



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 101 TO FACILITY OPERATING LICENSE NO. NPF-29
ENTERGY OPERATIONS, INC., ET AL.
GRAND GULF NUCLEAR STATION, UNIT 1
DOCKET NO. 50-416

1.0 INTRODUCTION

By letter dated April 30, 1992, the licensee (Entergy Operations, Inc.) submitted a request for changes to the Grand Gulf Nuclear Station, Unit 1 (GGNS) Technical Specifications (TS).

The requested changes would revise the GGNS TS by adding new surveillance requirements for the reactor protection system (RPS) and control rod block instrumentation and by making clarifying editorial changes to the source range monitor (SRM) TS.

2.0 EVALUATION

The changes proposed by the licensee are grouped into three categories: 1) TS 4.0.4 exceptions, 2) clarification of SRM control rod block applicability, and 3) editorial changes. These categories are discussed separately below.

2.1 TS 4.0.4 Exceptions

The licensee has proposed the following exceptions to TS 4.0.4:

- (1) A new surveillance requirement (4.3.1.4) is proposed for the reactor protection system instrumentation. The proposed wording is as follows:

4.3.1.4 The provisions of Specification 4.0.4 are not applicable to the Channel Functional Test surveillances for the Intermediate Range Monitors for entry into the applicable OPERATIONAL CONDITIONS (as specified in Table 4.3.1.1-1) from OPERATIONAL CONDITION 1, provided the surveillances are performed within 12 hours after such entry.

- (2) Surveillance requirement 4.3.6 is renumbered 4.3.6.1 and a new surveillance requirement (4.3.6.2) is proposed for the control rod block instrumentation. The proposed wording is as follows:

4.3.6.2 The provisions of Specification 4.0.4 are not applicable to the Channel Functional Test surveillances for the Intermediate Range Monitors and Source Range Monitors for entry into their applicable OPERATIONAL CONDITIONS (as specified in Table 4.3.6-1) from OPERATIONAL CONDITION 1, provided the surveillances are performed within 12 hours after such entry.

- (3) A new footnote (#) is added to 4.3.7.6.b.2 to exempt the SRM channel functional test from the provisions of TS 4.0.4 for 12 hours when entering Operation Conditions 2*, 3 or 4 from Operational Condition 1. The proposed wording for this new requirement is as follows:

The provisions of Specification 4.0.4 are not applicable to the Source Range Monitor Channel Functional test surveillances for entry into OPERATIONAL CONDITIONS 2*, 3, or 4 from OPERATIONAL CONDITION 1, provided the surveillances are performed within 12 hours after such entry.

The licensee has justified the proposed exceptions to TS 4.0.4 on the following bases:

The licensee propose to incorporate exceptions to the provisions of TS 4.0.4 for the intermediate range monitor (IRM) functions of the RPS (TS 3/4.3.1), the IRM and SRM functions of the control rod block instrumentation (TS 3/4.3.6), and the SRM instrumentation (TS 3/4.3.7). These exceptions to TS 4.0.4 will only be applicable during plant shutdowns following operation in Operational Condition 1.

The proposed exceptions are consistent with those suggested by the NRC Staff in Generic Letter (GL) 87-09. GL 87-09 recommends changes to TS 4.0.3 to allow up to 24 hours to complete the surveillance requirements before implementing the ACTION requirements. The GL 87-09 recommendations were granted for the GGNS TS by Amendment 69, dated August 14, 1990. In GL 87-09, the NRC staff recognized that conflicts could arise. In some cases, surveillance requirements can only be completed after entry into a mode or specified condition to which the surveillance requirements apply. In other cases, the requirements of TS 4.0.3 may not be met because the surveillance requirements have not been performed within the required surveillance interval. In these cases, the staff recognized that exceptions to TS 4.0.4 would be appropriate.

As asserted in GL 87-09, the assumption that systems and components are inoperable because the surveillance requirement has not been performed is overly conservative. The proposed TS 4.0.4 exceptions provide a method of testing the instrumentation per TS 4.0.3 to confirm operability. Note that the TS 4.0.4 exceptions proposed contain an inherent TS 3.0.4 exception for the purposes of completing the surveillance requirements. This is consistent with other TS 4.0.4 exceptions and the bases for TS 4.0.3. The proposed 12 hour limit does not apply to instrumentation known to be inoperable for reasons other than that surveillance requirements have not been met.

Based on the above justification, the staff concludes that these changes are consistent with the requirements of GL 87-09 and are acceptable.

