



WILLIAM T. COTTE
Vice President
Nuclear Operations

February 27, 1989

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

Attention: Document Control Desk

Gentlemen:

SUBJECT: Grand Gulf Nuclear Station
Units 1 and 2
Docket Nos. 50-416 and 50-417
License No. NPF-29
NRC Bulletin 88-07, Supplement 1:
Power Oscillations in BWRs
AECM-89/0030

On January 4, 1989, System Energy Resources, Inc. (SERI) received NRC Bulletin (NRCB) 88-07, Supplement 1: Power Oscillations in Boiling Water Reactors (BWRs). The purpose of the supplement was to provide additional information concerning power oscillations in BWRs and to request addressees to take action to ensure that the safety limit for the plant minimum critical power ratio (MCPR) is not violated. SERI's response to the bulletin action items are attached.

Yours truly,

WTC:mcg
Attachments

cc: Mr. T. H. Cloninger (w/a) Mr. H. L. Thomas (w/o)
Mr. R. B. McGehee (w/a) Mr. H. O. Christensen (w/a)
Mr. N. S. Reynolds (w/a)

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AFFIDAVIT

STATE OF MISSISSIPPI
COUNTY OF HINDS

W. T. Cottle, being duly sworn, states that he is Vice President - Nuclear Operations, of System Energy Resources, Inc.; that he is authorized on the part of said Company to sign and file with the Nuclear Regulatory Commission this response to NRC Compliance Bulletin No. 88-07, Supplement 1 on behalf of the Company and South Mississippi Electric Power Association; that he signed the foregoing letter as Vice President - Nuclear Operations, of System Energy Resources, Inc.; and that the statements made and the matters set forth therein are true and correct to the best of his knowledge, information and belief.

W. T. Cottle
W. T. Cottle

SUBSCRIBED AND SWORN TO before me, a Notary Public, in and for the County and State above named, this 27th day of February, 1989.

(SEAL)

Linda W. Miller
Notary Public

My commission expires:

My Commission Expires Aug. 5, 1991

Response to NRCB 88-07, Supplement 1

1. Operating Reactors (GGNS Unit 1) -

A. Item 1:

Within 30 days of receipt of this supplement, all BWR licensees should implement the BWR Owners' Group (BWROG) interim stability recommendation described in Attachment 1 of the supplement. However, for those plants that do not have effective automatic scram protection in the event of regional oscillations, a manual scram should be initiated under all operating conditions when two recirculation pumps trip (or "no pumps operating") with the reactor in the RUN mode.

Response:

Off-Normal Emergency Procedure (ONEP) 05-1-02-III-3, Decrease in Recirculation System Flow Rate, has been changed to incorporate the BWROG interim stability recommendations described in Attachment 1 of the bulletin supplement. The ONEP has also been changed to require a manual scram under all operating conditions when both recirculation pumps trip and the reactor is in the RUN mode. However, the manual scram requirement is not applicable during normal pump upshifts from low speed to high speed or downshifts from high speed to low speed.

B. Item 2:

The boundaries of Regions A, B, and C shown in Figure 1 of the BWROG recommendations were derived for those BWRs using NRC approved GE fuel. For BWRs using fuel supplied by other vendors, these regions should be adopted in principle, but the power/flow boundaries should be based on existing boundaries that have been previously approved by the NRC. For proposed new fuel designs, the stability boundaries should be reevaluated and justified based on any applicable operating experience, calculated changes in core decay ratio using NRC approved methodology, and/or core decay ratio measurements. There should be a high degree of assurance that instabilities will not occur under any circumstances of operation in Region C.

Response:

Since Grand Gulf Nuclear Station (GGNS) is using Advanced Nuclear Fuels (ANF) fuel as well as GE fuel, the boundaries for Regions A, B, and C are based on existing boundaries that have been previously approved by the NRC and reflected in Technical Specification Figure 3.4.1.1-1. These regions are reflected in ONEP 05-1-02-III-3.

A Proposed Change to the Operating License (AECM-88/0251) was submitted December 19, 1988 to support reactor operation in accordance with the BWROG recommendations for core stability. This amendment is currently under review by the NRC.

C. Item 3:

The BWROG recommendations of Attachment 1 are ambiguous with respect to permissible conditions for entry of Regions B and C. Although the recommendations state that intentional operation in Region B is not permitted and operation in Region C is permitted only for purposes of fuel conditioning during rod withdrawal startup operations, intentional entry into Region B or C is also allowable in situations where rod insertion or a flow increase is required by procedures to exit Regions A and B after unintentional entry. Licensees should ensure that the procedures and training employed for implementation of these recommendations avoid any similar ambiguity which could lead to operator confusion.

Response:

Integrated Operating Instruction (IOI) 03-1-01-2 specifically identifies permissible conditions for entry into Regions B and C. IOI 03-1-01-2 and ONEP 05-1-02-III-3 are part of the continuing licensed operator's training program to ensure that licensed personnel are made aware of the recently encountered stability concerns and actions taken to prevent such problems from occurring at GGNS.

2. Construction Permit Holders (GGNS Unit 2) -

A. Item 1:

All construction permit holders should complete the requested actions of the supplement before the date scheduled for fuel load.

Response:

NRCB 88-07, Supplement 1 action items will be tracked in SERI's commitment tracking system as open items to be completed prior to Unit 2 fuel load.