



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

December 14, 1989

Docket No. 50-416

Mr. W. T. Cottle
Vice President, Nuclear Operations
System Energy Resources, Inc.
Post Office Box 469
Port Gibson, Mississippi 39150

Dear Mr. Cottle:

SUBJECT: ISSUANCE OF AMENDMENT NO. 65 TO FACILITY OPERATING LICENSE
NO. NPF-29 - GRAND GULF NUCLEAR STATION, UNIT 1, REGARDING
TRANSFER OF OPERATIONS TO ENTERGY OPERATIONS, INC.
(TAC NO. 74351)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 65 to Facility Operating License No. NPF-29 for the Grand Gulf Nuclear Station, Unit 1 (the facility). This amendment consists of changes to the facility operating license and Technical Specifications (TS) in response to your application dated August 15, 1989, as supplemented by letters dated August 22, September 22, and September 27 (two letters), October 27, October 30, November 21, and November 30, 1989.

The amendment implements the authorization to transfer control and performance of licensed activities from System Energy Resources, Inc. (SERI) to Entergy Operations, Inc. (EOI). SERI remains 90% owner and leaseholder of the facility and South Mississippi Electric Power Association (SMEPA) continues to own the remaining 10% of the facility. SERI and SMEPA have designated EOI as their agent in licensing matters. Mississippi Power & Light Company (MP&L) remains as a licensee subject to the completion of an antitrust review which will address whether MP&L should be removed from the license as requested by a previous application dated September 2, 1986.

We have reviewed the operating agreement between EOI and SERI and have determined that it is not appropriate to require it by a license condition. SERI and EOI are joint licensees under the facility operating license conditions, each responsible for specific areas and jointly responsible for regulatory compliance and response. The operating agreement between SERI and EOI will not circumvent these responsibilities. Finally, since EOI is to be the operator of the plant, we intend to communicate on most matters with EOI. However, EOI is expected to communicate with SERI to provide data, information, and other support, as may be necessary, to enable SERI and SMEPA to satisfactorily discharge any responsibilities they may have as owners of the plant, with regard to maintaining regulatory compliance.

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Mr. W. T. Cottle

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A copy of the Safety Evaluation supporting the amendment and the transfer of control of licensed activities from SERI to EOI is also enclosed. The Notice of Issuance will be included in the Commission's bi-weekly Federal Register notice.

Five signed copies of Amendment No. 4 to Indemnity Agreement No. B-72 which covers the activities authorized under License No. NPF-29 are also enclosed. Please sign all copies and return one copy to this office.

Sincerely,

Original Signed By:

Dennis M. Crutchfield, Associate Director
for Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 65 to NPF-29
2. Safety Evaluation
3. Amendment No. 4 to Indemnity Agreement No. B-72

cc w/enclosures:
See next page

OFC	:LA:PD21:DRPR:PM:PD21:DRPR:OGC	:ADSP	D:PD21:DRPR	:	:	:
NAME	: J. P. Anderson	: L. Kintner	: sw: V. G. Smith	: D. Crutchfield	: E. Adensam	:
DATE	: 11/28/89	: 11/28/89	: 12/13/89	: 12/14/89	: 12/14/89	:

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AMENDMENT NO. 65 TO FACILITY OPERATING LICENSE NO. NPF-29 - GRAND GULF

Docket File

NRC PDR

Local PDR

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R. Wood (12-E-4)

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cc: Licensee/Applicant Service List

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Grand Gulf Nuclear Station (GGNS)

cc:

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President,
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Port Gibson, Mississippi 39150

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

SYSTEM ENERGY RESOURCES, INC., et al.

DOCKET NO. 50-416

GRAND GULF NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 65
License No. NPF-29

1. The Nuclear Regulatory Commission (the Commission) has found that
 - A. The application for amendment by System Energy Resources, Inc., (the licensee), dated August 15, 1989, as supplemented by letters dated August 22, September 22, September 27 (two letters), October 27, October 30, November 21, and November 30, 1989, 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, the provisions of the Act, and the rules and regulations of the Commission;
 - 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;
 - 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 amended by changes to the license conditions, Technical Specifications, and Environmental Protection Plan as indicated in the attachment to this license amendment.
3. This license amendment is effective as of its date of issuance. The license conditions shall be implemented within 180 days of date of issuance and upon the official transfer of responsibilities between System Energy Resources, Inc. and Entergy Operations, Inc.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed By:

Elinor G. Adensam, Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachments:
Changes to the License Conditions,
Technical Specifications, and
Environmental Protection Plan

Date of Issuance: December 14, 1989

SEE PREVIOUS CONCURRENCES

OFC	: LA:PD21:DRPR:PM:PD21:DRPR:	*OGC	: D:PD21:DRPR :	:	:
NAME	: PAnderson	: LKintner:	: JRutberg	: EAdensam	:
DATE	:	:	: 12/13/89	: 12/14/89	:

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ATTACHMENT TO LICENSE AMENDMENT NO. 65..