2.2 Clarification of SRM Control Rod Block Applicability

The licensee has proposed the following changes to clarify SRM control rod block applicability:

- (1) A new footnote (##) is added to Table 3.3.6-1 clarifying the specified conditions for SRM operability: "## Whenever the related function is not bypassed as specified in notes (a) through (c)." This footnote references the conditions specified in notes (a) through (c), which describe when each function is bypassed. Operational Condition "2" in Table 3.3.6-1 is changed to "2##" for items 3a-d.
- (2) A new footnote (##) is added to Table 4.3.6-1 clarifying the specified conditions for performing SRM channel functional test and channel calibration surveillances: "## Whenever the related function is not bypassed as specified in Table 3.3.6-1 notes (a) through (c)." This footnote references the conditions specified in notes (a) through (c) of Table 3.4.6-1. Operational Condition "2" in Table 4.3.6-1 is changed to "2##" for items 3a-d.

The licensee has justified the proposed clarification of SRM control rod block applicability on the following bases:

TS 3/4.7.6 requires the SRM to be operable in Operational Conditions 3 and 4 and in Operational Condition 2 when the IRMs are on range 2 or below.

TS 3/4.3.6, Table 3.3.6-1, requires the SRM rod block functions to be operable in Operational Conditions 2 and 5. Table 3.3.6-1 further specifies (via notes on the various SRM trip functions) when the SRM trip functions are bypassed.

The bases for TS 3/4.5.7.6 state that the SRMs provide reactor operators with information regarding the status of the neutron level in the core at very low power levels during reactor startup and shutdown. When the IRMs are on scale, adequate neutron level information is available without the SRMs, and the SRMs can be withdrawn. In fact, to avoid unnecessary rod blocks, operators must withdraw the SRMs from the core as reactor power is increased. Withdrawing the SRMs decreases the neutron flux level to which the detector is exposed and prolongs detector life. In addition to providing operators with neutron level information, the SRM system provides the operator with period information during an approach to criticality and will initiate a control rod block, preventing control rod withdrawal under certain conditions.

When the IRMs are on range 3 or higher, adequate neutron level is available to operators via the IRMs, and the SRMs and their associated control rod block functions are no longer required. The proposed change is therefore consistent with the requirements for neutron level monitoring capability and clarifies that the SRM control rod block functions are only required operable when the associated rod block functions are not bypassed.

Based on the above justification, the staff finds that these changes are acceptable.

2.3 Editorial Changes

The licensee has proposed the following editorial changes to the TS:

- (1) The word "OPERATIONAL" is inserted before the word "CONDITION" in 4.3.7.6.a.1.a) and b) in accordance with the definition of the term "OPERATIONAL CONDITION" in TS 1.28.
- (2) Surveillance Requirement 4.3.7.6.b.1 is revised to eliminate potential confusion in the present wording. The present wording of 4.3.7.6.b.1 is: "Within 24 hours prior to moving the reactor mode switch from the Shutdown position, if not performed within the previous 7 days." The proposed wording for this surveillance states: "Within 7 days prior to moving the reactor mode switch from the Shutdown position." The proposed wording is equivalent while removing the source of possible confusion.

The licensee has justified the proposed editorial changes on the following bases:

The proposed changes to Surveillance Requirements 4.3.7.6.a.1a) and b) are purely editorial and make the terminology of these specifications consistent with Definition 1.28 of the GGNS TS. Therefore, these changes do not alter the technical requirements of these surveillances.

Surveillance Requirement 4.3.7.6 is clarified by removing potentially confusing wording regarding the surveillance frequency. TS 4.3.7.6 requires a channel functional test of the SRMs to be performed during the 24 hours before the reactor mode switch is moved from the shutdown position, if the test has not been performed within the previous 7 days. The wording of this specification is potentially confusing because of the 24-hour clause. This clause appears to require anticipation of the exact time the mode switch will be moved from the Shutdown position, which is not always possible. The proposed wording - "within 7 days prior to moving the reactor mode switch from the Shutdown position" - provides equivalent assurance that the SRM is operable, while removing the source of possible confusion.

These changes are justified since they will make the TS easier to implement while providing the same degree of confidence that the associated instrumentation is operable.

The staff agrees with the licensee's justification for these changes and finds that they are acceptable.

3.0 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.

4.0 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 in 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 22262). 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.

5.0 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.

Principal Contributor: H. Rathbun

Date: August 10, 1992