetration conductors.

The Suppression Pool Makeup (SPMU) system initiation logic will not be affected by this change. 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 the margin of safety.

Implementation of this change to the breakers' trip setpoint will not reduce the margin of safety as defined in the basis for any technical specification. The Bases for Technical Specification 3/4.6.3 address the function and operability requirements of the SPMU system. The modifications being made will enhance the reliability of the SPMU system by providing actuators which are capable of delivering the torque required to stroke the valves against the design differential pressure and flow rate, following a Loss of Coolant Accident (LOCA), without exceeding the actuator manufacturer's design torque rating for the actuators.

The Bases for Technical Specification 3/4.6.3 also address the fact that the SPMU system initiation logic is bypassed when the reactor mode switch is in the REFUEL position. This design change makes no changes to the SPMU system initiation logic. The adequacy of protection of primary containment electrical penetrations and penetration conductors as addressed by Bases for Technical Specification 3/4.8.4 will not be affected by the modification. The change to the overcurrent protective device trip setpoint will ensure that proper coordination is maintained for equipment operation and protection.

Therefore, these modifications will not reduce the margin of safety as defined in the basis for any technical specification.

4. Based on the above evaluation, operation in accordance with the proposed amendment involves no significant hazards considerations.