FACILITY OPERATING LICENSE NO. NPF-29

DOCKET NO. 50-416

Replace the following pages of the Operating License and its attachments and Appendices with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

<u>Remove</u>	<u>Insert</u>
License No. NPF-29:	License No. NPF-29:
2 through 17, inclusive	1 through 17, inclusive
Attachment 1:	Attachment 1:
18	18
Attachment 2:	Attachment 2:
Title Page	Title Page
Appendix A:	Appendix A:
6-9	6-9
Appendix B:	Appendix B:
Title Page	Title Page
4-2	4-2
Appendix C:	Appendix C:
1	1
2	2
4	4



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

ENTERGY OPERATIONS, INC.

SYSTEM ENERGY RESOURCES, INC.

SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION

MISSISSIPPI POWER & LIGHT COMPANY

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 (SMEPA), as amended, (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. Entergy Operations, Inc. (EOI), 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;
 - 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 Entergy Operations, Inc., 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 Entergy Operations, 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) Entergy Operations, Inc. (EOI) 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, but not operate, the facility at the designated location in Claiborne County, Mississippi, in accordance with the procedures and limitations set forth in this license;

- (3) EOI, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time at the facility site and as designated solely for the facility 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) EOI, 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) EOI, 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) EOI, 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.
- (7) (a) SERI is authorized to transfer up to 15 percent of its 90.0 percent ownership share in Grand Gulf Nuclear Station, Unit 1 (GGNS Unit 1), to certain equity investors identified in the submissions of October 31, 1988 and November 11, 1988, and at the same time to lease back from such purchasers such interest sold in the facility. The term of the lease is for approximately 26 years subject to a right of renewal. Such sale and lease back transactions are subject to the condition that lessors and anyone else who may acquire an interest under these transactions are prohibited from exercising directly or indirectly any control over (i) GGNS Unit 1, (ii) power or energy produced by GGNS Unit 1, or (iii) the licensees of GGNS Unit 1. Further, any rights acquired under this authorization may be exercised only in compliance with and subject to the requirements and restrictions of this operating license, the Atomic Energy Act of 1954, as amended, and the Commission's regulations. For purposes of this condition, the limitations of 10 CFR 50.81, as now in effect and as they may be subsequently amended, are fully applicable to the lessors and any successors in interest to those lessors, as long as the license of GGNS Unit 1 remains in effect.

- (b) SERI is required to notify the NRC in writing prior to any change in (i) the terms or conditions of any new or existing sale or lease agreements executed as part of the above authorized financial transactions, (ii) the GGNS Unit 1 operating agreement, (iii) the existing property insurance coverage for GGNS Unit 1 that would materially alter the representations and conditions set forth in the staff's Safety Evaluation Report dated December 19, 1988 attached to Amendment No. 54. In addition, SERI is required to notify the NRC of any action by a lessor or other successor in interest to SERI that may have an effect on 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

EOI is authorized to operate the facility at reactor core power levels not in excess of 3833 megawatts thermal (100 percent 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. Entergy Operations, Inc. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Antitrust Conditions

- (a) MP&L and SERI shall comply with the antitrust conditions delineated in Appendix C. SERI is authorized to transfer its rights to possess, to use and to operate the facility to EOI, 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 EOI accepts the right to possess, use and operate the facility and SERI accepts the right to possess the facility subject to the outcome of the pending separate antitrust review of the antitrust considerations related to the application dated September 2, 1986. SERI is authorized to transfer its rights to operate the facility to EOI.
- (b) MP&L and SERI are responsible and accountable for the actions of their respective agents to the extent said agent's actions contravene the antitrust conditions in Appendix C.

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

- (a) MP&L* 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 MP&L, 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, MP&L 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

MP&L 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, MP&L 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, MP&L 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. Amendment 27 authorized SERI to operate the facility. Consequently, there are certain historical references to MP&L and SERI, in their past roles as operators of the facility, in this license.

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

MP&L shall conduct vibrational measurement and inspection programs during preoperational and initial startup testing in accordance with the guidelines of Regulatory Guide 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, MP&L shall complete any modifications or replacement of equipment found necessary as a result of the fatigue evaluation. In the interim, MP&L 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 EOI shall report to NRC any malfunction of equipment that occurs due to any safety relief valve discharge.
- (b) MP&L 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, MP&L 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, MP&L 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, MP&L 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, MP&L 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, MP&L shall submit an evaluation of the loose parts monitoring system to address conformance to Regulatory Guide 1.133, Revision 1, dated May 1981.

