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

September 22, 1993

Docket Nos. 50-348
and 50-364

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

Dear Mr. Morey:

SUBJECT: ISSUANCE OF AMENDMENT NO. 101 TO FACILITY OPERATING LICENSE NO. NPF-2 AND AMENDMENT NO. 93 TO FACILITY OPERATING LICENSE NO. NPF-8 REGARDING EMERGENCY ELECTRICAL POWER SYSTEM MODIFICATION FOR JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2 (TAC NOS. M86241 AND M86242)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 101 to Facility Operating License No. NPF-2 and Amendment No. 93 to Facility Operating License No. NPF-8 for the Joseph M. Farley Nuclear Plant, Units 1 and 2. The amendments change the Technical Specifications (TS) in response to your submittal dated March 4, 1993, as supplemented June 29, 1993.

The amendments (1) delete references to diesel generator 2C from TS 3/4.8.1.1 and TS 3/4.8.1.2, (2) delete 600 volt load centers J and H as listed in TS 3/4.8.2, and (3) revise TS 6.8.1 to include a reference to the document that provides the testing, maintenance, and procurement requirements applicable to the 2C diesel generator and to include a requirement to inform the NRC if the 2C diesel generator is out of service for more that 10 days. These changes allow modification of the emergency electrical power system to designate one of the existing emergency diesel generators as an alternate AC power source as defined in Regulatory Guide 1.155, "Station Blackout."

The licensee also requested amendments that (1) revise the diesel generator test schedule based upon the Nuclear Management and Resources Council (NUMARC) guidance for determining the number of allowable failures and valid demands and (2) revise the requirements of TS 6.9.1.12 for the Annual Diesel Generator Reliability Report. Both of these amendments are currently the subject of generic staff reviews and, as such, the staff is unable to complete its review of these changes at this time.

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A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's bi-weekly Federal Register notice.

Sincerely,

Timothy A. Reed, Senior Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 101 to NPF-2
2. Amendment No. 93 to NPF-8
3. Safety Evaluation

cc w/enclosures:
See next page

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's bi-weekly Federal Register notice.

Sincerely,

ORIGINAL SIGNED BY:

Timothy A. Reed, Senior Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 101 to NPF-2
2. Amendment No. 93 to NPF-8
3. Safety Evaluation

cc w/enclosures:
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Mr. D. N. Morey
Southern Nuclear Operating
Company, Inc.

cc:

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

Mr. B. L. Moore, Licensing Manager
Southern Nuclear Operating Co., Inc.
Post Office Box 1295
Birmingham, Alabama 35201-1295

James H. Miller, III, Esquire
Balch and Bingham Law Firm
Post Office Box 306
1710 Sixth Avenue North
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
101 Marietta St., N.W., Ste. 2900
Atlanta, Georgia 30323

Resident Inspector
U.S. Nuclear Regulatory Commission
Post Office Box 24 - Route 2
Columbia, Alabama 36319

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

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

DOCKET NO. 50-348

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 101
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 March 4, 1993, as supplemented June 29, 1993, 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. 101 , 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

S. Singh Bajwa, Acting Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 22, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 101

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 Pages | Insert Pages |
|---|---|
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| 3/4 8-2 | 3/4 8-2 |
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| B3/4 8-1 | B3/4 8-1 |
| 6-14a | 6-14a |

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two physically independent circuits from the offsite transmission network to the switchyard and two physically independent circuits from the switchyard to the onsite Class 1E distribution system, and

b. Two separate and independent emergency diesel generator sets (Set A: DG 1-2A and DG -1C, and Set B: DG-1B). Each emergency diesel generator shall be equipped with:

1. Separate day tank containing a minimum volume of 900 gallons of fuel for the 4075 kw emergency diesel generators and 700 gallons of fuel for the 2850 kw emergency diesel generator.

2. A separate fuel transfer pump for each emergency diesel generator.

3. A fuel storage system containing a minimum of 25,000 gallons of useable fuel for each required emergency diesel generator.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With only one offsite A.C. circuit operable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a on the remaining offsite A.C. circuit within 2 hours and at least once per 8 hours thereafter; and by performing Surveillance Requirement 4.8.1.1.2.a.4, on both emergency diesel generator sets within 24 hours unless such surveillance has been performed within the previous 24 hours or the emergency diesel generators are already operating. Restore at least two offsite circuits to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one emergency diesel generator set inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a on both offsite A.C. circuits within 2 hours and at least once per 8 hours thereafter. If the emergency diesel generator set became inoperable due to any cause other than preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining emergency diesel generator set by performing Surveillance Requirement 4.8.1.1.2.a.4, on the remaining emergency diesel generator set within 24 hours, unless such surveillance has been performed within the previous 24 hours or the emergency diesel generators are already operating.

