



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

December 20, 1986

Docket No.: 50-416

Mr. Oliver D. Kingsley, Jr.
Vice President, Nuclear Operations
Mississippi Power & Light Company
Post Office Box 23054
Jackson, Mississippi 39205

Dear Mr. Kingsley:

SUBJECT: ISSUANCE OF AMENDMENT NO. 27 TO FACILITY OPERATING LICENSE NO. NPF-29
TO IMPLEMENT TRANSFER OF AUTHORITY FOR CONTROL OF LICENSED ACTIVITIES,
AND EXEMPTION TO 10 CFR Part 100

RE: GRAND GULF NUCLEAR STATION, UNIT 1

The Commission has issued the enclosed Amendment No. 27 to Facility Operating License No. NPF-29 for the Grand Gulf Nuclear Station, Unit 1. This amendment consists of changes to the facility operating license and to the Technical Specifications (TSs) in response to your application dated September 2, 1986 as amended on October 4, 13 and 24, and as supplemented on November 20, 21, and December 2 and 3, 1986.

This amendment implements the authorization to transfer control and performance of licensed activities from the Mississippi Power and Light Company (MP&L) to Middle South Energy, Inc. (now renamed System Energy Resources, Inc., SERI). This amendment considers the technical aspects associated with this transfer of control and performance of licensed activities. The Commission believes that it is appropriate, in connection with this amendment, to retain MP&L on the license subject to the completion of an antitrust review which will address whether MP&L should or should not be removed from the license.

In connection with this action, the Commission has granted a partial exemption for an interim period up to April 30, 1987 from the requirement, as set forth in 10 CFR 100.11(a)(1) insofar as it incorporates by reference the definition of exclusion area in 10 CFR 100.3(a), that the licensee must define an exclusion area around the reactor in which the licensee has the authority to determine all activities. This exemption is in response to your exemption request submitted by letter dated December 10, 1986. We find that granting this exemption is authorized by law and will not present an undue risk to the public health and safety, and is consistent with the common defense and security. We further find that special circumstances justify the exemption, namely that application of the regulation in the particular circumstances is not necessary to achieve the underlying purpose of the rule.

A copy of the related safety evaluation supporting Amendment No. 27 to Facility Operating License NPF-29, the transfer of control of licensed activities from MP&L to SERI, and the partial exemption from 10 CFR 100.11(a)(1) is enclosed.

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Notice of issuance of the amendment will be included in the Commission's next bi-weekly Federal Register notice. The Exemption has been forwarded to the Office of the Federal Register for publication.

Sincerely,

Original signed by

Robert E. Martin, Project Manager
BWR Project Directorate No. 4
Division of BWR Licensing

Enclosures:

1. Amendment No. 27 to License No. NPF-29
2. Safety Evaluation
3. Exemption

cc w/enclosures:
See next page

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*Previously concurred:

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Sincerely,

Robert E Martin
Robert E. Martin, Project Manager
BWR Project Directorate No. 4
Division of BWR Licensing

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Mr. Oliver D. Kingsley, Jr.
Mississippi Power & Light Company

Grand Gulf Nuclear Station

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

MISSISSIPPI POWER & LIGHT COMPANY
SYSTEM ENERGY RESOURCES, INC.
SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION
DOCKET NO. 50-416
GRAND GULF NUCLEAR STATION, UNIT 1
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 27
License No. NPF-29

1. The Nuclear Regulatory Commission (the Commission) has found that
 - A. The application for amendment by Mississippi Power & Light Company, System Energy Resources, Inc. (formerly Middle South Energy, Inc.)* and South Mississippi Electric Power Association, (the licensees) dated September 2, 1986 as amended on October 4, 13 and 24, and as supplemented on November 20, 21, and December 2 and 3, 1986, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission, except as duly exempted therefrom;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations, except as exempted from compliance therefrom;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is hereby amended by changes, as indicated by bars in the margins, to Facility Operating License No. NPF-29 to read as follows (for convenience the license is provided in its entirety):

*The licensees state that on July 28, 1986, Middle South Energy, Inc. was renamed and reconstituted as a new nuclear generating company. The newly named company, System Energy Resources, Inc. (SERI), upon necessary regulatory approvals and transfer of personnel, will succeed MP&L as operator of GGNS Unit 1 and will assume exclusive responsibility for and control over operation and maintenance of the facility. By operation of this amendment, SERI also succeeds MSE as a licensee-owner.

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MISSISSIPPI POWER & LIGHT COMPANY

SYSTEM ENERGY RESOURCES, INC.

SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION

DOCKET NO. 50-416

GRAND GULF NUCLEAR STATION, UNIT 1

FACILITY OPERATING LICENSE

License No. NPF-29

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for license filed by Mississippi Power & Light Company (MP&L), for itself and Middle South Energy, Inc., (now renamed System Energy Resources, Inc. (SERI)) and South Mississippi Electric Power Association (hereinafter referred to as the licensees) complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I, and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of the Grand Gulf Nuclear Station, Unit 1 (the facility), has been substantially completed in conformity with Construction Permit No. CPPR-118 and the application, as amended, the provisions of the Act, and the regulations of the Commission;
 - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission (except as exempted from compliance in Section 2.D. below);
 - D. There is reasonable assurance: (i) that the activities authorized by this operating license can be conducted without endangering the health and safety of the public; and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I (except as exempted from compliance in Section 2.D. below);
 - E. System Energy Resources, Inc. (SERI)* is technically qualified to engage in the activities authorized by this operating license in accordance with the Commission's regulations set forth in 10 CFR Chapter I;

*SERI is authorized to act for itself and for SMEPA and has exclusive responsibility and control over the physical construction, operation, and maintenance of the facility.

- F. The licensees have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
 - G. The issuance of this license will not be inimical to the common defense and security or to the health and safety of the public;
 - H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of Facility Operating License No. NPF-29, subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B, is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
 - I. The receipt, possession, and use of source, by-product and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40, and 70.
2. Based on the foregoing findings regarding this facility and pursuant to Commission Order CLI-84-19, dated October 25, 1984, License NPF-13, as amended, is superseded by this Facility Operating License NPF-29 which is hereby issued to the Mississippi Power & Light Company, System Energy Resources, Inc., and South Mississippi Electric Power Association to read as follows:
- A. This license applies to the Grand Gulf Nuclear Station (GGNS), Unit 1, a boiling water nuclear reactor and associated equipment (the facility), owned by System Energy Resources, Inc., and South Mississippi Electric Power Association and operated by System Energy Resources, Inc. The facility is located in Claiborne County, Mississippi, and is described in the licensees' "Final Safety Analysis Report," as supplemented and amended, and in the licensees' Environmental Report, as supplemented and amended.
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) System Energy Resources, Inc. (SERI) pursuant to Section 103 of the Act and 10 CFR Part 50, to possess, use, and operate the facility at the designated location in Claiborne County, Mississippi, in accordance with the procedures and limitations set forth in this license;
 - (2) System Energy Resources, Inc., and South Mississippi Electric Power Association to possess the facility at the designated location in Claiborne County, Mississippi, in accordance with the procedures and limitations set forth in this license;

- (3) SERI, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;
- (4) SERI, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (5) SERI, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (6) SERI, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. The license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

SERI is authorized to operate the facility at reactor core power levels not in excess of 3833 megawatts thermal (100% power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. , are hereby incorporated into this license. System Energy Resources, Inc. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Antitrust Conditions

MP&L and SERI shall comply with the antitrust conditions delineated in Appendix C. MP&L is authorized to transfer its rights to possess, to use and to operate the facility to SERI, provided however, that until further authorization of the Commission, MP&L and SERI shall continue to be responsible for compliance with the obligations imposed on the licensees in these antitrust conditions, and provided further that SERI accepts the right to possess, use and operate the facility subject to the outcome of the pending separate antitrust review of the antitrust considerations of this transfer.

(4) Independent Verification of Staff Performance and Other Plant Activities (Section 13.4, SER, SSER #2)

(a) SERI shall establish a subcommittee of the Corporate Safety Review Committee to review and evaluate the:

(i) Status and readiness of the plant and systems needed to support intended modes of operation and/or testing;

(ii) Readiness of personnel to conduct intended operation and testing;

(iii) Morale and attitudes of plant personnel that have a bearing on safe plant operation;

(iv) Past performance in plant operations and adherence to procedures and administrative controls;

(v) Changes in current organization with regard to experience and qualifications of plant management and supervisory personnel since the last evaluation;

(vi) Results and effectiveness of the Plant Safety Review Committee (PSRC),

(vii) Status of plant as compared to other BWR startups based on the subcommittee's knowledge and experience.

Reviews shall be conducted prior to exceeding 50 percent of full power and within 30 days following completion of the 100 hour warranty run. The subcommittee shall be composed of a minimum of three professionals not employees of SERI with experience which will be responsive to the concerns presented above. In conducting these evaluations, the

subcommittee shall conduct interviews of representatives of all levels of plant staff management. The subcommittee shall report directly to the Chairman of the Corporate Safety Review Committee and, in turn, SERI shall submit the report of these reviews to NRC.

- (b) The Plant Safety Review Committee shall review all Unit 1 Preoperational Testing and System Demonstration activities performed concurrently with the Unit 1 Startup Test Program to assure that the activity will not affect the safe performance of the portion of the Unit 1 Startup Program being performed. The review shall address, as a minimum, system interaction, span of control, staffing, procedures, security and health physics, with respect to performance of the activities concurrent with the portion of the Unit 1 Startup Program being performed.

(5) Deferred Preoperational Deficiencies

SERI shall satisfactorily resolve those deficiencies which were deferred from the preoperational testing program on a schedule that shall assure that the capability of a system required to be operable by Technical Specification is not degraded.

(6) Soil Structure Interaction (Section 3.7.1, SER, SSER #2)

Prior to startup following the first refueling outage, SERI shall complete structural modifications, if required, as a result of the NRC staff's completion of its review of MP&L* responses.

(7) Seismic Instrumentation (Section 3.7.4, SER, SSER #2)

Prior to startup following the first refueling outage, the installation of triaxial strong motion accelerometers on reactor supports shall be completed.

(8) Masonry Walls (Section 3.8.3, SER, SSER #2)

Prior to startup following the first refueling outage, SERI shall complete structural modifications, if required, as a result of the NRC staff's completion of its review of the MP&L response to IE Bulletin 80-11.

*The original license authorized Mississippi Power & Light Company (MP&L) to operate the facility. Consequently, there are certain historical references to MP&L in this license.

