

DEC 08 1987

Docket No. 50-416

Mr. Oliver D. Kingsley, Jr.
Vice President, Nuclear Operations
System Energy Resources, Inc.
Post Office Box 23054
Jackson, Mississippi 39205

Dear Mr. Kingsley:

SUBJECT: ISSUANCE OF INDIVIDUAL NOTICE (TAC NO. 65969)

DISTRIBUTION

Docket
NRC & Local PRDs
PD21 r/f
PAnderson
LKintner
OGC-B
D. Hagan
ACRS (10)
GPA/PA

The Commission has forwarded the enclosed "Notice of Consideration of Issuance of Amendment to Facility Operating License and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing" to the Office of the Federal Register for publication (copy enclosed).

This notice relates to your application dated August 13, 1987 and revised October 23, 1987 and November 25, 1987, related to interim changes to the Technical Specifications for the standby liquid control system and the ATWS recirculation pump trip system.

Sincerely,

151

Lester Kintner, Project Manager
Project Directorate II-1
Division of Reactor Projects I/II

Enclosure: As stated

cc w/enclosure: See next page

8712170170 871208
PDR ADDCK 05000416
P PDR

LA:PD21/DRPR
PAnderson
12/8/87

PM:PD21/DRPR
LKintner/dsf
12/8/87

D:PD21/DRPR
EAdamsam
12/8/87

Mr. Oliver D. Kingsley, Jr.
System Energy Resources, Inc.

Grand Gulf Nuclear Station (GGNS)

cc:

Mr. Ted H. Cloninger
Vice President, Nuclear Engineering
and Support
System Energy Resources, Inc.
Post Office Box 23054
Jackson, Mississippi 39205

Mr. C. R. Hutchinson
GGNS General Manager
System Energy Resources, Inc.
Post Office Box 756
Port Gibson, Mississippi 39150

Robert B. McGehee, Esquire
Wise, Carter, Child, Steen and Caraway
P.O. Box 651
Jackson, Mississippi 39205

The Honorable William J. Guste, Jr.
Attorney General
Department of Justice
State of Louisiana
Baton Rouge, Louisiana 70804

Nicholas S. Reynolds, Esquire
Bishop, Liberman, Cook, Purcell
and Reynolds
1200 17th Street, N.W.
Washington, D. C. 20036

Office of the Governor
State of Mississippi
Jackson, Mississippi 39201

Mr. Ralph T. Lally
Manager of Quality Assurance
Middle South Utilities System
Services, Inc.
P.O. Box 61000
New Orleans, Louisiana 70161

Attorney General
Gartin Building
Jackson, Mississippi 39205

Mr. John G. Cesare
Director, Nuclear Licensing
System Energy Resources, Inc.
P.O. Box 23054
Jackson, Mississippi 39205

Mr. Jack McMillan, Director
Division of Solid Waste Management
Mississippi Department of Natural
Resources

Post Office Box 10385
Jackson, Mississippi 39209

Mr. R. W. Jackson, Project Engineer
Bechtel Power Corporation
15740 Shady Grove Road
Gaithersburg, Maryland 20877-1454

Alton B. Cobb, M.D.
State Health Officer
State Board of Health
P.O. Box 1700
Jackson, Mississippi 39205

Mr. Ross C. Butcher
Senior Resident Inspector
U.S. Nuclear Regulatory Commission
Route 2, Box 399
Port Gibson, Mississippi 39150

President
Claiborne County Board of Supervisors
Port Gibson, Mississippi 39150

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street, N.W., Suite 2900
Atlanta, Georgia 30323

Mr. James E. Cross
GGNS Site Director
System Energy Resources, Inc.
P.O. Box 756
Port Gibson, Mississippi 39150

UNITED STATES NUCLEAR REGULATORY COMMISSION
MISSISSIPPI POWER & LIGHT COMPANY
SYSTEM ENERGY RESOURCES, INC.
SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION
DOCKET NO. 50-416

NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO
FACILITY OPERATING LICENSE AND PROPOSED NO SIGNIFICANT HAZARDS
CONSIDERATION DETERMINATION AND OPPORTUNITY FOR HEARING

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. NPF-29 issued to Mississippi Power & Light Company, System Energy Resources, Inc., and South Mississippi Electric Power Association for operation of the Grand Gulf Nuclear Station, Unit 1, located in Claiborne County, Mississippi.