ACTION (Continued)

Restore the inoperable emergency diesel generator set to OPERABLE status within 10 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. The provisions of Specification 3.0.4 are not applicable if only one of the three individual emergency diesel generators is inoperable.

c. With one offsite A.C. circuit and one emergency diesel generator set inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a on the remaining offsite A.C. circuit within 2 hours and at least once per 8 hours thereafter. If the emergency diesel generator set became inoperable due to any cause other than preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining emergency diesel generator set by performing Surveillance Requirement 4.8.1.1.2.a.4, on the remaining emergency diesel generator set within 8 hours, unless such surveillance has been performed within the previous 24 hours or the emergency diesel generators are already operating. Restore at least one of the inoperable A.C. sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore the other A.C. source (offsite A.C. circuit or emergency diesel generator set) to OPERABLE status in accordance with the provisions of Section 3.8.1.1 Action Statements a or b, as appropriate, with the time requirement of the action statement based on the time of initial loss of the remaining inoperable A.C. source.

d. With both of the offsite A.C. circuits inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.2.a.4, on both the emergency diesel generator sets within 8 hours, unless such surveillance has been performed within the previous 24 hours or the emergency diesel generators are already operating. Restore at least one of the inoperable offsite A.C. circuits to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite A.C. circuit restored, restore the other offsite A.C. circuit to OPERABLE status within 72 hours from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

e. With both of the emergency diesel generator sets inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a on both offsite A.C. circuits within 2 hours and at least once per 8 hours thereafter; and by performing Surveillance Requirement 4.8.1.1.2.a.4, on the remaining emergency diesel generators on both units within 8 hours, unless such surveillance has been performed within the previous 24 hours or the emergency diesel generators are already operating. Restore at least one of the inoperable emergency diesel generator sets to OPERABLE status:

ACTION (Continued)

1. Within 24 hours or be in at least HOT STANDBY within the next 6 hours if DG-1B and DG-1C are inoperable; or

2. Within 8 hours or be in at least HOT STANDBY within the next 6 hours if DG 1-2A and DG-1B are inoperable; or

3. Within 2 hours or be in at least HOT STANDBY within the next 6 hours if three emergency diesel generators are inoperable.

Restore the emergency diesel generator sets to OPERABLE status within 10 days from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments, indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months during shutdown by transferring unit power supply from the normal circuit to the alternate circuit.

4.8.1.1.2 Each emergency diesel generator set shall be demonstrated OPERABLE:

a. In accordance with the frequency specified in Table 4.8-1 on a STAGGERED TEST BASIS by:

1. Verifying the fuel level in the day tank.

2. Verifying the fuel level in the fuel storage tanks.

3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank.

4. Verifying the emergency diesel starts and accelerates 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. The generator voltage and frequency shall be $\geq$ 3952 volts and $\geq$ 57 Hz within 12 seconds after the start signal and operates for 5 minutes.

5. Verifying the generator is synchronized, loaded to 2700-2850 kw for the 2850 kw generator and 3875-4075 kw for the 4075 kw generators and operates for greater than or equal to 60 minutes.

SURVEILLANCE REQUIREMENTS (Continued)

6. Verifying the emergency diesel generator is aligned to provide standby power to the associated emergency busses.

b. At least once per 92 days by verifying that a sample of emergency diesel fuel from the fuel storage tank obtained in accordance with ASTM-D270-65 is within the acceptable limits specified in Table 1 of ASTM D975-74 when checked for viscosity, water and sediment.

c. At least once per 18 months by:

1. Subjecting the emergency diesel to an inspection and maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.

2. Simulating a loss of offsite power by itself, and:

a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

b) Verifying the emergency diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 12 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 shutdown loads. After energization of all loads, the steady state voltage and frequency of the emergency busses shall be maintained at 4160 $\pm$ 420 volts and 60 $\pm$ 1.2 Hz during this test.

3. Verifying that on a Safety Injection test signal (without loss of offsite power) the emergency 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 $\geq$ 3952 volts and $\geq$ 57 Hz within 12 seconds after the auto-start signal; the steady state generator voltage and frequency shall be maintained between 4160 $\pm$ 420 volts and 60 $\pm$ 1.2 Hz during this test.

4. Simulating a loss of offsite power in conjunction with a Safety Injection test signal, and:

a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

b) Verifying the emergency diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 12 seconds, energizes the auto-connected emergency (accident) 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 ± 420 volts and 60 ± 1.2 Hz during this test.

c) Verifying that all automatic emergency diesel generator trips, except engine overspeed and generator differential and low lube oil pressure, are automatically bypassed upon loss of voltage on the emergency bus and/or a safety injection test signal.

5) Verifying the emergency diesel generator operates for at least 24 hours. During the first two (2) hours of this test, the emergency diesel generators shall be loaded to 4353 kw for the 4075 kw emergency diesels and 3100 kw for the 2850 kw emergency diesel and during the remaining 22 hours of the test, the emergency diesel generators shall be loaded to greater than or equal to 4075 kw for the 4075 kw emergency diesels and 2850 kw for the 2850 kw emergency diesel. The steady-state generator voltage and frequency shall be maintained between 4160 ± 420 volts and 60 ± 1.2 Hz during this test. Within 10 minutes after completing this 24-hour test, perform specification 4.8.1.1.2.a.4.

