



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
WASHINGTON, D.C. 20555-0001  
October 1, 1997

Mr. D. N. Morey  
Vice President - Farley Project  
Southern Nuclear Operating  
Company, Inc.  
Post Office Box 1295  
Birmingham, Alabama 35201-1295

**SUBJECT: ISSUANCE OF AMENDMENTS AND TECHNICAL SPECIFICATION 4.8.1.1.2.e  
INTERPRETATION - JOSEPH M. FARLEY NUCLEAR PLANT,  
UNITS 1 AND 2 (TAC NOS. M98867, M98868, M98853, AND M98854)**

Dear Mr. Morey:

The Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 129 to Facility Operating License No. NPF-2 and Amendment No. 122 to Facility Operating License No. NPF-8 for the Joseph M. Farley Nuclear Plant (Farley), Units 1 and 2. The amendments change the Technical Specifications (TS) in response to your submittal dated May 28, 1997.

The amendments revise the TS to clarify that testing of each shared emergency diesel generator (EDG), 1-2A and 1C, to comply with surveillance requirement 4.8.1.1.2.e is only required once per 5 years on a per EDG basis, not on a per unit basis. A Notice of Issuance of Amendments will be included in the Commission's biweekly Federal Register notice.

Also, by letter dated May 22, 1997, Southern Nuclear Operating Company, Inc. (SNC), requested the NRC's review of its interpretation of the application of TS 4.8.1.1.2.e for two shared EDGs, at Farley, Units 1 and 2. SNC had prepared the interpretation to address a concern raised by the NRC resident inspectors. This concern was documented in an NRC Inspection Report 50-348/97-05 and 50-364/97-05, dated June 9, 1997.

1/1  
DFC

The staff has reviewed your interpretation and concludes that the testing requirement for the shared EDGs (1-2A and 1C) in TS 4.8.1.1.2.e is satisfied by aligning these EDGs to either Unit 1 or Unit 2 independently, as long as their operability is confirmed once per 5 years.

070015

9710070235 971001  
PDR ADOCK 05000348  
P PDR



**NRC FILE CENTER COPY**

Mr. D. N. Morey

- 2 -

October 1, 1997

A copy of the staff's related Safety Evaluation is also enclosed.

Sincerely,

ORIGINAL SIGNED BY:

Jacob I. Zimmerman, Project Manager  
Project Directorate II-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket Nos. 50-348 and 50-364

Enclosures:

1. Amendment No. 129 to NPF-2
2. Amendment No. 122 to NPF-8
3. Safety Evaluation

cc w/encls: See next page

<b>DISTRIBUTION:</b>	GHill (4)	TLH3 (e-mail SE only)
Docket File	PUBLIC	P.Kang PSkinner, RII
PDII-2 RF	B.Boger	E.Tomlinson OGC
ACRS	TSB, O-11 F23	JJohnson

\*See previous concurrence

DOCUMENT NAME: G:/FARLEY/M98867.AMD OFFICIAL RECORD COPY

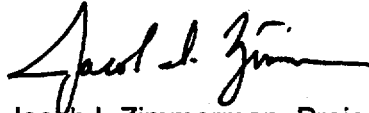
OFFICE	PDII-2/PM	PDII-2/LA	OTSB/B*	OGC*	PDII-2/D
NAME	J.ZIMMERMAN	L.BERRY	W.BECKNER	CBARTH	H.BERKOW
DATE	/ /97	/ /97	9/11/97	9/11/97	/ /97
COPY	YES NO	YES NO	YES NO	YES NO	YES NO

Mr. D. N. Morey

- 2 -

A copy of the staff's related Safety Evaluation is also enclosed.