The proposed amendment would provide interim changes to the Technical Specifications (TS) for the standby liquid control system (SLCS) and the ATWS recirculation pump trip (ATWS-RPT) system to reflect modifications to these systems. The modifications to these systems will be made during the second refueling outage to conform to 10 CFR 50.62 regarding anticipated transients without scram (ATWS). A third system required by 10 CFR 50.62, the alternate rod insertion (ARI) system, which will be installed during the second refueling outage, will not require changes to the TS at this time. The staff will provide guidance on a generic basis regarding TS requirements for the ATWS-RPT and ARI systems at a later date.

The following changes to Grand Gulf Nuclear Station, Unit 1, will be made during the second refueling outage to implement 10 CFR 50.62:

(a) The ATWS-RPT will be modified by:

(1) Adding a redundant trip feature.

8712170217 871208
PDR ADDCK 05000416
P PDR

- (2) Making the trip logic two-out-of-two for reactor pressure vessel (RPV) pressure or level and energized to trip.
 - (3) Revising the RPV pressure high trip setpoint to bound less severe transients initiated at less than rated power.
- (b) Installation of the ARI system will include:
- (1) Making three parallel vent paths from the scram pilot air header consisting of two valves per vent path.
 - (2) Utilizing the same trip system as ATWS-RPT with the same trip logic to actuate the ARI system valves.
- (c) SLCS modifications will include:
- (1) Utilizing simultaneous operation of both existing SLCS pumps to achieve a minimum injection rate of 82.4 gpm.
 - (2) Increasing the sodium pentaborate concentration to greater than or equal to 13.6% by weight.
 - (3) Increasing the SLCS pump discharge pressure from 1220 to 1300 psig for surveillance tests to demonstrate SLCS pump flow.
 - (4) Restricting SLCS storage tank temperature to no greater than 130°F.
 - (5) Modifying the discharge piping to inject sodium pentaborate into the high pressure core spray system instead of into the reactor vessel and adding pulsation dampeners at the pump discharge.
 - (6) Increasing SLCS design pressure and relief valve setpoint to 1500 psig.

The modifications to the ATWS-RPT and the SLCS are reflected in proposed Technical Specification changes as follows:

- (a) For TS 3/4.3.4.1, "ATWS-RPT System Instrumentation":
- (1) Three action statements would be added to state requirements when instrumentation is inoperable.

- (2) The trip setpoint and allowable value for the reactor vessel high pressure signal would be decreased.
 - (3) The TS bases would be revised to reflect the ATWS-RPT system modifications.
- (b) For TS 3/4.1.5, "Standby Liquid Control System":
- (1) Surveillance requirements would be changed to reflect the new sodium pentaborate solution requirements.
 - (2) The pump discharge pressure would be increased from 1220 to 1300 psig for the SLCS pump surveillance test.
 - (3) The SLCS pump relief valve setting would be increased from 1400 psig to 1500 psig to reflect the higher system design pressure.
 - (4) The TS bases would be revised to reflect the SLCS system modifications.
- (c) For TS 3/4.6.4, "Containment and Drywell Isolation Valves":
- (1) The list of drywell isolation valves would be changed to reflect the modified SLCS discharge piping.

System Energy Resources, Inc. (SERI or the licensee) requested the above changes to the TS in an application for amendment, dated August 13, 1987, as revised October 23, 1987 and November 25, 1987.

Before issuance of the proposed license amendment, the Commission will have made findings required by the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations.

The Commission has made a proposed determination that the amendment request involves no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed 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.