(9) Dynamic Testing (Section 3.9.2, SER, SSER #2, SSER #4, SSER #5)

SERI shall conduct vibrational measurement and inspection programs during preoperational and initial startup testing in accordance with the guidelines of R.G. 1.20, "Comprehensive Vibration Assessment Program for Reactor Internals During Preoperational and Initial Startup Testing," for prototype reactors. An evaluation report demonstrating satisfactory results shall be provided to the NRC for review and approval no later than 6 months after completion of the startup test program.

(10) Dynamic Qualification (3.10, SER, SSER #1, SSER #2, SSER #4, SSER #5)

(a) Prior to startup following the first refueling outage, SERI shall complete any modifications or replacement of equipment found necessary as a result of the fatigue evaluation. In the interim, SERI shall document the occurrence of every safety relief valve actuation into the suppression pool; the associated cumulative damage factors shall be calculated for typical representative equipment and kept up-to-date; and SERI shall report to NRC any malfunction of equipment that occurs due to any safety relief valve discharge.

(b) SERI shall perform an in-situ test of the High Pressure Core Spray (HPCS) service water pump and evaluate the effects of flow induced vibration on the HPCS service water pump. This evaluation shall be provided to the NRC for review and approval. Prior to startup following the first refueling outage, SERI shall complete all modifications as a result of the NRC staff's review of the test results and evaluation.

(c) Prior to actual use in fuel handling operations, SERI shall qualify the fuel-handling and auxiliary platform, in-vessel rack, and storage container for defective fuel.

(11) Environmental Qualification (Section 3.11, SER; SSER #1; Appendix H, SSER #2; SSER #5)

Prior to March 31, 1985, SERI shall environmentally qualify all electrical equipment as required by 10 CFR 50.49.

(12) Surveillance of Control Blade (Section 4.2.3.14, SER)

Within 30 days after plant startup following the first refueling outage, SERI shall comply with items 1, 2 and 3 of Bulletin No. 79-26 and submit a written response to NRC on item 3.

(13) Core Stability Analysis and Prohibition of Natural Circulation
(Section 4.4.1, SER)

- (a) Prior to startup following the first refueling outage, SERI shall submit a new core stability analysis for operation beyond cycle 1.
- (b) Natural circulation shall be prohibited as an operating mode.

(14) Loose Parts Monitoring (Section 4.4.1, SER)

Prior to startup following the first refueling outage, SERI shall submit an evaluation of the Loose Parts Monitoring System to address conformance to R.G. 1.133, Rev. 1, dated May 1981.

(15) Scram Discharge Volume (Sections 4.6, SER)

Prior to startup following the first refueling outage, SERI shall incorporate the following additional modifications into the scram discharge volume system:

- (i) Redundant vent and drain valves, and
- (ii) Diverse and redundant scram instrumentation for each instrumented volume, including both delta pressure sensors and float sensors.

(16) Containment Purge (Section 6.2.4, SSER #5)

Prior to startup following the first refueling outage, SERI shall provide for NRC review a reevaluation of the need to use the containment purge mode of the containment cooling system. This study should include, but is not limited to, data gathered during the first fuel cycle related to airborne activity level (ALARA), overall containment air quality and personnel access to containment. Based on the above cited study, SERI shall propose the purge criteria to be used for the remainder of the plant life.

(17) Containment Pressure Boundary (Section 6.2.8, SER)

Prior to startup following the first refueling outage, SERI shall replace the feedwater check valve disc with a disc made from a suitable material.

(18) Pressure Interlocks on Valves Interfacing at Low and High Pressure
(Section 6.3.4, SSER #2)

Prior to startup following the first refueling outage, the licensee shall implement isolation protection against overpressurization of the low pressure emergency core cooling systems (RHR/LPCI and LPCS) at the high and low pressure interface containing a check valve and a closed motor-operated valve.

(19) IE Information Notice 79-22, Qualification of Control System
(Section 7.8.C, SER, SSER #2)

Prior to startup following the first refueling outage, SERI shall complete any design changes found necessary as a result of this review.

(20) Standby Service Water System (Section 9.2.1 SER, SSER #2)

No irradiated fuel may be stored in the Unit 1 spent fuel storage pool prior to completion of modifications to either loop A or loop B of the standby service water (SSW) system and verification that the design flow can be achieved to all essential SSW system components in the modified loop. However, should a core offloading be necessary prior to completion of these modifications (scheduled for the first refueling outage), irradiated fuel may be placed in the spent fuel pool when the RHR system operating in the spent fuel pool cooling mode is available. Until the SSW loops are modified, the spent fuel pool cooler in an unmodified loop shall be isolated from the loop by locked closed valves or the loop shall be declared inoperable. The position of these valves shall be verified every 31 days until the design flowrate for the SSW loop is demonstrated. The surveillance to be performed is to verify that any unmodified SSW loop with valves which are not locked closed is declared inoperable.

(21) Spent Fuel Pool Ventilation System (Section 9.4.2, SER, SSER #2)

If spent irradiated fuel is placed in the spent fuel pool prior to installation and operability of the safety related backup fuel pool cooling pump room coolers, the plant shall be placed in shutdown condition and remain shutdown with the RHR system dedicated to the fuel pool cooling mode.

(22) Remote Shutdown Panel (Section 9.5.4.1, SER, SSER #2)

Prior to startup following the first refueling outage, SERI shall install electrical isolation switches between the control room and the Division 1 remote shutdown panel.

(23) Fire Protection Program (Section 9.5.9, SER)

SERI shall maintain in effect and fully implement all provisions of the approved Fire Protection Plan. In addition, SERI shall maintain the fire protection program to meet the intent of Appendix R to 10 CFR Part 50, except that an oil collection system for the reactor coolant pump is not required.

(24) Interplant Communication Systems (Section 9.6.1.2, SER, SSER #2, SSER #4, SSER #5)

Tests of the communication systems used to mitigate the consequences of an event and attain a safe plant shutdown shall be completed during preoperational and startup tests. An evaluation of the test results shall be provided for NRC review within 90 days after test completion. Any system modifications found necessary as a result of NRC review shall be completed prior to startup following the first refueling outage.

(25) Reliability of Diesel-Generators (Sections 8.3.1, 9.6.3 through 9.6.7, SER, SSER #2, SSER #4, SSER #6)

- (a) Prior to startup following the first refueling outage, a heavy duty turbocharger gear drive assembly shall be installed on all EMD diesel-generators.
- (b) SERI shall comply with TDI emergency diesel generator requirements specified in Attachment 2 to this license.

(26) Turbine Disc Integrity (Section 10.2.1, SER, SSER #1)

SERI shall ultrasonically inspect the bores and keyways of the low pressure turbine discs for indications of cracking prior to exceeding 50,000 hours of operation. All unacceptable indications and their dispositions shall be reported prior to startup for the next cycle of operation. These inspections shall continue on a 50,000 hour interval until the potential for turbine disc cracking has been assessed and an acceptable alternate inspection schedule has been established.

(27) Circulating Water System (Section 10.4.5, SER)

SERI shall not fill the Unit 2 circulating water system (including the natural draft cooling tower basin) until Unit 1 flooding concerns related to this system are resolved to the satisfaction of the NRC staff.

(28) Advisor to the Vice President

SERI shall have on its nuclear operations staff, one or more corporate management officials or advisors (who may be either permanent employees or contracted consultants) who have substantial commercial nuclear power plant operating management experience and who will advise on all decisions affecting safe operation of the plant. This requirement shall be in effect until the plant has accumulated at least 6 months at power levels above 90% of full power.

(29) Operating Shift Advisor (Section 13.1.2, SER)

At least one individual on each operating shift shall have substantive previous BWR operating experience, including startup and shutdown of a BWR and under conditions that one might expect to encounter during the initial startup and power escalation at the Grand Gulf plant. This individual is not required to be licensed on Grand Gulf Unit 1 and need not be a SERI employee, but as a minimum shall be retained on a contract basis to act as a consultant or advisor to the GGNS shift crew. Such an experienced person shall be assigned to each operating shift until the plant achieves and demonstrates full power operation.

(30) Training Instructors (Section 13.2, SER)

Permanent training center instructors and consultants assigned to training, who, after initial criticality will teach systems, integrated responses, transients, and simulator courses to license candidates or NRC-licensed personnel, shall either demonstrate or have previously demonstrated their competence to the NRC staff by successful completion of a senior operator examination prior to teaching licensed operators.

(31) Initial Test Program (Section 14, SER)

SERI shall conduct the post-fuel-loading initial test program (set forth in Section 14 of SERI's Final Safety Analysis Report, as amended) without making any major modifications of this program unless such modifications have been identified and have received prior NRC approval. Major modifications are defined as:

- (a) Elimination of any test identified in Section 14 of SERI's Final Safety Analysis Report, as amended, as being essential.
- (b) Modification of test objectives, methods or acceptance criteria for any test identified in Section 14 of SERI's Final Safety Analysis Report, as amended, as being essential;
- (c) Performance of any test at a power level different from that described in the program; and
- (d) Failure to complete any tests included in the described program (planned or scheduled for power levels up to the authorized power level).

(32) Partial Feedwater Heating (Section 15.1, SER, SSER #2)

Operation of the plant in the partial feedwater heating mode for the purpose of extending the normal fuel cycle shall be prohibited until analyses which justify that operation are provided to and approved by the NRC staff.

(33) NUREG-0737 Conditions (Section 22.2)

SERI shall complete the following conditions to the satisfaction of the NRC. These conditions reference the appropriate items in Section 22.2, "TMI Action Plan Requirements for Applicants for Operating Licenses", in the Safety Evaluation Report and Supplements 1, 2, 3, 4, and 5 NUREG-0831.

(a) Control Room Design Review (I.D.1, SER; Appendix E, SSER #2, SSER #4, SSER #5)

Prior to startup following the first refueling outage, SERI shall demonstrate the ability to maintain an "effective temperature" condition of 85°F or less in the remote shut-down panel (RSP) room for at least 8 hours with an ambient outdoor temperature of at least 95°F.

(b) Training During Low-Power Testing (I.G.1, SER)

Prior to restart following the first refueling outage, SERI shall complete the additional training and testing related to TMI Action Plan I.G.1 as described in Section 2.3 of the MP&L submittal dated April 3, 1986.

(c) Post Accident Sampling (II.B.3, SER, SSER #1, SSER #4, SSER #5)

Prior to startup following the first refueling outage, SERI shall incorporate the additional requirements into the procedure for relating radionuclide gaseous and ionic species to estimate core damage as discussed in Section II.B.3.1 of SSER #4.