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

Prior to startup following the first refueling outage, MP&L 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, MP&L 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, EOI 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, MP&L 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, MP&L 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, MP&L 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)

(Deleted)

- (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 shut down 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, MP&L 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)

EOI shall maintain in effect and fully implement all provisions of the approved Fire Protection Plan. In addition, EOI 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) EOI 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)

EOI 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)

EOI 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

MP&L 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 percent 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 Grand Gulf plant. This individual is not required to be licensed on Grand Gulf Unit 1 and need not be a MP&L 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)

[DELETED]

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

MP&L shall conduct the post-fuel-loading initial test program (set forth in Section 14 of the 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 the 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 the 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)

The following conditions shall be completed 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 to 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 shutdown 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, MP&L 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, MP&L 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, MP&L shall maintain a suitable program of analysis and testing of the installed hydrogen ignition system. EOI shall submit to the NRC quarterly reports on the status of their research programs.

- (a) EOI 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) EOI 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) EOI 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)

MP&L 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, MP&L 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, MP&L 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, MP&L shall install position indicators with redundant indication and alarm in the control room for the check valves associated with the drywell post-LOCA vacuum breakers.

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

EOL shall complete the emergency response capabilities, as required by Attachment 1.

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

Prior to startup following the first refueling outage, MP&L 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, TS 4.8.1.1.2.d.12.b)
 - (b) Provide the second level undervoltage protection for Division 3 power supply (Item No. 373, TS 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, TS 4.8.1.1.2.d.16.d).
- (38) Control Room Leak Rate (Section 6.2.6, SSER #6)

EOI 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, EOI 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:

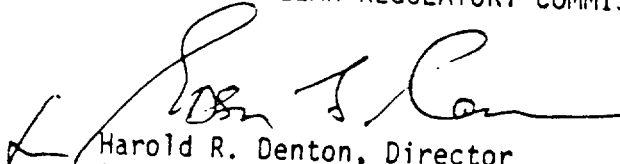
- (a) SSW basin A water level is maintained greater than or equal to 87".
- (b) At least two sources of water (other than normal makeup with one source not dependent on offsite power) are available for makeup to SSW basin A.

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

- D. The facility required 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. The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Grand Gulf Nuclear Station Physical Security Plan," with revisions submitted through September 1, 1987; "Grand Gulf Nuclear Station Guard Training and Qualification Plan," with revisions submitted through March 10, 1987; and "Grand Gulf Nuclear Station Safeguards Contingency Plan," with revisions submitted through August 25, 1987. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

- F. EOI 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.

FOR THE NUCLEAR REGULATORY COMMISSION


Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Attachments:

1. Attachments 1 and 2
2. Appendix A - Technical Specifications (NUREG-0934)
3. Appendix B - Environmental Protection Plan
4. Appendix C - Antitrust Conditions

Date of Issuance: November 1, 1984

Attachment 1

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

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

EOI 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 implementation plan to the NRC | July 1985 |
| (2) SPDS fully operational and operator 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 exception of flux monitoring and coolant level monitoring. | Prior to startup following first refueling outage. |
| (3) Implement (installation or upgrade) requirements of R.G. 1.97 for coolant level monitoring. | Prior to startup following second refueling outage. |
| (4) Implement (installation or upgrade) requirements of R.G. 1.97 for flux monitoring. | Prior to startup following fourth refueling outage. |

(d) Upgrade Emergency Operating Procedures (EOP's)

- | | |
|--------------------------------------------------------|------------|
| (1) Submit a Procedures Generation Package to the NRC. | April 1985 |
|--------------------------------------------------------|------------|

Attachment 2

Transamerica Delaval Inc. (TDI) Diesel Generator

Maintenance and Surveillance Requirements

(NUREG-1216, August 1986)

1. Maintenance and Surveillance Program

EOI 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

EOI 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. EOI 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

EOI 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.

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 a Chairman and nine voting members. Two or more additional voting members shall be consultants to Entergy Operations, Inc., consistent with the recommendations of the Advisory Committee on Reactor Safeguards letter, Mark to Palladino dated October 20, 1981.

The Chairman and members shall meet the qualifications below.

The SRC Chairman shall hold a Bachelor's degree in an engineering or physical science field or an equivalent and a minimum of six years of professional level managerial experience in the power field. In addition, the Chairman shall have the necessary overall nuclear background to determine when to call consultants and contractors for dealing with complex problems beyond the scope of Entergy Operations, Inc., expertise.