By letter dated November 25, 1987, the licensee provided its analysis about the issue of no significant hazards consideration. The licensee's analysis is included below:

1. The proposed amendment does not involve a significant increase in - the probability or consequences of an accident previously evaluated.
 - a. The probability of an ATWS event occurring does not increase due to these changes since they are of a mitigative nature and do not affect the ATWS event precursors. These changes do not involve a significant increase in the consequences of an accident previously evaluated. The ATWS-RPT system provides a fully redundant trip of the recirculation pump motors including the low frequency motor generator set so that the pumps coast down to zero speed. This trip function reduces core flow creating steam voids in the core, thereby decreasing power generation and limiting any power or pressure excursions.
 - b. The ARI system that will be installed during the second refueling outage is described in letters to the NRC dated October 14, 1985, April 3, 1987 and August 13, 1987. The ARI system uses the same setpoints and trip channels (transmitters and trip units) as the RPT system. Both the ARI and RPT systems are designed to perform a mitigative function during an ATWS event. The probability of an ATWS event occurring does not increase due to the commonality of the ARI and RPT trip channel since these systems perform a mitigative function and do not affect the ATWS event precursors.

Both the ATWS topical report NEDE-31096-P and the NRC Staff's safety evaluation associated with the report endorse the use of existing RPT instrumentation where possible for the ARI system. The consequences of an ATWS event are not significantly increased by connecting the ARI valves to the RPT trip circuits. The ARI system has been designed to minimize the possibility of an inadvertent trip action by use of series vent valves, energize to trip solenoids and required two out of two logic.

- c. The operation of the two SLCS pumps in conjunction with the increased sodium pentaborate weight percent concentration merely provides a backup to other safety-related systems in accordance with the requirements of 10 CFR 50.62.

This rerouted SLCS discharge piping inside the drywell will provide more effective boron mixing in the reactor vessel. The piping will be constructed to ASME Section III Class 1 and Seismic Category I requirements and therefore will not increase the consequences of a LOCA or Seismic event. The relocated low point drain inside the drywell will be isolated from the containment by two normally closed isolation valves and, therefore, will not create a new leakage path to the containment. Movement of the ASME Class 1 boundary from the F004 (A and B) valves to the F006 [valve] will not increase the probability or consequences of an accident because the reactor coolant system will still be isolated from other Class 2 components by two normally closed ASME Class 1 valves.

The proposed increase in the SLCS pump relief valve setpoint is within ASME Code allowables and will not increase the probability of piping failure. The consequences of previously evaluated accidents remain unchanged since the relief valve will still perform its intended function of preventing the SLCS discharge piping from exceeding its design pressure.

Based upon the above, the probability or consequences of an accident will not be significantly increased.

2. The proposed amendment does not create the possibility of a new or different kind of accident from any previously analyzed.
 - a. The ATWS changes proposed and the accompanying plant modifications only serve as backups to already existing safety-related systems. The proposed changes will ensure that the ATWS-RPT and SLCS systems are maintained such that they are capable of fulfilling the operability requirements of 10 CFR 50.62.
 - b. The ARI system is being installed to help mitigate the consequences of an ATWS event. As discussed above, the ARI system is designed to minimize the possibility of inadvertent trips. If the ARI valves do open inadvertently, a reactor scram will occur resulting in plant shutdown. This event has been analyzed and is not a new or different kind of accident. The ARI system is designed with redundant trip systems in order to help ensure system function when required. The system design features do not create the possibility of a new or different kind of accident from any previously analyzed.
 - c. The rerouting of the SLCS discharge piping and the relocation of the low point drain will not create a new or different path for drywell bypass leakage because adequate isolation is provided at the drywell penetration. Therefore, there is no possibility of a new or different kind of accident from any previously analyzed.

The possibility of a new or different kind of accident is not created by the movement of the Class 1 boundary from the F004 (A & B) valves to the F006 valve because the Class 2 components are isolated from the reactor coolant system by two normally closed ASME Class 1 valves.

The proposed increase in the SLCS pump relief valve setpoint does not adversely affect the safety function performed by SLCS or the operability of the SLCS system. The increase in SLCS design pressure does not affect any accident precursors and cannot create the possibility of a new or different kind of accident from any previously evaluated.

3. The proposed amendment does not involve a significant reduction in a margin of safety.
 - a. The proposed revisions are in accordance with the requirements of 10 CFR 50.62, and provide additional assurance that systems exist that are capable of safely shutting down the reactor should an ATWS event occur. The ATWS-RPT and SLCS systems operability do not decrease the margin of safety since they serve as backups to other safety-related systems.

