

December 6, 1988

Docket No. 50-416

DISTRIBUTION  
See attached sheet

Mr. W. T. Cottle  
Vice President, Nuclear Operations  
System Energy Resources, Inc.  
Post Office Box 23054  
Jackson, Mississippi 39205

Dear Mr. Cottle:

SUBJECT: ISSUANCE OF AMENDMENT NO. 52 TO FACILITY OPERATING LICENSE  
NO. NPF-29 - GRAND GULF NUCLEAR STATION, UNIT 1, REGARDING  
SURVEILLANCE TEST OF EMERGENCY DIESEL GENERATORS (TAC NO.  
68981)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 52 to Facility Operating License No. NPF-29 for the Grand Gulf Nuclear Station, Unit 1. This amendment consists of changes to the Technical Specifications (TS) in response to your application dated July 26, 1988.

The amendment changes the Technical Specifications by separating the 24-hour surveillance test of emergency diesel generators from the surveillance test simulating loss of offsite power in conjunction with an ECCS actuation signal.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance has been sent to the Office of the Federal Register for publication.

Sincerely,

*LSI*

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

Enclosures:

- 1. Amendment No. 52 to NPF-29
- 2. Safety Evaluation

cc w/enclosures:  
See next page

*CR1*

DUP GGNS AMEND 68981

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NAME	:PAnderson	:LKintner	:ch	:EAdensam	:	:	:	:	:	:	:	:
DATE	: 11/10/88	: 11/10/88	: 11/30/88	:	:	:	:	:	:	:	:	:

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*[Handwritten signature]*

Mr. W. T. Cottle  
System Energy Resources, Inc.

Grand Gulf Nuclear Station (GGNS)

cc:

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AMENDMENT NO. 52 TO FACILITY OPERATING LICENSE NO. NPF-29 - GRAND GULF

Docket File

NRC PDR

Local PDR

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cc: Licensee/Applicant Service List



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. 52  
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 July 26, 1988, 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.

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2. Accordingly, the license is amended by changes to the Operating License, as indicated in the attachment to this license amendment; and paragraph 2.C.(36) of Facility Operating License No. NPF-29 is hereby amended to read as follows:

(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, as revised through Amendment No.52 to this license.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

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

Attachment:  
Changes to the  
Operating License

Date of Issuance: December 6, 1988

OFC	:LA:PD21:DRPR:PM:PD21:DRPR:	<i>[Signature]</i>	:D:PD21:DRPR:	:	:
NAME	:PAnderson	:L...ner:	:R...mann:	:EAdensam	:
DATE	:11/14/88	:11/14/88	:11/21/88	:11/30/88	:

OFFICIAL RECORD COPY

ATTACHMENT TO LICENSE AMENDMENT NO. 52

FACILITY OPERATING LICENSE NO. NPF-29

DOCKET NO. 50-416

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

Remove

3/4 8-5

3/4 8-6

Insert

3/4 8-5

3/4 8-6

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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5. Verifying that on an ECCS actuation test signal, without loss of offsite power, the diesel generator starts on the auto-start signal and operates on standby for greater than or equal to 5 minutes. The generator voltage and frequency shall be  $4160 \pm 416$  volts and  $60 \pm 1.2$  Hz within 10 seconds after the auto-start signal; the steady state generator voltage and frequency shall be maintained within these limits during this test.
6. Operating at greater than or equal to 5450 kW but not to exceed 5740 for diesel generators 11 and 12 and greater than or equal to 3300 kW for diesel generator 13 for one hour or until operating temperatures have stabilized. Within 5 minutes perform Surveillance Requirement 4.8.1.1.2.d.7.a)2) and b)2).
7. Simulating a loss of offsite power in conjunction with an ECCS actuation test signal, and:
  - a) For Division 1 and 2:
    - 1) Verifying deenergization of the emergency busses and load shedding from the emergency busses.
    - 2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected shutdown loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady state voltage and frequency of the emergency busses shall be maintained at  $4160 \pm 416$  volts and  $60 \pm 1.2$  Hz during this test.
  - b) For Division 3:
    - 1) Verifying de-energization of the emergency bus.
    - 2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency bus with the permanently connected loads within 10 seconds and the autoconnected emergency loads within 20 seconds and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady state voltage and frequency of the emergency bus shall be maintained at  $4160 \pm 416$  volts and  $60 \pm 1.2$  Hz during this test.
8. Verifying that all automatic diesel generator trips are automatically bypassed upon an ECCS actuation signal except:
  - a) For Divisions 1 and 2, engine overspeed, generator differential current, and low lube oil pressure.
  - b) For Division 3, engine overspeed and generator differential current.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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9. Verifying the diesel generator operates for at least 24 hours. Diesel generators 11 and 12 shall be loaded to greater than or equal to 5450 kW but not to exceed 5740 kW for 24 hours. Diesel generator 13 shall be loaded to greater than or equal to 3630 kW for the first 2 hours of this test and to 3300 kW during the remaining 22 hours. The generator voltage and frequency shall be  $4160 \pm 416$  volts and  $60 \pm 1.2$  Hz within 10 seconds after the start signal; the steady state generator voltage and frequency shall be maintained within these limits during this test.
10. Verifying that the auto-connected loads to each diesel generator do not exceed 5740 kW for diesel generators 11 and 12 and 3300 kW for diesel generator 13.
11. Verifying the diesel generator's capability to:
  - a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power,
  - b) Transfer its loads to the offsite power source, and
  - c) Be restored to its standby status.
12. Verifying that with the diesel generator operating in a test mode and connected to its bus that a simulated ECCS actuation signal overrides the test mode by returning the diesel generator to standby operation.
13. [DELETED]
14. [DELETED]
15. Verifying that the automatic load sequence timer is OPERABLE with the interval between each load block within  $\pm 10\%$  of its design interval for diesel generators 11 and 12.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 52 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 July 26, 1988, System Energy Resources, Inc. (the licensee), requested changes to Technical Specification (TS) 4.8.1.1.2.d.9 pertaining to diesel generator testing. These tests are required at least once per 18 months. Technical Specification 4.8.1.1.2.d.7 requires tests to demonstrate that the diesel generators function properly for a simulated loss of offsite power in conjunction with an ECCS actuation. Technical Specification 4.8.1.1.2.d.9 requires performance of TS 4.8.1.1.2.d.7 within 5 minutes following a 24-hour diesel generator test. The purpose of requiring the loss of offsite power test within 5 minutes following the 24-hour test is to assure that the diesel generator can perform this requirement when the diesel generator temperature is equivalent to the stabilized temperature reached after operating at full load. Regulatory Guide 1.108, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," recommends demonstration at full-load temperature conditions of the proper startup operation of the diesel generator while simulating loss of all offsite power. A footnote to TS 4.8.1.1.2.d.9 allows a separate loss of offsite power test, if the combined test is not successfully completed.

The proposed TS change would separate the loss of offsite power test from the 24-hour test. Instead, a separate warmup period of the diesels at full-load would precede the loss of offsite power test. This warmup period would last for one hour or until operating temperatures had stabilized. This prerequisite warm-up period is the same as now required in the footnote for a separate test following failure of the combined test.

The reason the licensee gives for the change is that scheduling the loss of offsite power test within five minutes of completing the 24-hour test reduces flexibility in scheduling refueling outage activities, and creates the potential for unnecessary delays in startup following the outage.

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## 2.0 EVALUATION

In its submittal, the licensee includes copies of letters from responsible officials at General Electric Company and Imo Delaval, Inc. (the vendors of the emergency diesel generators) stating that the one hour warm-up period proposed by the licensee would achieve the same operating temperature condition as the 24-hour test. This fact is the basis for the footnote to the present TS 4.8.1.1.2.d.9 which states that the 24-hour test need not be repeated prior to the simulated loss of offsite power test if the initial loss of offsite power test is not satisfactorily completed. Instead, the diesel generator may be operated at the specified full-load for one hour or until the operating temperature has stabilized. Thus, the present TS 4.8.1.1.2.d.9 accepts under some circumstances the decoupling of the loss of offsite power test from the 24-hour test, provided the diesel generator is brought to a stabilized operating temperature prior to the loss of offsite power test. Apparently, the coupling of the loss of offsite power test to the 24-hour test was for the purpose of convenience (i.e., a special warmup test would not be required) rather than for any technical reason. This conclusion is supported by the letters from the diesel generator vendors as well as by Regulatory Guide 1.108, which places the emphasis on achieving full-load temperature conditions prior to the test rather than having the 24-hour test as a prerequisite.