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

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-416

ENVIRONMENTAL PROTECTION PLAN

OCTOBER 1984

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 five 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 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 GGNS 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 water source water. The results of these analyses will be correlated with local rainfall data and

APPENDIX C
ANTITRUST CONDITIONS
OPERATING LICENSE NO. NPF-29

MP&L and SERI (the term licensees in Appendix C refers to MP&L and SERI) shall comply with the following antitrust conditions:

I. DEFINITIONS

- (a) "Western Mississippi Area" means the counties of: Walthall, Lawrence, Jefferson Davis, Covington, Simpson, Smith, Scott, Leake, Attala, Choctaw, Montgomery, Grenada, Yalobusha, Panola, Tate, DeSoto, Pike, Amite, Wilkinson, Adams, Franklin, Lincoln, Copiah, Jefferson, Claiborne, Hinds, Rankin, Madison, Yazoo, Warren, Issaquena, Sharkey, Humphreys, Holmes, Carroll, Leflore, Sunflower, Washington, Bolivar, Tallahatchie, Quitman, Coahoma, and Tunica. An entity shall be deemed to be in the "Western Mississippi Area" if it has electric power generation, transmission, or distribution facilities located in whole or in part in the above described area.
- (b) "Bulk Power" means the electric power, and any attendant energy, supplied or made available at transmission or subtransmission voltage by one entity to another.
- (c) "Entity" means a person, a private or public corporation, a municipality, a cooperative, an association, a joint stock association or business trust owning, operating or proposing to own or operate equipment or facilities for the generation, transmission or distribution of electricity, provided that, except for municipalities or rural electric cooperatives, "entity" is restricted to those which are or will be public utilities under the laws of the state in which the entity transacts or will transact business or under the Federal Power Act, and are or will be providing electric service under a contract or rate schedule on file with and subject to the regulation of a state regulatory commission or the Federal Power Commission.
- (d) "Cost" means any operating and maintenance expenses involved together with any ownership costs which are reasonably allocable to the transaction consistent with power pooling practices (where applicable). No value shall be included for loss of revenues from sale of power at wholesale or retail by one party to a customer which another party might otherwise serve. Cost shall include a reasonable return on Licensees' investment. The sale of a portion of the capacity of a generating unit shall be upon the basis of a rate that will recover to the seller the pro rata part of the fixed costs and operating and maintenance

expenses of the unit, provided that, in circumstances in which licensees and one or more entities in the Western Mississippi Area take undivided interest in a unit in fee, construction costs and operation and maintenance expenses shall be paid pro rata.

II. INTERCONNECTIONS

- (a) Licensees shall interconnect with and coordinate reserves by means of the sale and purchase of emergency and/or scheduled maintenance bulk power with any entity(ies) in the Western Mississippi Area engaging in or proposing to engage in electric bulk power supply on terms that will provide for Licensees' costs in connection therewith and allow the other party(ies) full access to the benefits of reserve coordination.
- (b) Emergency service and/or scheduled maintenance service to be provided by each party shall be furnished to the fullest extent available from the supplying party and desired by the party in need. Licensees and each party(ies) shall provide to the other emergency service and/or scheduled maintenance service if and when available from its own generation and from generation of others to the extent it can do so without impairing service to its customers including other electric systems to whom it has firm commitments.
- (c) Licensees and the other party(ies) to a reserve sharing arrangement shall from time to time jointly establish the minimum reserves to be installed and/or provided under contractual arrangements as necessary to maintain in total a reserve margin sufficient to provide adequate reliability of power supply to the interconnected systems of the parties. If Licensees plan their reserve margin on a pooled basis with other Entergy Corporation companies, the reserves jointly established hereunder shall be on the same basis. Unless otherwise agreed upon, minimum reserves shall be calculated as a percentage of estimated peak load responsibility. No party to the arrangement shall be required to maintain greater reserves than the percentage of its estimated peak load responsibility which results from the aforesaid calculation, provided that, if the reserve requirements of Licensees are increased over the amount Licensees would be required to maintain without such interconnection, then the other party(ies) shall be required to carry or provide for as its (their) reserves the full amount in kilowatts or such increase.
- (d) The parties to such a reserve sharing arrangement shall provide such amounts of ready reserve capacity as may be adequate to avoid the imposition of unreasonable

- (b) In the event that during the term of the instant license, or any extension or renewal thereof, licensees obtain participation in the ownership of or rights to a portion of the output of one or more nuclear generating units constructed, owned and operated by any affiliate or subsidiary of the Entergy Corporation other than licensees, or by any successor in title to the Grand Gulf Nuclear Units, licensees shall exert their best efforts to obtain participation in such nuclear unit(s) by any entity(ies) in the Western Mississippi Area requesting such participation on terms no less favorable than the terms of licensees' participation therein.