(d) Hydrogen Control (Section II.B.7, SER, SSER #2, SSER #3, SSER #4, SSER #5)

(1) During the first cycle of operation, SERI shall maintain a suitable program of analysis and testing of the installed hydrogen ignition system. SERI shall submit to the NRC quarterly reports on the status of their research programs.

- (a) SERI shall amend its research program on hydrogen control measures to include, but not be limited to, the following items:
 - 1) Perform containment sensitivity analysis to determine the adequacy of the hydrogen control system for a spectrum of degraded core accidents including the determination of accident sequences for which equipment survivability is assured;
 - 2) Research to investigate the conditions leading to and consequences resulting from hydrogen combustion in the wetwell and containment. Testing shall be performed in a larger scale facility such as the one-quarter scale test facility proposed by MP&L;
 - 3) Research to investigate the conditions leading to and consequences resulting from hydrogen combustion in the drywell;
 - 4) Confirmatory tests on thermal response of selected equipment exposed to hydrogen burns.
- (b) SERI shall perform feasibility studies to examine the options for enhancing equipment survivability for essential equipment located in the vicinity of the suppression pool or other regions subjected to severe environments. The options to be studied in such feasibility studies shall include thermal shielding, additional cooling, and relocation of essential equipment.
- (2) (a) SERI shall complete its research program on hydrogen control to show that the hydrogen control system will perform its intended function in a manner that provides adequate safety margins. This research program shall be completed on a schedule which reflects the requirements of 10 CFR 50.44.
- (b) If it is determined that plant modifications are required to obtain NRC approval that an adequate hydrogen control system for Grand Gulf is installed, then these modifications shall be completed on a schedule which is approved by the NRC.
- (e) Instrumentation for Detection of Inadequate Core Cooling (II.F.2, SER, SSER #2)

SERI shall submit a report addressing the analysis performed by the BWR Owners' Group regarding additional instrumentation relative to inadequate core cooling and shall implement the

staff's requirements after the completion of the staff's review of this report. These modifications shall be completed on a schedule acceptable to the staff.

- (f) Modification of Automatic Depressurization System Logic - Feasibility for Increased Diversity for Some Event Sequences (II.K.3.18, SER, SSER #2, SSER #4)

Prior to startup following the first refueling outage, SERI shall provide, for NRC review, justification for the timer delay settings, revisions to the emergency procedures covering the use of the manual inhibit switch, proposed Technical Specification surveillance procedures for the timer and switch, and shall implement alternative logic modification (Option 4) of the automatic depressurization system.

- (g) Qualification of ADS Accumulators (II.K.3.28, SSER #5)

Prior to startup following the first refueling outage, SERI shall perform an integrated leak test on the ADS air system, perform sampling to establish instrument air quality, provide instrumentation to monitor ADS air receiver pressure, establish suitable surveillance procedures for the ADS air system and provide proposed changes to the Technical Specifications associated with the surveillance procedures.

- (34) SRV Test Program (Section A-39, Appendix C, SER, SSER #1, SSER #2)

During Cycle 1, an inplant SRV test program shall be carried out to confirm that the containment building response to SRV loads is acceptable. Results of these tests shall be provided to NRC no later than four months after test completion.

- (35) Post-LOCA Vacuum Breaker Position Indicators

Prior to startup following the first refueling outage, SERI shall install position indicators with redundant indication and alarm in the control room for the check valves associated with the dry-well post-LOCA vacuum breakers.

- (36) Emergency Response Facilities (Generic Letter 82-33, NUREG-0737 Supplement 1, SSER #5)

SERI shall complete the emergency response capabilities as required by Attachment 1 to this license.

- (37) Evaluation of Licensee's Technical Specification Problem Sheets (Section 16.3, SSER #6)

Prior to startup following the first refueling outage, SERI shall implement the following modifications:

- (a) Include an emergency override of the test mode of the Division 3 HPCS diesel generator to permit response to emergency signals and to return the control of the diesel generator to the emergency standby mode. (Item No. 333, T.S. 4.8.1.1.2.d.12.b)
- (b) Provide the second level undervoltage protection for Division 3 power supply (Item No. 373, T.S. Table 3.3.3-2).
- (c) Incorporate a bypass or coincident logic in all Division 1 and 2 diesel generator protective trips, except for trips on diesel engine overspeed and generator differential current (Item No. 808, T.S. 4.8.1.1.2.d.16.d).

(38) Control Room Leak Rate (Section 6.2.6, SSER #6)

SERI shall operate Grand Gulf Unit 1 with an allowable control room leak rate not to exceed 590 cfm. Upon restart of construction of Unit 2 control room, SERI will be permitted to operate at a leak rate of 760 cfm as evaluated in SSER No. 6.

(39) Temporary Secondary Containment Boundary Change

For a period of time not to exceed 144 cumulative hours, the provisions of Specification 3/4.6.6.1 may be applied to the railroad bay area including the exterior railroad bay door on the auxiliary building in lieu of the present secondary containment boundaries that isolate the railroad bay area. While the railroad bay area is being used as a secondary containment boundary, the railroad bay door may be opened for the purpose of moving trucks in and out provided the four hour limitation in ACTION a of Technical Specification 3.6.6.1 is reduced to one hour. A fire watch shall be established in the railroad bay area while the door is being used as a secondary containment boundary.

(40) Temporary Ultimate Heat Sink Change

With the plant in OPERATIONAL condition 4, SSW cooling tower basin A may be considered OPERABLE in accordance with Technical Specification 3.7.1.3 with less than a 30 day supply of water (without makeup) during the time that SSW basin B is drained to replace its associated service water pump provided:

- (a) SSW basin A water level is maintained greater than or equal to 87".
- (b) At least two sources of water (other than normal makeup with one source not dependent on offsite power) are available for makeup to SSW basin A.

This license condition may remain in effect until plant startup following the outage scheduled for fall 1985.

- D. The facility requires exemptions from certain requirements of Appendices A and J to 10 CFR Part 50 and from certain requirements of 10 CFR Part 100. These include: (a) exemption from General Design Criterion 17 of Appendix A until startup following the first refueling outage, for (1) the emergency override of the test mode for the Division 3 diesel engine, (2) the second level undervoltage protection for the Division 3 diesel engine, and (3) the generator ground over current trip function for the Division 1 and 2 diesel generators (Section 8.3.1 of SSER #7), and (b) exemption from the requirements of Paragraph III.D.2(b)(ii) of Appendix J for the containment airlock testing following normal door opening when containment integrity is not required (Section 6.2.6 of SSER #7). These exemptions are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. In addition, by exemption dated December 20, 1986, the Commission exempted licensees from 10 CFR 100.11(a)(1), insofar as it incorporates the definition of exclusion area in 10 CFR 100.3(a), until April 30, 1987 regarding demonstration of authority to control all activities within the exclusion area (safety evaluation accompanying Amendment No. 27 to License (NPF-29). This exemption is authorized by law, and will not present an undue risk to the public health and safety, and is consistent with the common defense and security. In addition, special circumstances have been found justifying the exemption. Therefore, these exemptions are hereby granted pursuant to 10 CFR 50.12. With the granting of these exemptions, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act and the rules and regulations of the Commission.
- E. SERI shall maintain in effect and fully implement all the provisions of the Commission-approved physical security plan, guard training and qualification plan and safeguards contingency plan, including amendments made pursuant to the authority of 10 CFR Section 50.54(p) approved plans, which are safeguards information protected under 10 CFR 73.21, are collectively entitled Grand Gulf Nuclear Station "Physical Security Plan," Revision 1, 2 and 3; the Grand Gulf Nuclear Station "Security Training and Qualification Plan," and the Grand Gulf Nuclear Station "Safeguards Contingency Plan." The identification of vital areas and measures used to control access to these areas, as described in the physical security plan, may be subject to amendments in the future based upon a confirmatory evaluation of the plant to determine those areas where acts of sabotage might cause a release of radio-nuclides in sufficient quantities to result in dose rates equal to or exceeding 10 CFR Part 100 guidelines.
- F. SERI shall report any violations of the requirements contained in Section 2, Items C.(1), C.(4) through C.(38) of this license within twenty-four (24) hours. Initial notification shall be made in accordance with the provisions of 10 CFR 50.72 with written follow-up in accordance with the procedures described in 10 CFR 50.73(b), (c), and (e).

- G. The licensees shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.
 - H. This license is effective as of the date of issuance and shall expire at midnight on June 16, 2022.
- 3. Attachments 1 and 2 to Facility Operating License No. NPF-29, which have previously been incorporated into the license, are further amended by changes (as indicated by the bars in margins) as shown in Attachments 1 and 2 to this amendment.
 - 4. The license is further amended by changes to the Appendices as follows:
 - A. Change Appendix A, Technical Specifications, and Appendix B, Environmental Protection Plan, as indicated in Attachment 3 to this license amendment.

Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 27 are hereby incorporated into this license. System Energy Resources, Inc. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

- B. On page 1 of Appendix C, Antitrust Conditions, change the phrase "The Mississippi Power & Light Company shall comply with the following antitrust conditions." To "MP&L and SERI shall comply with the following antitrust conditions."
- 5. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Walter R. Butler, Director
BWR Project Directorate No. 4
Division of BWR Licensing

Attachment:
Changes to the Technical
Specifications and changes
to the Environmental
Protection Plan

Date of Issuance: December 20, 1986

G. The licensees shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.

H. This license is effective as of the date of issuance and shall expire at midnight on June 16, 2022.

3. Attachments 1 and 2 to Facility Operating License No. NPF-29, which have previously been incorporated into the license, are further amended by changes (as indicated by the bars in margins) as shown in Attachments 1 and 2 to this amendment.

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A. Change Appendix A, Technical Specifications, and Appendix B, Environmental Protection Plan, as indicated in Attachment 3 to this license amendment.