Based on its review, the NRC staff concludes that the proposed changes to the TS, which would routinely allow a separate and shorter full-load warmup period prior to the loss of offsite power test, is at least equivalent to the present requirement, and is, therefore, acceptable.

## 3.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact have been prepared and published in the Federal Register on December 2, 1988 (53 FR 48745). Accordingly, based upon the environmental assessment, the Commission has determined that the issuance of this amendment will not have a significant impact on the quality of the human environment.

## 4.0 CONCLUSION

The Commission has issued a Notice of Consideration of Issuance of Amendment to Facility Operating License and Opportunity for Hearing which was published in the Federal Register (53 FR 32487) on August 25, 1988. No petition to intervene or request for hearing has been filed on this action.

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 to the health and safety of the public.

Principal Contributor: A. Toalston, Electrical Systems Branch, DEST

Dated: December 6, 1988

UNITED STATES NUCLEAR REGULATORY COMMISSION  
MISSISSIPPI POWER & LIGHT COMPANY  
SYSTEM ENERGY RESOURCES, INC.  
SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION  
DOCKET NOS. 50-416  
NOTICE OF ISSUANCE OF AMENDMENT  
TO FACILITY OPERATING LICENSES

The U.S. Nuclear Regulatory Commission (Commission) has issued Amendment No. 52 to Facility Operating License No. NPF-29, issued to Mississippi Power and Light Company, System Energy Resources, Inc., and South Mississippi Electric Power Association, which revised the Technical Specifications for the operation of the Grand Gulf Nuclear Station, Unit 1, located in Claiborne County, Mississippi. The amendment is effective as of the date of issuance.

The amendment changes the Technical Specifications by separating the 24-hour surveillance test of emergency diesel generators from the surveillance test simulating loss of offsite power in conjunction with an ECCS acutation signal.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

Notice of Consideration of Issuance of Amendment and Opportunity for Hearing in connection with this action was published in the FEDERAL REGISTER on August 25, 1988 (53 FR 32487). No request for a hearing or petition for leave to intervene was filed following this notice.

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UNITED STATES NUCLEAR REGULATORY COMMISSION  
MISSISSIPPI POWER & LIGHT COMPANY  
SYSTEM ENERGY RESOURCES, INC.  
SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION  
DOCKET NOS. 50-416  
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The amendment changes the Technical Specifications by separating the 24-hour surveillance test of emergency diesel generators from the surveillance test simulating loss of offsite power in conjunction with an ECCS actuation signal.

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Notice of Consideration of Issuance of Amendment and Opportunity for Hearing in connection with this action was published in the FEDERAL REGISTER on August 25, 1988 (53 FR 32487). No request for a hearing or petition for leave to intervene was filed following this notice.

The Commission has prepared an Environmental Assessment related to the action and has determined not to prepare an environmental impact statement. Based upon the Environmental Assessment, the Commission has concluded that the issuance of this amendment will not have a significant effect on the quality of the human environment.

For further details with respect to the action see: (1) the application for amendment dated July 26, 1988, (2) Amendment No. 52 to License No. NPF-29, and (3) the Commission's related Safety Evaluation and Environmental Assessment. All of these items are available for public inspection at the Commission's Public Document Room, 2120 L Street NW, Washington, D. C. 20555 and at the Hinds Junior College, McLendon Library, Raymond, Mississippi 39154. A copy of items (2) and (3) may be obtained upon request, addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Reactor Projects I/II.

Dated at Rockville, Maryland this 6th day of December 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

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

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