V. TRANSMISSION SERVICES

- (a) Licensees shall facilitate the exchange of bulk power by transmission over its transmission facilities between or among two or more entities in the Western Mississippi Area with which it is interconnected; and between any such entity(ies) and any such entity(ies) engaging in bulk power supply outside the Western Mississippi Area between whose facilities Licensees' transmission lines and other transmission lines would form a continuous electrical path, provided that (1) permission to utilize such other transmission lines has been obtained, and (2) the arrangements reasonably can be accommodated from a functional and technical standpoint. Such transmission shall be on terms that fully compensate Licensees for their cost. Any entity(ies) requesting such transmission arrangements shall give reasonable advance notice of its (their) schedule and requirements. (The foregoing applies to any entity(ies) to which Licensees may be interconnected in the future as well as those to which they are now interconnected.)
- (b) Licensees shall include in their planning and construction program sufficient transmission capacity as required for the transactions referred to in subparagraph (a) of this paragraph, provided that any entity(ies) in the Western Mississippi Area give Licensees sufficient advance notice as may be necessary to accommodate its (their) requirements from a functional and technical standpoint and that such entity(ies) fully compensates Licensees for their cost. Licensees shall not be required to construct transmission facilities which will be of no demonstrable present or future benefit to Licensees.

VI. POWER FOR RESALE

Licensees will sell power for resale to any entity(ies) in the Western Mississippi Area now engaging in or proposing to engage in retail distribution of electric power.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 65 TO FACILITY OPERATING LICENSE NO. NPF-29
SYSTEM ENERGY RESOURCES, INC.
GRAND GULF NUCLEAR STATION, UNIT 1
DOCKET NO. 50-416

1.0 INTRODUCTION

By letter dated August 15, 1989, as supplemented by letters dated August 22, September 22, September 27 (2 letters), October 27, October 30, November 21, and November 30, 1989, System Energy Resources, Inc. (the licensee), requested an amendment to Facility Operating License No. NPF-29 for the Grand Gulf Nuclear Station, Unit 1 (GGNS-1 or the facility). The proposed amendment would change the facility operating license conditions, Technical Specifications and Environmental Protection Plan to reflect the transfer of authority to control and operate GGNS Unit 1, from System Energy Resources, Inc. (SERI or System Energy) to Entergy Operations, Inc. (EOI). Proposed amendments have also been filed to reflect the transfer of authority to operate Waterford Steam Electric Station No. 3 (Waterford 3) and Arkansas Nuclear One, Units 1 and 2 (ANO - 1&2) to EOI. The ownerships of these nuclear plants would not be changed. For GGNS-1, SERI owns or holds leases for 90% of the facility and South Mississippi Electric Power Association (SMEPA) owns 10% of the facility. Louisiana Power and Light Company (LP&L) owns Waterford 3 and Arkansas Power and Light Company (AP&L) owns ANO-1&2.

Entergy Operations, Inc., would be a new company and a subsidiary of Entergy Corporation, formerly known as Middle South Utilities, Inc. EOI would operate and maintain GGNS-1, ANO-1&2 and Waterford 3. The nuclear staff of each of the facilities would be transferred to EOI and only those activities requiring immediate attention would be proposed for the necessary changes in the initial consolidation under EOI.

The consolidation of the nuclear staff under EOI is being proposed for the benefits enumerated by the licensee. These benefits are summarized as follows:

- 1) EOI would have a repository of system nuclear operating expertise and experience. Consolidation into one nuclear operating company would enhance public safety and economic operations.
- 2) EOI would be better able to provide a consistent philosophy of operation of the system nuclear units. This focused philosophy can be used to achieve excellence in all aspects of nuclear operation.

- 3) The consolidation would allow more effective communication and use of system nuclear operating experience.
- 4) Certain non-nuclear support functions would become specialized and focused on the requirements of a nuclear operation company and would thereby be more effective.
- 5) Creation of a system-wide nuclear operating company would contribute to a higher sustained level of employee performance, provide a broader base for more competitive environment for upper management candidates, provide an environment in which all employees would be more highly motivated toward high performance, and provide greater opportunity for career progression. More specifically, consolidation would make salary structures, career path policies, and procedures internally consistent.

The information provided by the licensee is to support the transfer of operating responsibility to EOI. The attainment of the above benefits will depend on the licensee's (or EOI's) development and implementation of effective programs and controls.

Early in the review the NRC expressed the need for the licensee to keep the public and other agencies informed of the proposed transfer of operations to EOI. By letter dated September 22, 1989, the licensee outlined their efforts in this regard. The NRC staff also contacted the designated State Official for GGNS-1 and discussed the proposed transfer.

The notice of consideration of issuance of this license amendment was published in the Federal Register on September 6, 1989. The submittals made after the notice was published provide supplemental information to previously submitted information. The notice of consideration accurately described the license amendment request and the additional information does not affect the substance of the requested information.