Sincerely,



Jacob I. Zimmerman, Project Manager  
Project Directorate II-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket Nos. 50-348 and 50-364

Enclosures:

1. Amendment No. 129 to NPF-2
2. Amendment No. 122 to NPF-8
3. Safety Evaluation

cc w/encls: See next page

Joseph M. Farley Nuclear Plant

cc:

Mr. R. D. Hill, Jr.  
General Manager -  
Southern Nuclear Operating Company  
Post Office Box 470  
Ashford, Alabama 36312

Mr. Mark Ajluni, Licensing Manager  
Southern Nuclear Operating Company  
Post Office Box 1295  
Birmingham, Alabama 35201-1295

Mr. M. Stanford Blanton  
Balch and Bingham Law Firm  
Post Office Box 306  
1710 Sixth Avenue North  
Birmingham, Alabama 35201

Mr. J. D. Woodard  
Executive Vice President  
Southern Nuclear Operating Company  
Post Office Box 1295  
Birmingham, Alabama 35201

State Health Officer  
Alabama Department of Public Health  
434 Monroe Street  
Montgomery, Alabama 36130-1701

Chairman  
Houston County Commission  
Post Office Box 6406  
Dothan, Alabama 36302

Regional Administrator, Region II  
U.S. Nuclear Regulatory Commission  
Atlanta Federal Center  
61 Forsyth Street, S.W., Suite 23T85  
Atlanta, Georgia 30303

Resident Inspector  
U.S. Nuclear Regulatory Commission  
7388 N. State Highway 95  
Columbia, Alabama 36319



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

ALABAMA POWER COMPANY

DOCKET NO. 50-348

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 129  
License No. NPF-2

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Southern Nuclear Operating Company, Inc. (Southern Nuclear), dated May 28, 1997, 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 license 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 Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Facility Operating License No. NPF-2 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 129, are hereby incorporated in the license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Herbert N. Berkow, Director  
Project Directorate II-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: October 1, 1997

ATTACHMENT TO LICENSE AMENDMENT NO. 129

TO FACILITY OPERATING LICENSE NO. NPF-2

DOCKET NO. 50-348

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Remove

3/4 8-6

Insert

3/4 8-6

SURVEILLANCE REQUIREMENTS (Continued)

- b) Coolant Temperature High (CTH)
  - c) Coolant Pressure Low (CPL)
  - d) Crankcase Pressure High (CCPH)
11. Verifying the capability to reject a load of greater than or equal to the largest single load associated with that emergency diesel generator (approximately 1000 kw) while maintaining voltage between 3740 and 4580 volts and speed less than or equal to 75% of the difference between nominal speed and the overspeed trip setpoint.
- d. At least once per 10 years or after any modifications which could affect emergency diesel generator interdependence by starting the emergency diesel generators simultaneously, and verifying that the emergency diesel generators accelerate to at least 900 rpm, for the 2850 kw generator and 514 rpm for the 4075 kw generators, in less than or equal to 12 seconds.
  - e. At least once per 5 years, on a staggered basis, by verifying that the emergency diesel generator can reject a load of 1200-2400 kw without tripping. The emergency diesel generator output breaker(s) must remain closed such that the emergency diesel generator is connected to at least one emergency bus. Verify that all fuses and breakers on the energized emergency bus(es) are not tripped. The generator voltage shall remain within 3330 and 4990 volts during and following the load rejection. \*\*

\*\* Testing of the shared Emergency Diesel Generator (EDG) set (EDG 1-2A or EDG 1C) on Unit 2 may be used to satisfy this surveillance requirement for those EDGs.





UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

ALABAMA POWER COMPANY

DOCKET NO. 50-364

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 122  
License No. NPF-8

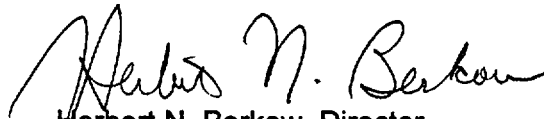
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Southern Nuclear Operating Company, Inc. (Southern Nuclear), dated May 28, 1997, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's 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 license 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 Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Facility Operating License No. NPF-8 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 122, are hereby incorporated in the license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Herbert N. Berkow, Director  
Project Directorate II-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: October 1, 1997

