



OLIVER D. KINGSLEY, JR.
Vice President
Nuclear Operations

September 15, 1988

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

Attention: Document Control Desk

Gentlemen:

SUBJECT: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-29
NRC Bulletin 88-07, Power
Oscillations in Boiling Water
Reactors (BWRs)
AECM-88/0178

On June 17, 1988 System Energy Resources, Inc. (SERI) received NRC Bulletin (NRCB) No. 88-07, "Power Oscillations in Boiling Water Reactors (BWRs)." NRCB 88-07 requests that licensees ensure that adequate operating procedures and instrumentation are available and adequate operator training is provided to prevent the occurrence of uncontrolled power oscillations during all modes of BWR operation.

SERI's evaluation of NRCB 88-07 for Grand Gulf Nuclear Station (GGNS) Unit 1 is complete. Responses to the requested actions of NRCB 88-07 are contained in the attachment to this report. SERI's evaluation of NRCB 88-07 for GGNS Unit 2 will be completed upon recommencement of construction activities.

If you have any questions concerning SERI's response to NRCB 88-07, please advise.

Yours truly,

ODK:aly
Attachment

cc: (See next page)

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

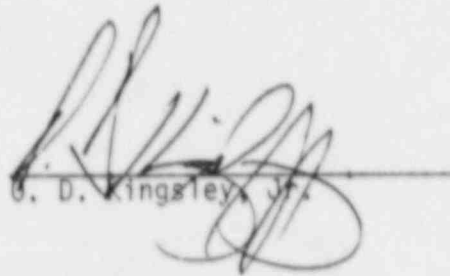
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AFFIDAVIT


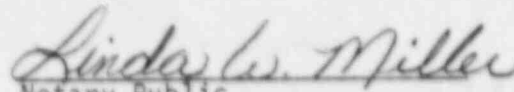
STATE OF MISSISSIPPI
COUNTY OF HINDS

O. D. Kingsley, Jr., 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 Bulletin No. 88-07 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.


O. D. Kingsley, Jr.

SUBSCRIBED AND SWORN TO before me, a Notary Public, in and for the County and State above named, this 15th day of September, 1988.

(SEAL)



Notary Public

My commission expires:

My Commission Expires Aug. 5, 1991

Action 1) Within 15 days of receipt of this bulletin, all BWR licensees should ensure that any licensed reactor operator or Shift Technical Advisor performing shift duties has been thoroughly briefed regarding the March 9, 1988 LaSalle Unit 2 event.

Response: All Licensed Reactor Operators, Senior Reactor Operators, and all Shift Technical Advisors who currently perform shift duties were briefed within 15 days of SERI's receipt of NRC Bulletin 88-07 concerning the March 9, 1988, LaSalle Unit 2 event.

Action 2) Within 60 days of receipt of this bulletin all BWR licensees should verify the adequacy of their procedures and operator training programs to ensure that all licensed operators and Shift Technical Advisors are cognizant of:

- a) those plant conditions which may result in the initiation of uncontrolled power oscillations
- b) actions which can be taken to avoid plant conditions which may result in the initiation of uncontrolled power oscillations
- c) how to recognize the onset of uncontrolled power oscillations, and
- d) actions which can be taken in response to uncontrolled power oscillations, including the need to scram the reactor if oscillations are not promptly terminated.

Response: SERI has reviewed applicable GGNS procedures that address power oscillations. Using the criteria from action items 2a, b, c, and d, the following procedures were revised:

03-1-01-2	Power Operations
04-1-01-B33-1	Reactor Recirculation System
05-1-02-III-3	Decrease in Recirculation System Flow Rate
05-1-02-V-5	Loss of Feedwater Heating
09-S-02-400	Control Rod Sequences and Movement Control

In the interim Operations personnel are being briefed on these procedure revisions until formal classroom training is conducted.

A review of the Licensed Operator and Shift Technical Advisor (STA) training programs was performed to verify their adequacy in ensuring licensed operators and STAs are cognizant of the action items 2a, b, c, and d.

The Mitigation of Core Damage (MCD) course in Lesson Plans OP-LO-MCD-LP-007-01 and SA-STA-MCD-LP-007-01, Potentially Damaging Operating Conditions, address action items 2a, b, and c but do not address action item 2d as to the need to manually scram the reactor if oscillations are not promptly terminated. These lesson plans will be revised to address action item 2d prior to being taught.

A training package (BWR Core Stability and LaSalle Power Oscillation Event, OP-LOR-IE-LP-001-00; Demonstration of Power Oscillation, OP-LOR-IE-LP-002-00 and Loss of Forced Circulation/Power Oscillations, OP-LOR-SIM-SC-053-00) addressing items a, b, c, and d, in action 2 and incorporates comments resulting from reviews by both Plant Staff and Nuclear Plant Engineering has been developed for use during cycle 6 of the Licensed Operator Requalification Training Program. This cycle began September 12, 1988. All Licensed Reactor Operators, Senior Reactor Operators, and Shift Technical Advisors not currently in the upgrade training program will be required to attend.

Licensed operators and STAs currently enrolled in upgrade training will be presented the material during the course of their training programs before they are reassigned to shift duties.

The above training will also include simulator training to reinforce knowledge gained in the classroom and will involve operator/STA response to a trip of both recirculation pumps similar to the sequence of events which occurred at LaSalle Unit 2 on March 9, 1988.

Action 3) Addressees should also verify the adequacy of the instrumentation which is relied upon by operators within their procedures.

Response: At GGNS, the instrumentation relied upon by operators within their procedures are Bailey 771 strip chart recorders which are used to record APRM signals. The Bailey 771 recorder has a continuously adjustable low pass input filter which can be adjusted to attenuate the input signal above 0.03 Hz to 1.0 Hz by adjusting the frequency response breakpoint. GGNS maintenance calibration instructions for the Bailey 771 chart recorder specifies that this damping potentiometer is adjusted fully to the 1.0 Hz breakpoint. With a 1.0 Hz damping factor (equivalent to a 1 second response time), the GGNS APRM chart recorders are capable of detecting and displaying the 0.5 Hz neutron flux oscillations described in NRC Bulletin 88-07 without any appreciable attenuation of the signal amplitude.