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.

2.0 EVALUATION

Operating Agreements

The staff evaluated the capability of the consolidated organization to implement NRC requirements after the transfer of the control of licensed activities from the owners to EOI. The proposed Operating Agreement between SERI and EOI is contained in the licensee's submittal dated September 27, 1989. The proposed Operating Agreement delineates the responsibilities in operating the plant commensurate with NRC requirements, including those contained in Operating License Conditions. After issuance of the license amendment and the effective date of the transfer to EOI,

the NRC will normally communicate with SERI through EOI and any changes to the Operating Agreement needed to fulfill NRC requirements will be a SERI and EOI matter but shall not influence or delay implementation of NRC requirements.

Management and Technical Qualifications

This requested change requires revision to Section 6 of the Technical Specifications and the Environmental Protection Plan to reflect the transfer of licensed activities from SERI to EOI. These revisions are acceptable.

In the proposed EOI organization, the nuclear organization for operating GGNS-1 will remain the same with the only change being that the senior nuclear officers of SERI (Vice-President, Nuclear Operations and Vice-President, Nuclear Engineering and Support) will report directly to the Executive Vice-President and Chief Operating Officer of EOI. Therefore, engineering and operating organizations will be transferred essentially intact to EOI. Note that operating responsibility for ANO-1&2 and Waterford 3 would also be transferred to EOI.

We find the requested change acceptable as it meets the acceptance criteria of Section 13.1 of NUREG-0800.

Financial Considerations

The ownership of the facility and all rights to electric power from the facility will remain with SERI and SMEPA. In addition, as stated on page 20 of SERI's submittal dated August 15, 1989, "All costs for the operation, construction, maintenance, repair, decontamination and decommissioning incurred or accrued are liabilities of System Energy and SMEPA when incurred or accrued and are borne in proportion to their respective ninety and ten percent undivided interests in Grand Gulf Unit 1." The staff notes, however, that Article V, Section 5.1 of the proposed Operating Agreement between SERI and EOI as transmitted by letter dated September 27, 1989, suggests that SERI may not agree to pay for operation and capital improvement costs that exceed either (1) the annual budget for the facility to which SERI and EOI are to agree by November of the year prior to the budget year or (2) the maximum amounts to be paid within the parameters of the then-current EOI five-year business plan. Notwithstanding this, Article XI, Section 11.5 provides that neither EOI nor SERI are permitted to delay or withhold payment due and owing under the proposed Operating Agreement except that SERI shall have the right to make any contested payments under protest. The staff understands the provisions contained in Sections 5.1 and 11.5 of that proposed Operating Agreement taken together do not contradict SERI's commitment, as referenced above, to pay for all costs for the operation, construction, maintenance, repair, decontamination and decommissioning of GGNS-1. The staff further expects that any changes to the proposed Operating Agreement between EOI and SERI will continue with these same understandings.

SERI is currently subject to the wholesale rate jurisdiction of the Federal Energy Regulatory Commission. Since SERI is an electric utility, it does not have to provide additional information to the NRC to demonstrate its financial qualification to carry out the activities for which the license amendment is sought.

The staff believes that there will be no financial consequences adversely affecting safety from allowing EOI to assume exclusive responsibility for making safety decisions. The economic benefits which the licensee anticipates from EOI's operation of GGNS-1 are not expected to be gained at the expense of public health and safety given SERI's continuing commitment to pay the costs, including safety-related costs, of GGNS-1. Thus, the staff concludes that the financial consequences of the proposed action will not adversely affect protection of public health and safety.

Antitrust Considerations

The license amendment request transferring the operation of Grand Gulf Unit 1 and the construction of Grand Gulf Unit 2 from SERI to EOI is subject to antitrust review pursuant to Section 105c of the Atomic Energy Act, as amended. Notification of receipt and a request for comments on antitrust issues pursuant to this amendment, as well as requests for similar transfers involving the Waterford 3 and ANO Unit 2 nuclear units, were published in the Federal Register on November 1, 1989 (FR Vol. 54, 46168). Comments were received from a group of wholesale electric customers (Wholesale Customers) of the Arkansas Power & Light Company.

Pursuant to a license amendment request dated September 2, 1986, Mississippi Power & Light Company (MP&L) and SERI have agreed to be bound by the existing antitrust license conditions currently a part of the Grand Gulf licenses until the staff completes its antitrust review of the September 2, 1986 amendment request. Moreover, as a result of the review of the instant amendment request conducted by the staff, an additional license condition will be added to the Grand Gulf Unit 1 operating license and the Grand Gulf Unit 2 construction permit. This new license condition is similar to the antitrust license condition added to Waterford 3 and ANO Unit 2, as a result of similar amendment requests, in that it holds the responsible party(s) accountable and responsible for the actions of their agents to the extent said agent's actions contravene the existing antitrust license conditions.