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FOR THE NUCLEAR REGULATORY COMMISSION

~~Original signed by~~

Walter R. Butler, Director
BWR Project Directorate No. 4
Division of BWR Licensing

Attachment:
Changes to the Technical Specifications and changes to the Environmental Protection Plan

Date of Issuance: ^{December} 20, 1986

*Previously concurred:

ICSB EPB/IE OGC
*MSrinivasan FKantor *Johnson
11/18/86 / /86 12/19/86

PD#4/LA PD#4 PD#4/PM
*MO'Brien *REMartin *LKintner:lb
11/21/86 11/17/86& 11/19/86
12/08/86

PD#4/D PSB/D PRAB
WButler *GHulman *WLambe
12/20/86 12/09/86 12/09/86

Attachment:1

November 1, 1984

SERI shall complete the following requirements on the schedule noted below:

Emergency Response Facilities (Generic Letter 82-33, NUREG-0737
Supplement 1, SSER #5)

SERI shall implement the specific items below, in the manner described in MP&L letter (AECM-83/0232) dated April 15, 1983, as modified in MP&L letter (AECM-83/0486) dated August 22, 1983, no later than the following specified dates:

- (a) Safety Parameter Display System (SPDS)
 - (1) Submit a safety analysis and an implementation plan to the NRC July 1985
 - (2) SPDS fully operational and operators trained Prior to startup following first refueling outage

- (b) Detailed Control Room Design Review (DCRDR)
 - (1) Submit a program plan to the NRC December 1984
 - (2) Submit a summary report to the NRC including a proposed schedule for implementation July 1986

- (c) Regulatory Guide 1.97 - Application to Emergency Response Facilities
 - (1) Submit a report to the NRC describing how the requirements of Supplement 1 to NUREG-0737 have been or will be met February 1985
 - (2) Implement (installation or upgrade) requirements of R.G. 1.97 with the exception of flux monitoring, coolant level monitoring, and SLCS flow monitoring. Prior to startup following first refueling outage
 - (3) Implement (installation or upgrade) requirements of R.G. 1.97 for flux monitoring, coolant level monitoring, and SLCS flow monitoring. Prior to startup following second refueling outage

- (d) Upgrade Emergency Operating Procedures (EOP's)
 - (1) Submit a Procedures Generation Package to the NRC April 1985

- | | |
|---|---|
| (2) Implement the upgraded EOP's | Prior to startup following the first refueling outage |
| (e) Emergency Response Facilities | |
| (1) Technical Support Center fully functional with exception of Regulatory Guide 1.97 implementation | Prior to startup following the first refueling outage |
| (2) Operational Support Center fully functional with exception of Regulatory Guide 1.97 implementation | Prior to startup following the first refueling outage |
| (3) Emergency Operations Facility fully functional with exception of Regulatory Guide 1.97 implementation | Prior to startup following the first refueling outage |

Attachment 2

Transamerica Delaval Inc. (TDI) Diesel Generator

Maintenance and Surveillance Requirements

(NUREG-1216, August 1986)

1. Maintenance and Surveillance Program

SERI shall implement and maintain in effect the provisions of the maintenance and surveillance program for the TDI emergency diesel generators at GGNS Unit 1 as identified in the MP&L letter dated July 18, 1986 (AECM-86/0172) and as approved in the staff's Safety Evaluation Report attached to the NRC letter dated December 9, 1986, subject to the provisions of paragraphs 2 and 3 below.

2. Changes

SERI may make changes to the approved maintenance and surveillance program without prior approval of the Commission provided the changes do not adversely affect the operability or reliability of the diesel generators or involve changes in the Phase 1 Surveillance requirements of paragraph 3 below or otherwise change license conditions or Technical Specifications or result in an unreviewed safety question as defined in 10 CFR 50.59. SERI shall maintain in auditable form, a current record of all such changes, including an analysis of the effects of the change on diesel generator operability and reliability, and shall make such records available to NRC inspectors upon request. All changes to the program shall be reported annually to the Director of the Office of Nuclear Reactor Regulation, along with the FSAR revisions required by 10 CFR 50.71(e).

3. Phase 1 Component Surveillance Requirements

SERI shall comply with the following requirements:

3.1 Connecting Rods

Connecting rod assemblies shall be subjected to the following inspections at each major engine overhaul*:

- a. The surfaces of the rack teeth shall be inspected for signs of fretting. If fretting has occurred, it shall be subject to an engineering evaluation for appropriate corrective action.

* The frequency of the major engine overhauls referred to in these requirements shall be consistent with Section IV.1. "Overhaul Frequency" in Revision 2 of Appendix II of the Design Review/Quality Revalidation report which was transmitted by MP&L letter dated July 18, 1986.

- b. All connecting-rod bolts shall be lubricated in accordance with the engine manufacturer's instructions and torqued to the specifications of the manufacturer. The lengths of the two pairs of bolts above the crankpin shall be measured ultrasonically pre and post-tensioning.
- c. The lengths of the two pair of bolts above the crankpin shall be measured ultrasonically prior to detensioning and disassembly of the bolts. If bolt tension is less than an equivalent of 2400 ft-lbs, the cause shall be determined, appropriate corrective action shall be taken, and the interval between checks of bolt tension shall be re-evaluated.
- d. All connecting-rod bolts shall be visually inspected for thread damage (e.g., galling), and the two pairs of connecting rod bolts above the crankpin shall be inspected by magnetic particle testing (MT) to verify the continued absence of cracking. All washers used with the bolts shall be examined visually for signs of galling or cracking, and replaced if damaged.
- e. A visual inspection shall be performed of accessible external surfaces of the link rod box to verify the absence of any signs of service induced distress.
- f. All of the bolt holes in the link rod box shall be inspected for thread damage (e.g., galling) or other signs of abnormalities. In addition, the bolt holes subject to the highest stresses (i.e., the pair immediately above the crankpin) shall be examined with an appropriate nondestructive method to verify the continued absence of cracking. Any indications shall be recorded for engineering evaluation and appropriate corrective action.
- g. If the diesel generators are operated in excess of 5740 KW steady state, all connecting rods shall be disassembled and inspected at an interval of approximately 5 years coincident with the end of a fuel cycle, except that connecting rod disassembly and inspection is not required for limited post maintenance testing over 5740 KW for the purpose of seating new piston rings as described in the MP&L letter dated December 6, 1985 (AECM-85/0395).

3.2 Cylinder Blocks

- a. Cylinder blocks shall be inspected for "ligament" cracks, "stud-to-stud" cracks and "stud-to-end" cracks as defined in a report by Failure Analysis Associates, Inc. (FaAA) entitled, "Design Review of TDI R-4 and RV-4 Series Emergency Diesel Generator Cylinder Blocks" (FaAA report no. FaAA-84-9-11.1) dated December 1984.** (Note that the FaAA report specifies

** Transmitted to H. R. Denton, NRC from C. L. Ray, Jr., TDI Owners Group, by letter dated December 11, 1984.

additional inspections to be performed for blocks with "known" or "assumed" ligament cracks). The inspection intervals (i.e., frequency) shall not exceed the intervals calculated using the cumulative damage index model in the subject FaAA report. In addition, inspection method shall be consistent with or equivalent to those identified in the subject FaAA report.

- b. In addition to inspections specified in the aforementioned FaAA report, blocks with "known" or "assumed" ligament cracks (as defined in the FaAA report) shall be inspected at each refueling outage to determine whether or not cracks have initiated on the top surface exposed by the removal of two or more cylinder heads. This process shall be repeated over several refueling outages until the entire block top has been inspected. Liquid-penetrant testing or a similarly sensitive nondestructive testing technique shall be used to detect cracking, and eddy current shall be used as appropriate to determine the depth of any cracks discovered.
- c. If inspection reveals cracks in the cylinder blocks between stud holes of adjacent cylinders ("stud-to-stud" cracks) or "stud-to-end" cracks, this condition shall be reported promptly to the NRC staff and the affected engine shall be considered inoperable. The engine shall not be restored to "operable" status until the proposed disposition and/or corrective actions have been approved by the NRC staff.

3.3 Cylinder Heads

The following air roll test shall be performed as specified below, except when the plant is already in an Action Statement of Technical Specification 3/4.8.1, "Electric Power Systems, A.C. Sources":

The engines shall be rolled over with the airstart system and with the cylinder stopcocks open prior to each planned start, unless that start occurs within 4 hours of a shutdown. The engines shall also be rolled over with the airstart system and with the cylinder stopcocks open after 4 hours, but no more than 8 hours after engine shutdown and then rolled over once again approximately 24 hours after each shutdown. (In the event an engine is removed from service for any reason other than the rolling over procedure prior to expiration of the 8-hour or 24-hour periods noted above, that engine need not be rolled over while it is out of service. The licensee shall air roll the engine over with the stopcocks open at the time it is returned to service.) The origin of any water detected in the cylinder must be determined and any cylinder head which leaks due to a crack shall be replaced. The above air roll test may be discontinued following the first refueling outage subject to the following conditions:

- a. All cylinder heads are Group III heads (i.e, cast after September 1980.)
- b. Quality revalidation inspections, as identified in the GGNS Design Review/Quality Revalidation Report, Revision 2, have been completed for all cylinder heads.
- c. Group III heads continue to demonstrate favorable leakage performance. This should be confirmed with TDI prior to deleting air roll tests.

3.4 Turbochargers

Periodic inspections of the turbochargers shall include the following:

- a. The turbocharger thrust bearings shall be visually inspected for excessive wear after 40 non-prelubed starts since the previous visual inspection.
- b. Turbocharger rotor axial clearance shall be measured at each refueling outage to verify compliance with TDI/Elliott specifications. In addition, thrust bearing measurements shall be compared with measurements taken previously to determine a need for further inspection or corrective action.
- c. Spectrographic and ferrographic engine oil analysis shall be performed quarterly to provide early evidence of bearing degradation. Particular attention shall be paid to copper level and particulate size which could signify thrust bearing degradation.
- d. The nozzle ring components and inlet guide vanes shall be visually inspected at each refueling outage for missing parts or parts showing distress. If such are noted, the entire ring assembly shall be replaced.