The proposed change in the ARI/RPT reactor pressure-high trip setpoint does not involve a significant reduction in a margin of safety. As stated in AECM-87/0152 dated August 13, 1987, the basis for the new ATWS reactor pressure high setpoint is to ensure that the relief valve capacity below the Nominal Trip Setpoint (NTSP) is less than 15% Nuclear Boiler Rated (NBR) when operating at less than rated power. This steam flow limitation allows 10 minutes for SLCS initiation without exceeding the suppression pool temperature limit of 185°F.

The design basis event for this setpoint is Main Steam Isolation Valve (MSIV) closure with a subsequent failure to scram. The safety limit is peak Reactor Pressure Vessel (RPV) bottom pressure of 1375 psig for active components. The current setpoint was established such that this safety limit would not be exceeded. Lowering the setpoint will increase the safety margin by initiating ARI and RPT earlier in the event, thereby providing additional margin to the safety limit.

The normal Reactor Protection System (RPS) scram path setpoint is 1064.7 psig based on an analytic limit of 1095 psig. Therefore, since the ATWS RPV pressure high NTSP is less than or equal to 1095 psig, it is possible (but highly unlikely) under extremes of instrument accuracy and drift to initiate the ATWS ARI and RPT functions prior to the normal RPS scram. However, since the ARI and normal scram paths perform the same function (i.e., insert all control rods) this would not be of any safety significance.

Additionally, tripping the recirculation pumps via the ATWS RPT prior to the normal RPS scram would only serve to minimize the pressure rise in the RPV in the first few seconds of the event and to reduce the reactor thermal power which in turn reduces steam flow which might need to be discharged to the suppression pool. Therefore, initiation of the ARI and RPT functions prior to the normal RPS scram is of no safety significance and does not involve a significant reduction in a margin of safety.

- b. The connection of the ARI valves to the RPT trip system will not adversely impact the RPT function. The ARI system serves as a backup to the normal reactor scram system by depressurizing the scram pilot air header. Therefore, installation of the ARI system will increase the margin of safety during an ATWS event.
- c. The current amount of suppression pool bypass leakage that would occur during a LOCA is not affected by the modified SLCS piping design. The modified piping will be constructed to the Class 1 standards of ASME Section III and Seismic Category I requirements and will be provided with adequate isolation capability.

The margin of safety is not decreased by the movement of the Class 1 boundary from the F004 (A & B) valves to the F006 valve because the safety function of isolating the reactor coolant system from Class 2 portions of the systems is still maintained by the ASME Class 1 [isolation] valves (F006 and F007).

The increase in the SLCS pump relief valve setpoint is in accordance with the ASME Code. The proposed change will provide additional assurance that the SLCS will be able to deliver its rated flowrate to the reactor without the possibility of some flow being diverted through the relief valve. The proposed change will allow an upgrade in SLCS design pressure to 1500 psig which will increase the present margin to the relief valve setpoint by 100 psi. As such, the proposed change will increase the margin of safety.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

The NRC staff has made a preliminary review of the licensee's analysis and agrees with the licensee's conclusions that the three standards in 10 CFR 50.92 are met for the proposed changes in TS for Grand Gulf Nuclear Station, Unit 1. Accordingly, the Commission proposes to determine that the requested changes to the TS do not involve significant hazards considerations.

The Commission is seeking public comments on this proposed determination. Any comments received within 30 days after the date of publication of this notice will be considered in making any final determination. The Commission will not normally make a final determination unless it receives a request for a hearing.

Written comments may be addressed to the Rules and Records Branch, Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and should cite the publication date and page number of this FEDERAL REGISTER notice. Copies of comments received may be examined at the NRC Public Document Room, 1717 H Street, NW, Washington, DC.

By JAN 04 1988 , the licensee may file a request for a hearing with respect to issuance of the amendment to the subject facility operating license and any person whose interest may be affected by this proceeding and who wishes to participate as a party in the proceeding must file a written petition for leave to intervene. Requests for a hearing and petitions for leave to intervene shall be filed in accordance with the Commission's "Rules of Practice for Domestic Licensing Proceedings" in 10 CFR Part 2. If a request for a hearing or petition for leave to intervene is filed by the above date, the Commission or an Atomic Safety and Licensing Board, designated by the Commission or by the Chairman of the Atomic Safety and Licensing Board Panel, will rule on the request and/or petition; and the Secretary or the designated Atomic Safety and Licensing Board will issue a notice of hearing or an appropriate order.

