



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20565

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 100 TO FACILITY OPERATING LICENSE NO. NPF-29

ENERGY OPERATIONS, INC., ET AL.

GRAND GULF NUCLEAR STATION, UNIT 1

DOCKET NO. 50-416

1.0 INTRODUCTION

By letter dated May 6, 1992, as supplemented on May 15, 1992, Entergy Operations, Inc. (the licensee), submitted a request for changes to the Grand Gulf Nuclear Station Unit 1, Technical Specifications (TS). The requested changes would increase the trip setpoint for four circuit breakers for the suppression pool make up (SPMU) valves.

The May 15, 1992, letter provided clarifying information that did not change the initial proposed no significant hazards consideration determination.

2.0 EVALUATION

In response to the NRC staff's requirements in Generic Letter 89-10, the licensee determined that the actuators on four SPMU valves were undersized and proposed to replace them with larger sizes. The larger actuators for these valves would require an increase in the trip setpoints of their associated 480V ac molded case circuit breakers. By letters dated May 6, 1992, and May 15, 1992, the licensee requested a revision to TS Table 3.8.4.1-1 to revise the trip setpoint for 480V ac circuit breakers for the four SPMU valves.

The licensee has proposed a change to TS Table 3.8.4.1-1, "Primary Containment Penetration Conductor Overcurrent Protective Devices," to increase the trip set point from 10 amperes to 32 amperes for four circuit breakers (52-1521-07, 52-1521-44, 52-1641-35, and 52-1641-36) feeding to the SPMU valves. The licensee had determined that the actuators for these valves were undersized, which could result in a torque up to 200% of the rated. During startup testing, these actuators had been overtorqued several times. Limit torque states that the actuators are capable of surviving a one-time overtorque of 200% without sacrifice to the actuator qualification. 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 process, it was determined that the large valve actuator motors would require circuit breakers with higher trip setpoints to ensure that the equipment will operate without inadvertent actuation of the protective devices. Therefore, higher trip setpoints are proposed. The proposed trip setpoints are high

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enough to prevent spurious tripping of the breakers while providing adequate protection to the electrical containment penetrations. The coordination curve provided by licensee shows that the proper coordination is maintained between the primary (circuit breaker) and the back up (fuse) overcurrent protective devices and the penetration conductors.

We have reviewed the licensee's submittal and have found that the proposed trip setpoints are high enough to prevent spurious tripping of the breakers while providing adequate protection to the electrical penetrations in accordance with the guidance of Regulatory Guide (RG) 1.63, "Electrical Penetration Assemblies in Containment Structures for Nuclear Power Generating Station." Assuming a failure of the primary protective device, the penetration assemblies will withstand, without loss of mechanical integrity, the maximum available fault current long enough to allow backup circuit protection to operate. We find that this TS change is in accordance with RG 1.63 and is, therefore, acceptable.

We have reviewed the licensee's submittal and have concluded that the proposed TS change does not change the surveillance and operability requirements of the penetration protective devices and provides adequate protection of the penetration in accordance with RG 1.63 and is, therefore, acceptable.

3.0 EXIGENT CIRCUMSTANCES

On Saturday, May 2, 1992, the licensee discovered that a TS change was needed to increase the circuit breaker setpoints. The licensee discussed this issue with the staff on May 4, 1992, and submitted a license amendment request by letter dated May 6, 1992. The letter requested that this amendment be issued under exigent circumstances because GGNS would be unable to start up until the setpoint values in the TS were changed. At that time the licensee's best estimate of the date for the startup from the current refueling outage was June 1, 1992. Accordingly, on May 13, 1992, the staff published a Notice of Consideration of Issuance of Amendment to Facility Operating License regarding this issue (57 FR 20533). In that notice the staff concluded that the licensee had provided an acceptable basis for its request and that exigent circumstances existed. Based upon those conclusions, the Notice provided a 15-day comment period, which expired on May 28, 1992.

4.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that a license amendment involves no significant hazards considerations if operation of the facility in accordance with the 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.

The Commission has determined that the amendment involves no significant hazards consideration per 10 CFR 50.92, based on the analysis provided by the licensee in its May 6, 1992, letter and presented below:

- 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 will not create the possibility of a new or different kind of accident from any previously analyzed.

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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 will 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.

The NRC staff has reviewed the licensee's analysis and, based on this review, concluded that the analysis demonstrates that the applicable criteria are met. Accordingly, the Commission has made a final determination that the amendment involves no significant hazards consideration.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Mississippi State official was notified of the proposed issuance of the amendment. The State official had no comments.

6.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards

consideration, and there has been no public comment on such finding (57 FR 20533). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Date: June 1, 1992