ATTACHMENT 3 TO LICENSE AMENDMENT NO. 27

FACILITY OPERATING LICENSE NO. NPF-29

DOCKET NO. 50-416

Replace the following pages of the Appendix "A" Technical Specifications and the Appendix B Environmental Protection Plan with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

Technical Specifications

Remove

6-3

6-9

Insert

6-3

6-9

Environmental Protection Plan

Remove

Title page

1-1

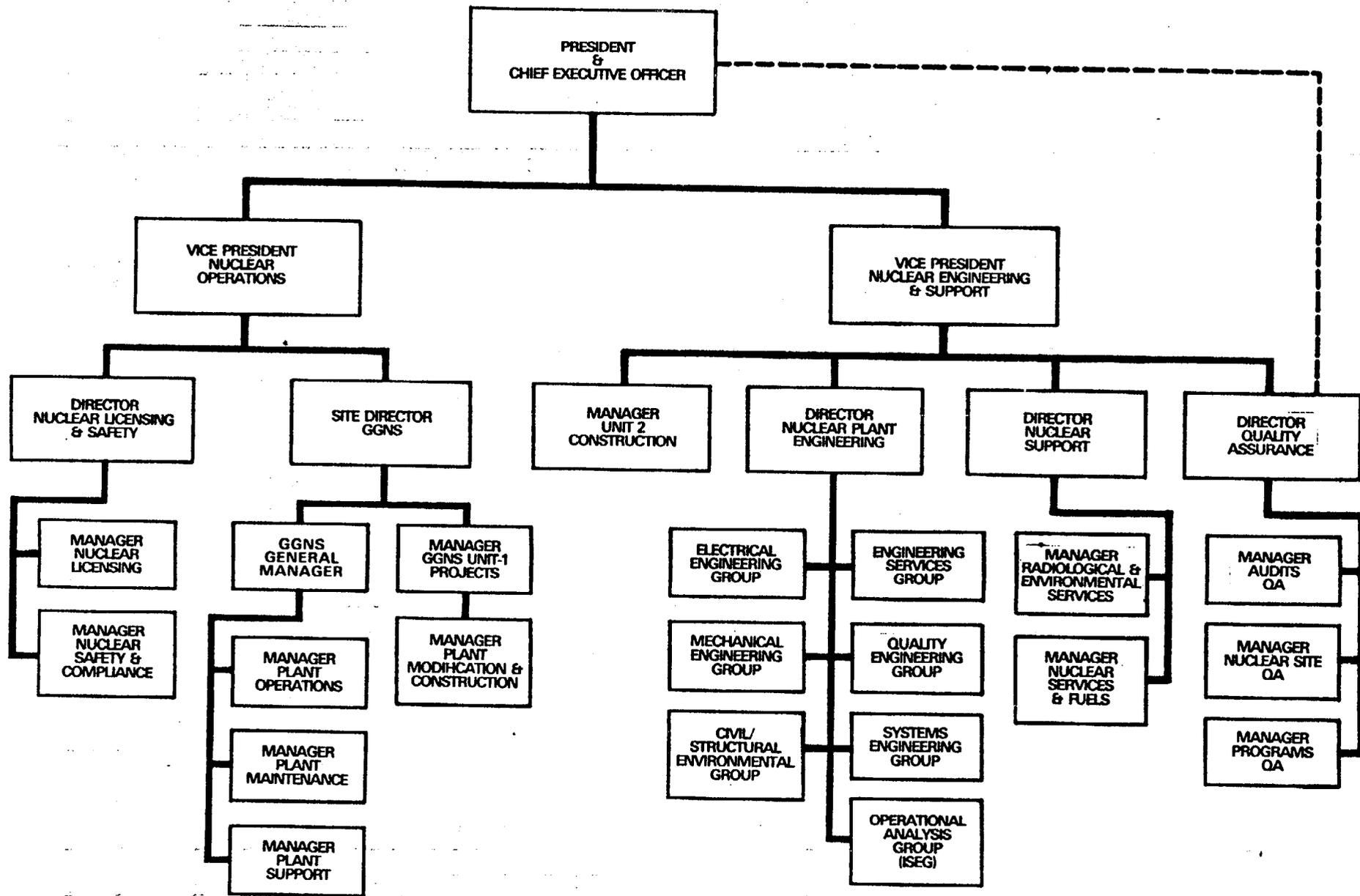
4-2

Insert

Title page

1-1

4-2



----- QUALITY ASSURANCE POLICY MATTERS AND ESCALATION PATH

Figure 6.2.1-1 Offsite Organization

ADMINISTRATIVE CONTROLS

6.5.2 SAFETY REVIEW COMMITTEE (SRC)

FUNCTION

6.5.2.1 The SRC shall function to provide independent review and audit of designated activities in the areas of:

- a. nuclear power plant operations
- b. nuclear engineering
- c. chemistry and radiochemistry
- d. metallurgy
- e. instrumentation and control
- f. radiological safety
- g. mechanical and electrical engineering
- h. quality assurance practices

COMPOSITION

6.5.2.2 The SRC shall be composed of the:

Chairman:	Vice President, Nuclear Operations
Member:	Vice President, Nuclear Engineering & Support
Member:	Director, Nuclear Plant Engineering
Member:	Site Director, GGNS
Member:	Director, Quality Assurance
Member:	Designated Representative, Middle South Services, Inc.
Member:	GGNS General Manager
Member:	Director, Nuclear Licensing and Safety
Member:	Manager, Radiological and Environmental Services
Member:	Principal Engineer, Operations Analysis

Two or more additional voting members shall be consultants to System Energy Resources, Inc. consistent with the recommendations of the Advisory Committee on Reactor Safeguards letter, Mark to Palladino dated October 20, 1981.

The SRC members shall hold a Bachelor's degree in an engineering or physical science field or equivalent experience and a minimum of five years of technical experience of which a minimum of three years shall be in one or more of the disciplines of 6.5.2.1a through h. In the aggregate, the membership of the committee shall provide specific practical experience in the majority of the disciplines of 6.5.2.1a through h.

ALTERNATES

6.5.2.3 All alternate members shall be appointed in writing by the SRC Chairman to serve on a temporary basis; however, no more than two alternates shall participate as voting members in SRC activities at any one time.

APPENDIX B
TO FACILITY LICENSE NO. NPF-29
GRAND GULF NUCLEAR STATION
UNIT 1

SYSTEM ENERGY RESOURCES, INC.
DOCKET NO. 50-416

ENVIRONMENTAL PROTECTION PLAN

OCTOBER 1984

1.0 OBJECTIVES OF THE ENVIRONMENTAL PROTECTION PLAN

The Environmental Protection Plan (EPP) is to provide for protection of environmental values during construction and operation of the nuclear facility. The principal objectives of the EPP are as follows:

- (1) Verify that the Plant is operated in an environmentally acceptable manner, as established by the FES and other NRC environmental impact assessments.
- (2) Coordinate NRC requirements and maintain consistency with other Federal, State and local requirements for environmental protection.
- (3) Keep NRC informed of the environmental effects of facility construction and operation and of action taken to control those effects.

Environmental concerns identified in the FES which relate to water quality matters are regulated by way of the GGNS NPDES permit.

by the aerial surveys, and walking patrols will be directed to the problem areas to evaluate the extent of the problem to be corrected.

The Erosion Control Inspection Program shall begin upon commencement of normal transmission line inspection procedures. Semi-annual surveys shall continue until stabilization of soil and vegetation (i.e., ground cover establishment) is achieved.

A summary of the field inspection program and any procedures implemented to control abnormal erosion conditions associated with transmission line maintenance activities shall be reported in the Annual Environmental Operation Report in accordance with Subsection 5.4.1. Field logs indicating locations of erosion damage and measures taken to rectify erosion problem areas and estimation of the time to achieve effective stabilization will be maintained and available for inspection for a period of two years. Results reported shall contain information encompassing but not limited to inspection date, estimated size of erosion problem area, probable cause of erosion, type of stabilization program, and date of effective stabilization, as appropriate.

4.2.2 Cooling Tower Drift Program

Seven sampling sites will be utilized to measure cooling tower drift-deposition. At least two of the sampling sites will have duplicate sampling devices. Six of the seven sampling sites will be located in areas where maximum salt deposition is predicted. These areas were extrapolated from the Bechtel Salt Deposition Model developed for the SERI Final Environmental Report. The seventh sampling site will be a control site located south of Raymond, Mississippi.

Fallout samples will be collected using buckets with a known volume of deionized water in each. The buckets will be located four to six feet above the ground, fitted with bird rings, and covered with fine mesh screens to exclude leaves and insects. The samples will be collected on a quarterly basis and analyzed for calcium, magnesium, sodium, iron, phosphates, nitrates, chloride, fluorides, sulfates, and total dissolved solids. These parameters were selected because past analyses have shown them to be prevalent in the cooling tower source water. The results of these analyses will be correlated with local rainfall data and



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 27 TO FACILITY OPERATING LICENSE NO. NPF-29

MISSISSIPPI POWER & LIGHT COMPANY

SYSTEM ENERGY RESOURCES, INC.

SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION

GRAND GULF NUCLEAR STATION, UNIT 1

DOCKET NO. 50-416

1.0 INTRODUCTION

By letter dated September 2 as amended October 4, 13 and 24, and as supplemented on November 20, 21, and December 2 and 3, 1986, Mississippi Power & Light Company (MP&L), Middle South Energy, Inc. (now renamed System Energy Resources, Inc., SERI), and South Mississippi Electric Power Association (SMEPA) (the licensees) requested an amendment to Facility Operating License No. NPF-29 for the Grand Gulf Nuclear Station, Unit 1 (GGNS). The proposed amendment would change the GGNS facility operating license, pages 6-3 and 6-9 of the facility Technical Specifications (TSs) and pages 1-1 and 4-2 of the Environmental Protection Plan to reflect the transfer of authority to control and operate the GGNS from MP&L to SERI. In addition to the submittal of the application for amendment of the license and the TS pursuant to 10 CFR 50.90, the licensees have also submitted, pursuant to 10 CFR 50.80, an application for transfer of control of the licensed activities to System Energy Resources, Inc. (SERI). The staff's review of the application addresses those issues necessary for both the issuance of the license amendment pursuant to 10 CFR 50.90 and for approval of transfer of control of licensed activities pursuant to 10 CFR 50.80.

The notice of consideration of issuance of this license amendment was published in the Federal Register before the licensees' November 20, 21 and December 2 and 3 submittals. These submittals provided additional information and clarifications of previously submitted information. The notice of consideration accurately described the license amendment request and the clarifications and additional information do not affect the substance of the requested amendment.

Since information provided during the course of the staff's review indicated that the licensees did not own all of the mineral rights within the exclusion area, the Commission has, pursuant to a request by MP&L, issued a temporary partial exemption from the requirement of 10 CFR Part 100.11(a)(1) insofar as it incorporates by reference the definition of exclusion area in 10 CFR 100.3(a), regarding the authority of the licensee to control all activities within the exclusion area. This exemption, which

responds to MP&L's request as set forth in its letter of December 10, 1986, is addressed concurrently by the staff in a separate document to be issued with this amendment.

Ownership of the GGNS remains unchanged, being 90 percent owned by MSE (now SERI) and 10 percent owned by SMEPA. SMEPA's role in this transfer is completely unchanged. The entire Nuclear Production Department, now a part of MP&L, will transfer, with no significant changes, to SERI. All of the costs, capacity and energy associated with SERI's 90 percent share of GGNS Unit 1 remain allocated to the Middle South Utilities system operating companies, Arkansas Power & Light Company, MP&L, Louisiana Power and Light Company and New Orleans Public Service, Inc.