As required by 10 CFR §2.714, a petition for leave to intervene shall set forth with particularity the interest of the petitioner in the proceeding, and how that interest may be affected by the results of the proceeding. The petition should specifically explain the reasons why intervention should be permitted with

particular reference to the following factors: (1) the nature of the petitioner's right under the Act to be made a party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any order which may be entered in the proceeding on the petitioner's interest. The petition should also identify the specific aspect(s) of the subject matter of the proceeding as to which petitioner wishes to intervene. Any person who has filed a petition for leave to intervene or who has been admitted as a party may amend the petition without requesting leave of the Board up to fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, but such an amended petition must satisfy the specificity requirements described above.

Not later than fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, a petitioner shall file a supplement to the petition to intervene, which must include a list of the contentions that are sought to be litigated in the matter, and the bases for each contention set forth with reasonable specificity. Contentions shall be limited to matters within the scope of the amendment under consideration. A petitioner who fails to file such a supplement which satisfies these requirements with respect to at least one contention will not be permitted to participate as a party.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and have the opportunity to participate fully in the conduct of the hearing, including the opportunity to present evidence and cross-examine witnesses.

If a hearing is requested, the Commission will make a final determination on the issue of no significant hazards consideration. The final determination will serve to decide when the hearing is held.

If the final determination is that the amendment request involves no significant hazards consideration, the Commission may issue the amendment and make it effective, notwithstanding the request for a hearing. Any hearing held would take place after issuance of the amendment.

If the final determination is that the amendment request involves a significant hazards consideration, any hearing held would take place before the issuance of any amendment.

Normally, the Commission will not issue the amendment until the expiration of the 30-day notice period. However, should circumstances change during the notice period, such that failure to act in a timely way would result, for example, in derating or shutdown of the facility, the Commission may issue the license amendment before the expiration of the 30-day notice period, provided that its final determination is that the amendment involves no significant hazards consideration. The final determination will consider all public and State comments received. Should the Commission take this action, it will publish a notice of issuance and provide for opportunity for a hearing after issuance. The Commission expects that the need to take this action will occur very infrequently.

A request for a hearing or a petition for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch, or may be delivered to the Commission's Public Document Room, 1717 H Street, N.W. Washington, D. C., by the above date. Where petitions are filed during the last ten (10) days of the notice period, it is requested that the petitioner promptly so inform the Commission by a toll-free telephone call to Western Union at (800) 325-6000 (in Missouri (800) 342-6700). The Western Union operator

should be given Datagram Identification Number 3737 and the following message addressed to Elinor G. Adensam: petitioner's name and telephone number; date petition was mailed; plant name; and publication date and page number of this FEDERAL REGISTER notice. A copy of the petition should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and to Nicholas S. Reynolds, Esquire, Bishop, Liberman, Cook, Purcell, and Reynolds, 1200 17th Street NW, Washington, DC 20036, attorney for the licensee.

Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for hearing will not be entertained absent a determination by the Commission, the presiding officer or the Atomic Safety and Licensing Board designated to rule on the petition and/or request, that the petitioner has made a substantial showing of good cause for the granting of a late petition and/or request. That determination will be based upon a balancing of the factors specified in 10 CFR 2.714(a)(1)(i)-(v) and 2.714(d).

For further details with respect to this action, see the application for amendment dated August 13, 1987 as revised October 23, and November 25, 1987, which is available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C. 20555, and at the Local Public Document Room, Hinds Junior College, McLendon Library, Raymond, Mississippi 39154.

Dated at Bethesda, Maryland, this 1st day of December 1987.

FOR THE NUCLEAR REGULATORY COMMISSION

/s/
Brenda R. Mozafari, Project Engineer
Project Directorate II-1
Division of Reactor Projects I/II

*See Previous Concurrence *BKM*

PDII-1
PAnderson*
11/27/87

PDII-1
BMozafari
11/1/87

OGC
JScinto*
11/30/87

D:PD21:DRPR
EAdensam*
12/01/87