ATTACHMENT TO LICENSE AMENDMENT NO. 122

TO FACILITY OPERATING LICENSE NO. NPF-8

DOCKET NO. 50-364

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Remove

3/4 8-6

Insert

3/4 8-6

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b) Coolant Temperature High (CTH)
  - c) Coolant Pressure Low (CPL)
  - d) Crankcase Pressure High (CCPH)
11. Verifying the capability to reject a load of greater than or equal to the largest single load associated with that emergency diesel generator (approximately 1000 kw) while maintaining voltage between 3740 and 4580 volts and speed less than or equal to 75% of the difference between nominal speed and the overspeed trip setpoint.
- d. At least once per 10 years or after any modifications which could affect emergency diesel generator interdependence by starting the emergency diesel generators simultaneously, and verifying that the emergency diesel generators accelerate to at least 900 rpm, for the 2850 kw generator and 514 rpm for the 4075 kw generators, in less than or equal to 12 seconds.
  - e. At least once per 5 years, on a staggered basis, by verifying that the emergency diesel generator can reject a load of 1200-2400 kw without tripping. The emergency diesel generator output breaker(s) must remain closed such that the emergency diesel generator is connected to at least one emergency bus. Verify that all fuses and breakers on the energized emergency bus(es) are not tripped. The generator voltage shall remain within 3330 and 4990 volts during and following the load rejection. \*\*

\*\* Testing of the shared Emergency Diesel Generator (EDG) set (EDG 1-2A or EDG 1C) on Unit 1 may be used to satisfy this surveillance requirement for those EDGs.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 129 TO FACILITY OPERATING LICENSE NO. NPF-2  
AND AMENDMENT NO. 122 TO FACILITY OPERATING LICENSE NO. NPF-8  
AND INTERPRETATION OF EMERGENCY DIESEL GENERATOR

TECHNICAL SPECIFICATION 4.8.1.1.2.e

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-348 AND 50-364

1.0 INTRODUCTION

By letter dated May 28, 1997, the Southern Nuclear Operating Company, Inc. (SNC) et al. , submitted a request for changes to the Joseph M. Farley Nuclear Plant (Farley), Units 1 and 2, Technical Specifications (TS). The requested change revises the TS for load rejection testing of the shared emergency diesel generators (EDGs) 1-2A and 1C at Farley. The proposed TS amendment would add a footnote that the load rejection test for shared EDGs that is performed by aligning the EDGs with one unit may be used to satisfy the same SR requirement for the other unit, thus, avoiding redundant testings for the shared EDGs. This amendment will provide clarification for testing of each shared EDG to comply with SR 4.8.1.1.2.e, which is required once per 5 years on a per EDG basis, not on a per unit basis.

By letter dated May 22, 1997, SNC requested an interpretation of the load rejection testing for the two shared emergency diesel generators (EDGs), 1-2A and 1C, at Farley. Pertinent portions of each units TS SR 4.8.1.1.2.e require those shared EDGs to withstand a 1200-2400 kW load rejection every 5 years. SNC has been performing the subject SR by aligning one of the shared EDGs (EDG 1-2A) to Unit 1, and aligning the other EDG (EDG 1C) to Unit 2.

Since the load rejection test is performed to verify the operability of the EDG voltage regulator and governor, the test does not depend on the loads to which these units are connected. SNC contends that testing both EDGs 1-2A and 1C on a per unit TS basis would represent redundant and excessive testing of the EDGs and is not necessary. Thus, SNC concluded that its current testing method satisfies the TS SR 4.8.1.1.2.e provision for the shared EDGs at Farley. However, a concern was raised by the NRC resident inspectors regarding the EDG testing and documented in an NRC Inspection Report 50-348/97-05 and 50-364/97-05, dated June 9, 1997. As a result, SNC requested this TS interpretation.

## 2.0 EVALUATION

The current TS SR 4.8.1.1.2.e for Farley Units 1 and 2 states that:

At least once per 5 years, on a staggered basis, by verifying that the emergency diesel generator can reject a load of 1200-2400 kW without tripping. The emergency diesel generator output breaker(s) must remain closed such that the emergency diesel generator is connected to at least one emergency bus. Verify that all fuses and breakers on the energized emergency bus(es) are not tripped. The generator voltage shall remain within 3330 and 4990 volts during and following the load rejection.