The licensees propose that the application be considered in two parts. This first part deals with a technical amendment which reflects transfer of control and operational responsibilities from MP&L to SERI. A second part will deal with consideration of the antitrust conditions presently embodied in the license. Accordingly, the Commission is proceeding with issuance of an amendment to the facility operating license which transfers control and operational responsibilities to SERI and also continues to hold MP&L and SERI to the terms of the existing antitrust conditions pending completion of review of the antitrust considerations of this amendment request.

2.0 EVALUATION

The licensees have addressed in their application and the NRC review includes consideration of the following technical issues: financial resources, technical qualifications of the proposed SERI staff, continuation of assured sources of offsite power in compliance with GDC-17, continuation of an adequate level of emergency preparedness and planning, and continuation of authority to control activities within the site exclusion area in compliance with 10 CFR Part 100.

Offsite Power Supplies

The NRC staff concluded in its Safety Evaluation Report, NUREG-0831, issued in September 1981, that the offsite power system for GGNS Units 1 and 2 met the requirements of the applicable General Design Criteria and was acceptable. Following the transfer of control of licensed activities from MP&L to SERI, MP&L will continue to own the transmission lines and the 500 KV and 115 KV switchyards on the GGNS site. The staff's review of the transfer of control of licensed activities from MP&L to SERI has focussed on those matters associated with the transfer which require attention to ensure that applicable regulatory requirements continue to be met for the GGNS.

The major components of the GGNS offsite power system consist of three 500 kilovolt (KV) transmission lines which enter the 500 KV switchyard onsite and a 115 KV transmission line to a 115 KV switchyard onsite. The 500 KV switchyard interfaces with a 34.5 KV substation for each unit. The

34.5 KV substations interface with one of the two engineered safety feature (ESF) transformers for each unit. The other ESF transformer is powered from the 115 KV substation. These transmission lines and associated switchyards provide a total of three independent paths for offsite power as discussed in further detail in the staff's SER, NUREG-0831. MP&L will continue to own that portion of the site occupied by the 500 KV switchyard and the 115 KV substation. The interface between MP&L and SERI for ownership of offsite power supply equipment occurs at the 500/34.5 KV transformers and at the 115 KV substation as discussed in the licensees' letter of October 4, 1986. Since the responsibility for control of licensed activities for the operation of Unit 1 and construction of Unit 2 will rest solely with SERI, the staff's review has focussed on the interface between SERI, as the partial owner and operator of GGNS, and MP&L as the provider of offsite power to the GGNS, to ensure that applicable regulatory requirements will continue to be met. In this regard the staff review focussed on two principal areas: (1) the arrangements for provision by MP&L to GGNS of a continued source of offsite power and, (2) the arrangements for controlling operations, maintenance, repair and other activities in the MP&L portions of the switchyard such that adequate independent sources of offsite power will continue to be provided pursuant to GDC-17 "Electric Power Systems." The licensees have indicated that the transfer of the GGNS from MP&L to SERI involves no changes to the design of the offsite power system or its operation and maintenance. The licensees also state that no change in ownership, operation, maintenance or coordination of activities affecting the offsite power system is planned. There are no changes to the Technical Specification onsite and offsite power system conditions for operation, surveillance and testing requirements or other requirements involved with the transfer.

With respect to (1) above, the joint licensees indicate in the letter of October 13, 1986 that MP&L will continue to provide offsite power pursuant to an existing contract between MP&L and MSE. The licensees state that this contract is equally binding between MP&L and SERI. The licensees have also committed to develop a written agreement to formalize existing arrangements for the future interface between SERI and MP&L. This agreement, which will be finalized concurrently with the issuance of this amendment, and shall also be a legally binding contract, will also include provisions relating to the instructions and procedures to be followed by load dispatchers in providing offsite power to the GGNS.

With respect to (2) above, the joint licensees indicate in their letter of October 4, 1986 that the written agreement formalizing the interface between MP&L and SERI will provide for the continuation of current arrangements for the operation, maintenance and coordination of the switchyard and associated transmission facilities. The licensees also indicate that the agreement will require MP&L to obtain the approval of SERI for any design changes to the switchyard and associated transmission facilities, related to the GDC-17 offsite power supplies, prior to implementation of the changes.

The NRC staff concludes, on the basis of its review and the above evaluation, that adequate provisions have been made for MP&L to provide the necessary information to SERI, as the licensee to be responsible for the operation and control of licensed activities, to enable determinations to be made by SERI regarding compliance with the facility operating license, including the Technical Specifications and with the requirements of 10 CFR 50.59 and other applicable regulatory requirements. The staff, therefore, affirms that the conclusions of its initial SER, NUREG-0831, regarding the acceptability of the offsite power supply system are unchanged.

Emergency Preparedness and Planning

By letter dated September 2, 1986, the Mississippi Power and Light Company (MP&L) submitted a proposed amendment to Facility Operating License No. NPF-29 for the Grand Gulf Nuclear Station, Unit 1. The proposed amendment requests that the Grand Gulf Unit 1 license be amended to reflect transfer of control and performance of licensed activities from MP&L to System Energy Resources, Inc. (SERI). The amendment would change the licensee responsible for operating Unit 1 from MP&L to SERI. This report evaluates the actions being taken by MP&L and SERI to ensure that the requirements of 10 CFR 50.47 and Appendix E to 10 CFR 50 involving emergency preparedness will continue to be satisfied during the transition period.

By letters dated October 4, and October 24, 1986, MP&L (licensee) discussed actions that are being taken to ensure that the requirements of 10 CFR 50.47 and Appendix E will continue to be met. In addition, the licensee submitted the Emergency Preparedness Transition Plan dated November 20, 1986. As stated in the response, "MP&L maintains an emergency preparedness program for the Grand Gulf Nuclear Station (GGNS) that includes numerous internal and external interfaces and working agreements that have been established for comprehensive emergency response support in the event of an emergency at GGNS." These interfaces are necessary for ensuring that the appropriate planning standards and criteria are being satisfied. MP&L has examined these interfaces to determine the impact of the MP&L/SERI transfer on the effectiveness of the emergency preparedness program at the GGNS.

A. External Interfaces Between Licensee and Offsite Support Agencies

The licensee's submittals indicate that administrative actions necessary to ensure the continuity of offsite support agreement letters have been established. In addition, the licensee states that "the signatory organization representatives will be interfacing with the same people whom they currently interface with (SERI personnel who transferred from MP&L)." During the annual routine inspection by the Region II staff, no significant problems were identified regarding the interface between the licensee and selected offsite support agencies.

The licensee states that a total of 23 written agreements and commitment letters have been established with various agencies, hospitals, utility groups, etc., to provide support in the event of an emergency declaration at GGNS. Some of these documents are executed in MP&L's name for support to GGNS and others are executed by MP&L as agent for the owners of GGNS. In reviewing these documents, MP&L has determined the following:

- (1) For those documents executed by MP&L as agent for the owners of GGNS, no action is necessary except to notify the signatory organizations that MP&L will no longer be acting in the agency capacity, and that future dealings will be with SERI, acting for itself.
- (2) Those documents that were executed in MP&L's name without the agency disclosure were executed on the basis that MP&L was the operator of GGNS. MP&L intends to assign such agreements and commitments to SERI and notify the signatory organizations that such assignment is being undertaken due to the transition.

The licensee has advised the staff orally that these actions will be implemented on approximately the date of issuance of the associated amendment to the operating license.

Based on the information presented, the staff finds the licensee's response to be acceptable.

B. Internal MP&L/SERI Interfaces

The licensee's submittals establish that actions have been taken to ensure that personnel, equipment, and facility resources are available to ensure continuity in the GGNS emergency planning and preparedness program. According to documentation provided by the licensee, a written agreement will be developed between SERI and MP&L which details the personnel, equipment, and facilities that MP&L will continue to provide to SERI in support of the GGNS emergency preparedness program. Our review of the Emergency Preparedness Transition Plan indicates that the plan delineates the personnel, facilities, and equipment resources in addition to a target date for the major transitions to occur.

In their submittal regarding internal interfaces, the licensee states that "MP&L and SERI have carefully reviewed and evaluated these resource needs and have agreed on a transition plan which provides for SERI assuming responsibility to furnish these services from its own resources in a step-wise process as soon as it can reasonably be expected to do so. In the interim, MP&L will continue to provide support to the GGNS emergency preparedness program using its currently committed resources under the terms of a written agreement with SERI." Decisional responsibilities that are related to accident recognition and classification, mitigative and corrective actions, radiological assessment and protective

action recommendations, and coordination with State and local authorities will rest with SERI personnel. At each major transition milestone, SERI will review the GGNS Emergency Plan and determine the need for its revision. Substantive modifications will be submitted to NRC within 30 days. Minor or purely administrative changes will be included in the annual revision to the emergency plan.

Based on the information presented, the staff finds the licensee's actions to be acceptable.

Summary

Based on the staff's review of the Emergency Preparedness Transition Plan and other supplemental information, the staff concludes that the actions being taken by the licensee during the transfer of control and performance of licensed activities from MP&L to SERI are adequate to ensure that the licensee will continue to meet the requirements of 10 CFR 50.47 and Appendix E to 10 CFR 50 for the Grand Gulf Nuclear Station.

Control of Activities Within Exclusion Area

The NRC staff concluded in its Safety Evaluation Report, NUREG-0831, issued in September 1981, that the applicants owned all of the surface area as well as the mineral rights, and had the authority to determine all activities within the exclusion area, as required by 10 CFR Part 100. This conclusion addressed circumstances wherein Middle South Energy, Inc. (now SERI) and SMEPA owned the GGNS including the plant and all of the land within the exclusion area except for that portion under the 115 KV substation and the 500 KV switchyard and MP&L constructed and operated the GGNS as an agent for MSE and also owned and operated the 115 KV substation, the 500 KV switchyard and the transmission facilities. This conclusion was based on supporting information in the GGNS FSAR. By letter dated December 2, 1986 the licensee advised that there were inaccuracies in the FSAR regarding ownership of land, easements and mineral rights. By letter dated December 10, 1986 the licensee requested an exemption until April 30, 1987 regarding the requirement of 10 CFR Part 100 for exclusion area control.