Wholesale Customers requested the NRC to either extend the existing license conditions imposed on the Grand Gulf facility to the entire multi-state territory served by Entergy Corporation's nuclear plants by imposing similar license conditions on ANO Unit 2 or extending the geographic area applicable to the Grand Gulf license conditions to encompass the entire area served by Entergy Corporation. Wholesale Customers have not expressly addressed the competitive implications of the addition of EOI as operator of the facility. They also have not provided any other information which would allow antitrust conditions to be imposed upon ANO Unit 2 or new conditions imposed on Grand Gulf

extending the geographic reach of the existing conditions. Formal antitrust reviews for facilities with operating licenses are only required when there are significant changes in the licensee's activities from the previous antitrust review. In South Carolina Electric and Gas Co. (Virgil C. Summer Nuclear Station, Unit 1), CLI 80-28, II NRC 817, 820, 835 (1980), the Commission held, among other things, that significant changed circumstances occur when there are changes which would create or maintain a situation inconsistent with the antitrust laws; an antitrust review of these changes is warranted only when it would likely be concluded that the changed situation has negative antitrust implications. See also, Houston Lighting and Power Co. (South Texas Units 1&2), CLI 77-135, 5 NRC 1303, 1317 (1977). Wholesale Customers contend that changed circumstances have resulted from a FERC decision requiring the costs of Grand Gulf Unit 1 to be shared by all of the subsidiaries of Entergy Corp. However, they have not provided proof, nor furnished adequate explanation, as to why this accounting change constitutes anticompetitive activity or has adverse antitrust implications. In addition, Wholesale Customers contend that license conditions are necessary since their existing wholesale contracts do not contain the type of terms and conditions that are included in contracts resulting from antitrust reviews associated with other nuclear facilities. This assertion likewise does not constitute a changed circumstance since Wholesale Customers have not established how the absence of these terms in their contracts creates or maintains a situation inconsistent with the antitrust laws.

In its review of the proposed amendment adding EOI to the ANO Unit 2 license, the staff was concerned with what role EOI would play in marketing or brokering of power or energy from each of the Entergy Corporation nuclear units. In an effort to avoid a formal antitrust review, the licensee has agreed to add an antitrust license condition to its ANO Unit 2 license that will effectively preclude EOI from using power or energy from ANO Unit 2 in a manner that would affect completion in bulk power services throughout AP&L's service area. Moreover, the same license condition will hold AP&L responsible and accountable for the actions of its agents, including EOI, that pertain to marketing or brokering of power or energy from ANO Unit 2. The staff feels this license condition will ensure that EOI will do no more than operate ANO Unit 2 and will not be involved in the competitive arena associated with marketing or brokering of power or energy. As a result of these actions, the staff has completed its antitrust review of this amendment request.

Two antitrust license conditions will be added to the Grand Gulf licenses:

- a) 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 of 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 related to the application dated September 2, 1986. SERI is authorized to transfer its right to operate the facility to EOI.

b) MP&L and SERI are responsible and accountable for the actions of their respective agents to the extent said agents's actions contravene the existing antitrust license conditions.

Restricted Data

The licensee has addressed the limits on restricted data and other defense information and EOI agrees to the appropriate conditions of protection and processes. The current employees of SERI who are aware of and responsible for safeguarding information will transfer to EOI; therefore, no reduction in understanding or responsibility is expected.

Emergency Planning

By letters dated August 15 and 22, 1989, the licensee discussed the actions taken to ensure that the requirements of 10 CFR 50.47 and Appendix E will continue to be met. As stated in the letters, the licensee indicated that all officers of SERI will become officers of EOI and certain officers of AP&L and LP&L will also become officers of EOI. In addition, the present GGNS-1 nuclear operations and nuclear engineering and support organizations will be transferred essentially intact to EOI. The licensee stated that no substantive changes will be made to the existing emergency plan implemented by SERI or to the existing emergency planning organization. As stated in their letters, the licensee committed to establishing transition plans to ensure that support described in the existing emergency plan will be maintained throughout and beyond the transition to EOI. They also stated that SERI will take appropriate action with respect to existing agreements for support from MP&L as well as other organizations and agencies not affiliated with the licensee. This includes notifying these groups of the new relationship with the owners. Emergency planning support will continue to be supplied by SERI and MP&L. Support agreements will be written to assure this support. The majority of these changes will be implemented once the amendment is issued.

Based on the staff's review of the licensee's letters, the staff concludes that the actions being taken and proposed by the licensee during and after the transfer of operating and management responsibilities to EOI are adequate to ensure that EOI will continue to meet the requirements of 10 CFR 50.47 and Appendix E to 10 CFR 50 for the Grand Gulf Nuclear Station, Unit 1.

