March 1, 2001

MEMORANDUM FOR: File

FROM: S. Patrick Sekerak, Project Manager, Section 1 ***/RA/***
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation (NRR)

SUBJECT: GRAND GULF NUCLEAR STATION, UNIT 1 (GGNS); ELECTRONIC TRANSMISSION OF ITEMS FOR DISCUSSION IN A TELEPHONE CONFERENCE RE: PROPOSED CHANGE TO THE MINIMUM CRITICAL POWER RATIO SAFETY LIMIT FOR CYCLE 12 OPERATION (TAC NO. MB0514)

The attached questions for discussion were prepared by the NRR Reactor Systems Branch, and electronically transmitted to Mr. Lonnie Daughtery of Entergy Operations, Inc. on February 28, 2001, in preparation for a telephone conference with the NRR Technical Staff. The primary purpose of the teleconference is to discuss issues associated with the GGNS fuel reload analysis determining Technical Specification parameters associated with GGNS Cycle 12 operation.

This memorandum and the attachment do not convey a formal request for information or represent an NRC staff position. Formal questions, if any, may be developed after the teleconference depending on the results of the discussions.

Docket No. 50-416

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QUESTIONS RELATED TO GRAND GULF AMENDMENT REQUEST FOR
CHANGE TO MINIMUM CRITICAL POWER RATIO SAFETY LIMIT (SLMCPR)
FOR CYCLE 12 OPERATION
(REF. GNRO-2000/00084, DATED NOVEMBER 10, 2000)
(TAC NO. MB0514)

1. Provide the fuel types and numbers of assemblies used in Grand Gulf Cycle 12 operation and identify if they are fresh or irradiated fuel (once or twice burned, etc.). Also, provide the fuel loading pattern for Cycle 12 operation and identify its difference from Cycle 11 and the impact on the SLMCPR calculation.

2. Provide test data on the hydraulic characteristics of the GE11 fuel design evaluated in Siemens hydraulic test facility and describe in details the selection of the test results for the Cycle 12 SLMCPR calculation. (See GNRO-2000/00084, Attachment 1, Page 2, last paragraph)

3. GE11 fuel is dominant in the Grand Gulf Cycle 11 core in which there are only 36 thrice burned Siemens Power Corporation 9x9-5 fuel assemblies which may not contribute to the difference in calculated SLMCPR value, and Cycle 12 operation is a mixed core of 204 fresh ATRIUM-10 fuel bundles and once and twice burned GE11 fuel bundles. It appears that the two recirculation loop operation for Cycle 12 has less SLMCPR value than that in Cycle 11 operation by 0.01. Please provide the calculation methods in detail, and justify that the decrease of the SLMCPR value for two recirculation loop operation and no change of SLMCPR for single loop operation still provide enough margin for Cycle 12 operation. Provide the copy of the references A.1, A.4, and A.7 stated in Attachment 4 of GNRO-2000/00084.

4. Technical Specifications (TS) for the Core Operating Limits Report (COLR) include the TSs to be removed to the COLR report, and the list of approved methodologies to support those TSs to be removed to the COLR report. Those methods should provide the calculation of the cycle-specific core operating limits specified in the COLR TS. Provide the justification that those proposed 26 approved topical reports satisfy the COLR TS criteria. Also, describe the background of the LCO 3.2.4, LCO 3.3.1.1 and LCO 3.3.1.3, and explain why they are cycle-specific core operating limits.

Attachment