The licensee stated that the surface rights within the exclusion area are and will continue to be owned by SERI, SMEPA and MP&L as follows. MP&L owns the 52 area tract underlying the switchyard. A legally binding agreement between MP&L and SERI, as described in the licensee's October 24, 1986 letter, will provide SERI with the authority it needs to exercise control over activities by MP&L or others in the switchyard. SERI owns the remainder of the exclusion area with the exception of a 10 percent ownership by SMEPA in a 94 acre tract underlying the power block. Pursuant to the ownership agreement between SERI/MSE and SMEPA, SERI/MSE is authorized to act as agent for SMEPA for matters relating to the design, construction, maintenance, operation and

licensing of the GGNS. On these bases the staff concludes that SERI has the authority, as regards the surface ownership rights, to control activities in the exclusion area notwithstanding SMEPA's 10% ownership interest.

Both MP&L and SMEPA have easements over portions of the exclusion area which will be controlled by SERI. MP&L's easements are for one of the transmission line rights of way. SERI's easement extends to all property within the exclusion area owned by SERI in which SMEPA did not acquire a 10% ownership interest. The staff concludes that the status of SERI and SMEPA as co-licensees and the authority of SERI to act as SMEPA's agent in the control of licensed activities at the GGNS provides adequate assurance that SERI will be able to control all activities in this regard. The staff concludes that the legally binding contractual arrangements to be undertaken between MP&L and SERI regarding the switchyard and the transmission lines provides adequate assurance that SERI will be able to control all activities with respect to these easements in the exclusion area.

SERI and SMEPA own substantial, but not all of the mineral rights in the exclusion area outside MP&L's 52 acre switchyard tract. MP&L owns a 1/2 interest in the mineral rights for the 52 acre switchyard tract. The Commission's regulations in 10 CFR Part 100.11 require that an exclusion area should be determined of such size that an individual located on its boundary during a postulated accident would not receive radiation doses greater than those specified. The Commission's regulations in 10 CFR Part 100.3 define the exclusion area, in this regard, to be an area within "...which the reactor licensee has the authority to determine all activities including exclusion or removal of personnel and property from the area..." and "Activities unrelated to operation of the reactor may be permitted in an exclusion area under appropriate limitations, provided that no significant hazards to the public health and safety will result."

Without a more extensive control of the mineral rights within the exclusion area the NRC staff cannot conclude that the above requirements of 10 CFR Part 100 are met. Accordingly, the licensee has requested an exemption up until April 30, 1987 from the requirements of 10 CFR Part 100 and specifically from 10 CFR Part 100.3 while it develops and the staff reviews a more detailed analysis to be submitted in early January, 1987. The staff is treating this submittal as a request for an exemption from 10 CFR 100.11(a)(1) insofar as it incorporates by reference the definition of "exclusion area" in 10 CFR 100.3(a). The staff has evaluated and agrees with the licensees' basis for concluding that it has adequate control over all activities within the exclusion area during this interim period as discussed below.

For the interim period, the licensees state that with respect to surface rights, SERI has complete control of the right to exclude third parties from the exclusion area. The present ownership of the

GGNS facilities, the exclusion area surface rights and the mineral rights will be unchanged by the transfer of control of licensed activities from MP&L to SERI. There are no known current attempts to exploit the mineral rights within the exclusion area. The licensee states further that pursuers of mineral rights could be denied access to the GGNS site until such time as legal action had been taken to settle any issues in this regard. The licensee describes the process, under the laws of the state of Mississippi, that a mineral rights owner is required to follow and concludes that this process would provide ample prior notification and adequate time to either resolve the matter with pursuers of mineral rights or to take action to ensure protection of the public health and safety.

The licensee states that under the laws of the state of Mississippi mineral owners and lessees have no legal right to use physical force or to create a public disturbance to gain access to property in order to explore for or extract minerals.

The licensee states that the potential for exploitation of mineral rights on the GGNS site appears remote due to past unsuccessful exploratory activities in the vicinity of the site.

The licensee has also provided a commitment to expeditiously notify the NRC in the event any party requests permission from SERI to conduct seismic operations, file an application for a permit to drill a well, or take any other action indicating an intent to explore for minerals on the GGNS site.

With respect to the ownership of surface rights and easements within the exclusion area, the NRC staff concludes that, on the basis of the relationships between SERI, SMEPA and MP&L which include certain binding contractual agreements, as discussed above, the licensee responsible for control of licensed activities, SERI, does have the authority to control activities within the exclusion area as required by 10 CFR 100.

With respect to the ownership of mineral rights the NRC staff concludes that on the basis of there being no current attempts to exploit mineral rights, the licensee's control of the surface rights, and the substantial amount of time and effort required for a mineral rights owner to gain the necessary approvals and prepare for any actual activities affecting the exclusion area, that there is a vanishingly small probability that any such activities would occur during an interim period proposed by the licensee for the finalization of this issue. Accordingly, the NRC staff concludes that SERI does have sufficient authority during this interim period to control activities within the exclusion area and that an interim period up until April 30, 1987 is appropriate for the resolution of this matter.

The staff will continue its review of the licensee's basis, to be provided in early 1987, for establishing long term control of activities

within the exclusion area related to the ownership of mineral rights. The NRC staff will require, as the resolution to this matter, that the licensee demonstrate, consistent with the requirements of 10 CFR Part 100, that it has the authority on a permanent basis to determine all activities within the exclusion area including exclusion and removal of personnel and property from the area and the control of other activities so as not to interfere with the normal operations of the facility.

Technical Qualifications

This evaluation assesses, as required by 10 CFR 50.80, the Technical Qualifications of the transferee, Systems Energy Resources, Inc. The Technical Qualifications portion of the amendment describes the transfer of the MP&L Nuclear Production Department, virtually intact, to SERI.

MP&L's Nuclear Production Department, including the Nuclear Operations and Nuclear Engineering and Support Sections, will be transferred to and employed by SERI. The title of the senior officer (Mr. William Cavanaugh, III), has been changed from President and Chief Operating Officer of MP&L to President and Chief Executive Officer of SERI and this is reflected in the Offsite Organization Chart (Figure 6.2.1-1) of the Technical Specifications. Thus, the same MP&L organization and staff that are currently responsible for operating GGNS Unit 1 and constructing Unit 2 will continue those responsibilities as part of SERI. However, duties previously associated with the management of non-nuclear activities will be eliminated for Mr. Cavanaugh.

The nuclear organization and staff remain the same; there are no changes in reporting relationships, responsibilities or personnel assignment; management will be focussed solely on nuclear plant activities; and the nuclear organization and staff therefore, continue to meet the acceptance criteria of Chapter 13.1 of the Standard Review Plan, NUREG-0800. We, therefore, find the Technical Qualifications portion of the amendment acceptable.

Financial Aspects

MP&L has been licensed to operate Grand Gulf Unit 1 and to construct Grand Gulf Unit 2. These activities are carried out on behalf of the four operating utility subsidiaries of Middle South Utilities, Inc. (MSU), the parent utility holding company. In addition to MP&L, the operating utilities are Arkansas Power and Light Company, Louisiana Power and Light Company, and New Orleans Public Service, Inc. The company name of Middle South Energy, Inc. (MSE), MSU's financing subsidiary, was recently changed to System Energy Resources, Inc. (SERI).

SERI owns and finances 90 percent of the cost of the two Grand Gulf units for the benefit of the four operating utilities. As noted above, the proposed changes involve the transfer of control and performance

of licensed activities at Grand Gulf from MP&L to SERI. It is proposed that the MP&L nuclear organization be transferred, virtually intact, to SERI. No changes are proposed to the manner in which the four MSU operating utilities share Grand Gulf costs and make payments to SERI. The remaining ten percent of Grand Gulf is owned by South Mississippi Electric Power Association (SMEPA). The proposed transfer of control within MSU does not affect SMEPA's ownership share or its obligation to pay its pro-rata share of Grand Gulf 1 operating costs to SERI. SMEPA and SERI have agreed that SMEPA would not be obligated to pay further costs of construction of Grand Gulf 2 should construction of the unit resume.

The NRC staff's review included the recent financial statements and narratives filed by MSU, MSE, and SERI with the stockholders and with the Securities and Exchange Commission. We also reviewed SERI's September 12, 1986 prospectus issued in connection with its sale of \$750 million in first mortgage bonds. These documents provide information on MSU's ongoing sources of funds to cover its costs including the costs of licensed activities. (Proceeds of the first mortgage bond issue are being used to refinance outstanding indebtedness.)

The last two years have been a time of uncertainty as to the level of rates allowed to be charged by the four MSU operating utilities. However, as reported in the September 12, 1986 prospectus, all of the operating companies have recently implemented rate increase authorizations approved by their respective regulatory authorities which they believe will be sufficient to enable them to meet their respective Grand Gulf 1 obligations to SERI. Some of the rate increases are subject to challenge or possible adjustment as a result of prudence investigations. The NRC staff has long recognized, however, that some degree of rate regulatory uncertainty is normal for its utility licensees. Rate increases are frequently a volatile political and consumer issue; it is reasonable to expect that the increases would often provoke challenges and sometimes adjustments.

The study supporting NRC's financial qualifications rule (49 Federal Register 35747, September 12, 1984) found that the rate regulatory process conducted by public utility commissions provides reasonable assurance that utilities can obtain the funds to operate nuclear plants safely. The Commission recognized that its utility licensees do not always get the full rate increases that they request and that the ratemaking process allows for full recovery of the costs of safe nuclear plant operation. It is the level of profits, not the cost of safe operation, that is subject to adjustment. The rate regulatory process as it relates to the four MSU operating utilities will not be disturbed by the proposed transfer of control to SERI. SMEPA sets its own rates so as to cover all operating costs including its share of Grand Gulf costs. Accordingly, there will be no adverse change (as a result of the proposed transfer) in SERI's sources of funds for Grand Gulf 1 operating costs.

Antitrust Aspects

The Licensee's application of September 2, 1986 proposed that a bifurcated staff review of the overall application be conducted: (1) a technical amendment involving the designation of SERI as the 90% owner and the operator of GGNS and (2) an amendment to the antitrust conditions presently attached to the license. The first part is dealt with elsewhere in this evaluation.

With respect to the second part, the licensees propose that MP&L be deleted entirely as a licensee for GGNS and that the current antitrust conditions of the operating license as they relate to MP&L also be deleted (Pages 12, 14 of the application). However, the licensees do not request that MP&L be deleted from the license at this time in connection with the staff's review of the technical aspects of this amendment. While the licensees submit (application at 17, footnote 7) that after an antitrust review of the proposed changes it will be determined to remove MP&L from the license, such a determination to either remove or retain MP&L on the license must await the completion of the antitrust review. Such a determination can be considered separately from the technical aspects of the licensees request.