Offsite Power

The proposed amendment involves no changes in the ownership or design of the offsite power system or in its operation, maintenance or testing. MP&L will continue to fulfill its current responsibilities to SERI with respect to compliance with General Design Criterion 17 (GDC-17) in Appendix A to 10 CFR Part 50.

GDC-17 specifically requires that there be assured sources of offsite power to the plant. Pursuant to this requirement, SERI, EOI and MP&L will maintain and implement procedures and agreements such that adequate independent sources of offsite power will continue to be provided. MP&L has agreed to provide offsite power to SERI and to EOI, as agent for SERI, as necessary for operation of GGNS-1. MP&L will perform all routine switchyard activities excluding operation of the main generator switchyard breakers and 34.5kV breakers. Engineered safety features (ESF) Transformer No. 12 and the main transformers will be maintained by EOI. Also, the procedures and agreements will provide for the continuation of current arrangements for the operation and maintenance of the switchyard and associated transmission facilities. MP&L will obtain approval from EOI prior to implementing any changes to the equipment in the switchyard.

The staff has evaluated the licensee's submittal regarding the proposed operating agreements between SERI, EOI and MP&L and has found that: (1) three physically independent offsite power circuits (one more than required by GDC-17), would continue to be provided from the switchyard to the offsite ESF distribution system; and (2) the configuration of circuits would not be changed. The staff concludes that the configuration of the offsite power system would not be changed by the proposed offsite power agreement and would continue to meet GDC-17. The proposed amendment is, therefore, acceptable with respect to assurance of offsite power sources to the plant.

Security and Exclusion Area Control

The employees of SERI responsible for security will become EOI employees and EOI will continue to maintain and implement the security plans as previously found acceptable. Some transition changes may be appropriate to reflect SERI, MP&L and EOI relationships but these changes should not decrease the effectiveness of the plans. Control of the exclusion area involving security and non-nuclear interfaces with SERI and MP&L has been addressed by the licensee and includes considerations for normal and emergency access. Written procedures and agreements are appropriate to assure that NRC approved activities in and control of the exclusion area by EOI would be maintained.

Quality Assurance Program

EOI will assume responsibility for the functions associated with the GGNS-1 quality assurance program. The organization, function, and structure of the GGNS-1 quality assurance department will not be affected by the license amendment.

Training

The licensee has stated that the training program, requirements, and maintenance of the Institute of Nuclear Power Operations accreditation for licensed and non-licensed operator training will continue as before but under EOI.

License Conditions

The licensee has proposed changes to the license conditions to reflect the transfer from SERI to EOI of the operation and maintenance of GGNS-1 and continued SERI and SMEPA ownership of GGNS-1. In addition, License Conditions 2.B.(3) was proposed to be changed to preclude transfer of spent fuel from one facility site to another site, and License Condition 2.C.(3) was proposed to be changed as discussed in the Antitrust Section above. We have reviewed these proposed changes to license conditions and find them to be acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

Pursuant 10 CFR 51.21, 51.32 and 51.35. an environmental assessment and finding of no significant impact was published in the Federal Register on

Accordingly, based upon the environmental assessment, the Commission has determined that issuance of this amendment will not have a significant effect on the quality of the human environment.

4.0 CONCLUSION:

The Commission made a proposed determination that this amendment involves no significant hazards consideration, which was published in the Federal Register (54 FR 37053) on September 6, 1989, and consulted with the State of Mississippi. No public comments or requests for hearing were received on the no significant hazards consideration. Comments were received by letter dated November 30, 1989, from Mr. Z. Wilson representing the Cities of Benton, Conway, North Little Rock, Osceola, Prescott, and West Memphis, Arkansas and the Farmers Electric Cooperative Corporation on antitrust matters. Those comments are addressed in the antitrust section of the Safety Evaluation, and the State of Mississippi did not have any comments.

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, or the health and safety of the public.

Principal Contributors: L. Cohen
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Dated: December 14, 1989



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

Docket No. 50-416

Amendment to Indemnity Agreement No. B-72
Amendment No. 4

Effective _____, Indemnity Agreement No. B-72, between Mississippi Power and Light Company, System Energy Resources, Inc., and South Mississippi Electric Power Association and the Nuclear Regulatory Commission dated July 15, 1981, as amended, is hereby further amended as follows:

The following named licensee "Entergy Operations, Inc." is added to the indemnity agreement.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Eileen M. McKenna
Eileen M. McKenna, Acting Chief
Policy Development and Technical Support Branch
Program Management, Policy Development
and Analysis Staff
Office of Nuclear Reactor Regulation

Accepted _____, 1989

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