The licensee proposed to add a footnote (\*\*) at the end of the above provision on Unit 1 (Unit 2) that states:

Testing of the shared Emergency Diesel Generator (EDG) set (EDG 1-2A or EDG 1C) on Unit 1 (Unit 2) may be used to satisfy this surveillance requirement for those EDGs.

There are five EDGs for the two units at Farley. Train B of the two units has one large (4075 kW) dedicated EDG for each unit (designated as 1B and 2B). In addition, there are three other EDGs, one large 4075 kW (1-2A) and two small 2850 kW (1C and 2C) that are shared by both units and are provided with interlocks to prevent supplying power to Unit 1 and Unit 2 simultaneously. EDGs 1-2A and 1C serve Train A of either unit, while diesel 2C is dedicated for station blackout events and supplies power to the B train of either unit. Since the B train has no shared EDGs, the interpretation of TS SR 4.8.1.1.2.e applies to the shared EDGs in the A train.

Each EDG is provided with an EDG engine overspeed trip to prevent damage to the engine. Recovery from the transient caused by the loss of a large load could cause the diesel engine to overspeed, which, if the overspeed is excessive, might result in a trip of the engine. The load rejection test is performed periodically to verify the ability of the EDG voltage regulator and governor to respond such that voltage and frequency transients continue to remain within acceptable limits and the EDG does not trip during a load rejection. This test would ensure that the EDG governor and voltage regulator are performing correctly and would validate the operability of the EDG.

Because EDGs 1-2A and 1C are designed to be shared between two units and each unit maintains a separate TS at Farley, SNC has been performing the subject SR once per 5 years by aligning EDG 1-2A to a Unit 1 emergency bus and aligning EDG 1C to a Unit 2 emergency bus. The NRC inspector questioned whether the EDGs 1-2A and 1C should be tested on a per unit basis, such that each shared EDG is tested twice per 5 years; for example, tested once with Unit 1 and tested again with Unit 2.

SNC contends that testing on a per unit basis represents redundant and excessive testing of the EDG and is not necessary for the following reasons:

1. The load rejection test is conducted to validate the EDG function by verifying the ability of the voltage regulator or governor to maintain the load within acceptable limits during a load rejection. Thus, the test results depend on the equipment within the EDGs themselves, not on the EDG loads used for the test. If there is a problem with the EDG voltage regulator or governor, it would be evident regardless of the loads that are connected to it or which unit the load came from.
2. When the staff granted the load rejection testing frequency from every 18 months to every 5 years as shown in the current TS SR 4.8.1.1.2.e, the testing was intended for each EDG on an EDG by EDG basis, not on a unit by unit basis.
3. If the shared EDGs are required to be tested on a per unit basis, the (shared) EDGs in the A train would be performing the load rejection test twice as often as the (dedicated) EDGs in the B train.
4. Having five diesel generators that have either an automatic or manual capability to load one of the two safety trains represents much greater flexibility than having four dedicated EDGs installed in two trains as shown in the NRC's Standard TS. Thus, in terms of reduced surveillance and testing requirements for EDGs, credit can be given to the Farley TS in order to avoid redundant testings.

The staff has reviewed the proposed TS amendments and SNC's TS SR 4.8.1.1.2.e interpretation. The staff concludes that the purpose of TS SR 4.8.1.1.2.e is to demonstrate that the voltage regulator and governor in each EDG are performing correctly. TS SR 4.8.1.1.2.e tests the EDGs themselves, not the EDG loads. Therefore, the staff concurs with SNC's interpretation that the testing requirement for the shared EDGs (1-2A and 1C) is satisfied by aligning these EDGs to either Unit 1 or Unit 2 independently, as long as their operability is confirmed once per 5 years. The staff finds that testing of the shared EDGs on one unit to satisfy SR 4.8.1.1.2.e requirements for both units and the addition of the proposed footnote (\*\*\*) at the end of SR 4.8.1.1.2.e for Unit 1 and Unit 2 to be acceptable.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of Alabama official was notified of the proposed issuance of the amendments. The State official had no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

The amendments change the surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (62 FR 33135, June 18, 1997).

Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

#### 5.0 CONCLUSION

The Commission 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: P. Kang

Date: October 1, 1997