On page 16 an alternate proposal is made that the technical amendment could be issued substituting SERI for MP&L as operator of GGNS Unit 1 with a condition providing for removal of the antitrust license conditions only upon completion of the antitrust review of the aspects of this transfer and only upon a finding that there are no significant antitrust implications.

It is unacceptable to the Commission that MP&L be deleted entirely as a licensee at this time and that the existing antitrust conditions also be deleted at this time. The NRC staff finds that it is appropriate to retain MP&L on the license for the purposes of this amendment to the operating license involving the technical aspects of the application. Therefore, MP&L is retained as a licensee for purposes of the antitrust conditions and the antitrust conditions are unchanged and remain attached as Appendix C to the license. Accordingly, as a condition of NRC's authorization of MP&L to transfer its right to possess, to use and to operate the facility to SERI, MP&L and SERI shall continue to be responsible for compliance with the obligations imposed on the licensees in the antitrust conditions set forth in section 2.C.3 of the license until further authorization of the Commission; and provided further that SERI accepts the right to possess, use and operate the facility subject to the outcome of the antitrust review to be conducted as a result of this transfer. The NRC staff considers the licensees' proposal made on page 16 of the application to be consistent with this objective and, accordingly, has incorporated this requirement as a part of the license. This proposal by the licensee is accepted by the NRC staff and incorporated into the license.

3.0 ENVIRONMENTAL CONSIDERATION

The issuance of Amendment No. 27 responds to the joint licensees' request for amendment of the Unit 1 operating license and to the joint licensee's request for transfer of control of licensed activities.

Pursuant to 10 CFR 51.32 an environmental assessment of the amendment to the license and the transfer of control was published in the Federal Register on December 9, 1986 (51 FR 44395) and an environmental assessment of a temporary exemption from certain requirements of 10 CFR Part 100 related to these actions was published in the Federal Register on December 16, 1986 (51 FR 45072). Accordingly, the Commission has determined that the issuance of this amendment will not result in any environmental impacts other than those evaluated in the Final Environmental Statement.

4.0 CONCLUSION

The Commission made a proposed determination that the amendment involves no significant hazards consideration which was published in the Federal Register (51 FR 39927) on November 3, 1986, and consulted with the state of Mississippi. The state of Mississippi did not have any comments. The only comments from the public were provided by the Municipal Energy Agency of Mississippi (MEAM), dated December 3, 1986. MEAM's comments indicated that it does not object to the amendment of the operating license and transfer of control from MP&L to SERI provided that these actions do not affect the antitrust conditions now imposed upon MP&L. The staff believes that the amendment and the transfer of control are consistent with MEAM's expressed interests in this regard as discussed above in the section entitled Antitrust Aspects. Any further amendment to the license regarding the antitrust conditions will be preceded by notice in the Federal Register.

The staff 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and the security nor to the health and safety of the public.

Principal Contributors: R. E. Martin, L. Cohen, S. Rhow, I. Schoenfeld, J. Peterson and C. Ferrell

Dated: December 20 , 1986

UNITED STATES OF AMERICA
 NUCLEAR REGULATORY COMMISSION

In the matter of

Mississippi Power and Light Company,)
 Middle South Energy and)
 South Mississippi Electric)
 Power Association)
 (Grand Gulf Nuclear Station,)
 Units 1 and 2)

Docket Nos. 50-416
 and 50-417

EXEMPTION PROVIDING FOR CONTROL OF
ALL ACTIVITIES WITHIN THE
SITE EXCLUSION AREA

I.

Mississippi Power and Light Company (MP&L), Middle South Energy (MSE, recently renamed System Energy Resources, Inc., SERI) and South Mississippi Electric Power Association (SMEPA), (joint licensees) are the holders of Facility Operating License No. NPF-29 and Construction Permit No. CPPR-119, which authorize the operation and the construction of the Grand Gulf Nuclear Station Units 1 and 2, respectively, (the facility). The facility consists of boiling water reactors located in Claiborne County, Mississippi.

II.

The Commission's regulations in 10 CFR Part 100.11 require that the site exclusion area should be determined of such size that an individual located on its boundary during a postulated accident would not receive radiation doses greater than those specified. The Commission's regulations in 10 CFR Part 100.3 define the exclusion area, in this regard, to be an area within "...which the reactor licensee has the authority to determine all activities including exclusion or removal of personnel and property from the area..." and also

"Activities unrelated to operation of the reactor may be permitted in an exclusion area under appropriate limitations, provided that no significant hazards to the public health and safety will result."

The MRC staff had based its previous findings, as set forth in the Safety Evaluation Report, NUREG-0831, September 1981, that the licensees met the requirements of 10 CFR Part 100 in this regard on the basis, provided in the FSAR, that the licensees owned all of the mineral rights within the exclusion area. By letter dated December 2, 1986 the licensees advised that there were inaccuracies in the FSAR regarding ownership of mineral rights. That letter indicated that SERI and SMEPA own substantial, but not all of the mineral rights in the exclusion area.

III.

By letter dated December 10, 1986 the licensees requested an exemption up until April 30, 1987 from the requirements for exclusion area control of 10 CFR Part 100 and specifically from the 10 CFR 100.3 definition of exclusion area. Inasmuch as the definition of exclusion area pertains to its incorporation by reference in the requirements of 10 CFR Section 100.11(a)(1), the staff has treated this submittal as a request for partial exemption from 10 CFR 100.11(a)(1) insofar as it incorporates by reference the definition of "exclusion area" in 10 CFR 100.3(a). The request for exemption relies on an interim basis for the licensees' control of activities while the licensees prepare further information to demonstrate long term control of activities and full compliance with 10 CFR Part 100.

For the interim period the licensees state that the licensee to be responsible for licensed activities, System Energy Resources, Inc., has and will continue to have complete control of the surface rights within the exclusion area and thus complete control of ingress to and egress from the exclusion area. The present ownership of the GGNS facilities, the exclusion area surface rights and the mineral rights will be unchanged by the transfer of control of licensed activities from MP&L to SERI. There are no known current attempts to exploit the mineral rights within the exclusion area. The licensee states further that pursuers of mineral rights could be denied access to the GGNS site until such time as legal action had been taken to settle any issues in this regard.

The licensee describes the process, under the laws of the State of Mississippi, that a mineral rights owner is required to follow and concludes that this process would provide ample prior notification and adequate time to either resolve the matter with pursuers of mineral rights or to take action to ensure protection of the public health and safety.

The licensee states that under the laws of the State of Mississippi mineral owners and lessees have no legal right to use physical force or to create a public disturbance to gain access to property in order to explore for or extract minerals.

The licensee states that the potential for exploitation of mineral rights on the GGNS site appears remote due to past unsuccessful exploratory activities in the vicinity of the site.

The licensee has also provided a commitment to expeditiously notify the NRC in the event any party requests permission from SERI to conduct seismic operations, file an application for a permit to drill a well, or take any other action indicating an intent to explore for minerals on the GGNS site.

The NRC staff concludes that on the basis of there being no current attempts to exploit mineral rights, the licensee's control of the surface rights, and the substantial amount of time and effort required for a mineral rights owner to gain the necessary approvals and prepare for any actual activities affecting the exclusion area, that there is a vanishingly small probability that any such activities would occur during an interim period proposed by the licensee for the finalization of this issue. Accordingly, the NRC staff concludes that SERI does have sufficient authority during this interim period to control activities within the exclusion area consistent with the underlying purpose of 10 CFR Part 100. For these reasons the staff finds that the requested exemption is acceptable.

The staff will continue its review of the licensee's basis, to be provided in early January 1987, for establishing long term control of activities within the exclusion area related to the ownership of mineral rights. The NRC staff will require, as the resolution to this matter, that the licensee demonstrate, consistent with the requirements of 10 CFR Part 100, that it has the authority on a permanent basis to determine all activities within the exclusion area including the exclusion and removal of personnel and property from the area and the control of other activities so as not to interfere with the normal operations of the facility.

IV

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12 (a)(1) this exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and

security. The Commission further determines that special circumstances, as provided in 10 CFR 50.12(a)(2)(ii) are present justifying this partial temporary exemption, namely that application of the regulation in the particular circumstances is not necessary to achieve the underlying purpose of the rule. The purpose of the rule is to require that the licensees be able to control all activities within the exclusion area including the exclusion or removal of personnel and property and those activities unrelated to reactor operation which could pose a significant hazard to the public health and safety. The interim measures cited by the licensee are sufficient to achieve this underlying purpose up until April 30, 1987, pending receipt and review of the licensees' proposed long term solution to the matter in early January 1987.

Accordingly, the Commission hereby grants a partial exemption as described in Section III above from 10 CFR 100.11(a)(1) insofar as it incorporates the 10 CFR 100.3 definition of exclusion area, until April 30, 1987.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this Exemption will have no significant impact on the environment (December 16, 1986, 51 FR 45072).

This Exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by

Robert M. Bernero, Director
Division of BWR Licensing

Dated at Bethesda, Maryland
this 20th day of December 1986

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MO'Brien
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PD#4/RM
REMartin:lb
12/12/86

PD#4/D
WButler
12/20/86

WB

PSB
GHulman
1 / 86

OGC-Beth
JOHNSON
12/19/86

JEY

DD/DBL
RHouston
1 / 86

RS

D/DBL
RBernero
12/20/86

security. The Commission further determines that special circumstances, as provided in 10 CFR 50.12(a)(2)(ii) are present justifying this partial temporary exemption, namely that application of the regulation in the particular circumstances is not necessary to achieve the underlying purpose of the rule. The purpose of the rule is to require that the licensees be able to control all activities within the exclusion area including the exclusion or removal of personnel and property and those activities unrelated to reactor operation which could pose a significant hazard to the public health and safety. The interim measures cited by the licensee are sufficient to achieve this underlying purpose up until April 30, 1987, pending receipt and review of the licensees' proposed long term solution to the matter in early January 1987.

Accordingly, the Commission hereby grants a partial exemption as described in Section III above from 10 CFR 100.11(a)(1) insofar as it incorporates the 10 CFR 100.3 definition of exclusion area, until April 30, 1987.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this Exemption will have no significant impact on the environment (December 16, 1986, 51 FR 45072).

This Exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert M. Bernero, Director
Division of BWR Licensing

Dated at Bethesda, Maryland
this 20th day of December 1986