6) Verifying that the permanently connected and auto-connected loads to each emergency diesel generator do not exceed the 2000-hour rating of 4353 kw for the 4075 kw generators and 3100 kw for the 2850 kw generator.

7) Verifying the emergency 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.

8) Verifying that with the emergency diesel generators operating in a test mode (connected to its bus), a simulated safety injection signal overrides the test mode by returning the emergency diesel generator to standby operation.

9) Verifying that the automatic load sequence timer is OPERABLE with each load sequence time within ± 10% of its required value or 0.5 seconds whichever is greater.

10) Verifying that the following emergency diesel generator lockout features prevent emergency diesel generator starting only when required:

a) Oil Temperature High (OTH)

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.

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. One circuit from the offsite transmission network to the switchyard and from the switchyard to the onsite Class 1E distribution system, and

b. Emergency diesel generator 1-2A or 1C or 1B each with:

1. A day tank containing a minimum volume of 900 gallons of fuel for the 4075 kw emergency diesel generators and 700 gallons of fuel for the 2850 kw emergency diesel generator.

2. A fuel storage tank containing a minimum volume of 25,000 gallons of useable fuel, and

3. A fuel transfer pump.

APPLICABILITY: MODES 5 and 6.

ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes until the minimum required A.C. electrical power sources are restored to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1 and 4.8.1.1.2 except for requirement 4.8.1.1.2.a.5.

ELECTRICAL POWER SYSTEMS

3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS

A.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 The following A.C. electrical busses shall be OPERABLE, energized and aligned to an OPERABLE emergency diesel generator:

| | |
|---|---|
| 4160 | volt Emergency Bus F, H and K |
| 4160 | volt Emergency Bus G, J and L |
| 600 | volt Load Centers D, K and R |
| 600 | volt Load Centers E, L and S |
| 120 | volt A.C. Vital Bus A |
| 120 | volt A.C. Vital Bus B |
| 120 | volt A.C. Vital Bus C |
| 120 | volt A.C. Vital Bus D |

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With less than the above complement of A.C. busses OPERABLE, restore the inoperable bus to OPERABLE status within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.1 The specified A.C. busses shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and indicated power availability.

ELECTRICAL POWER SYSTEMS

A. C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.2 As a minimum, the following train oriented A. C. electrical busses shall be OPERABLE and aligned to an OPERABLE diesel generator.

3 - 4160 volt Emergency Busses

3 - 600 volt Load Centers

2 - 120 volt A. C. Vital Busses

APPLICABILITY: MODES 5 and 6

ACTION:

With less than the above complement of A. C. busses OPREABLE and energized, establish CONTAINMENT INTEGRITY within 8 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.2 The specified A. C. busses shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and indicated power availability.

3/4.8.1 and 3/4.8.2. A.C. SOURCES AND ONSITE POWER DISTRIBUTION SYSTEMS

The OPERABILITY of the A.C. and D.C. power sources and associated distribution systems during operation ensures that sufficient power will be available to supply the safety-related equipment required for 1) the safe shutdown of the facility and 2) the mitigation and control of accident conditions within the facility. The minimum specified independent and redundant A.C. and D.C. power sources and distribution systems satisfy the requirements of General Design Criterion 17 of Appendix "A" to 10 CFR 50.

The ACTION requirements specified for the levels of degradation of the power sources provide restriction upon continued facility operation commensurate with the level of degradation. The OPERABILITY of the power sources is consistent with the initial condition assumptions of the safety analyses and is based upon maintaining at least one redundant set of onsite A.C. and D.C. power sources and associated distribution systems OPERABLE during accident conditions coincident with an assumed loss of offsite power and single failure of the other onsite A.C. source.

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that 1) the facility can be maintained in the shutdown or refueling condition for extended time periods and 2) sufficient instrumentation and control capability is available for monitoring and maintaining the unit status.

In order to comply with 10 CFR 50.63, "Loss of All Alternating Current Power," and the guidance in Regulatory Guide 1.155, "Station Blackout," the minimum reliability for emergency diesel generators has been targeted at 0.95. Each emergency diesel generator is tested monthly for the purpose of monitoring potential degradation in reliability. All data from planned and unplanned demands are used in monitoring which is based on the last 100 demands of all emergency diesel generators for Unit 1 as specified in 10 CFR 50.63(a)(3). Criteria for determining the number of failures and valid demands shall be in accordance with NUMARC 87-00, Appendix D, Revision 1, where the number of demands and failures are determined on a per emergency diesel generator basis and combined for all emergency diesel generators for Unit 1 to evaluate reliability and determine corrective action. The criteria are based upon counting only those failures that have an impact on the capability of the emergency diesel generator to respond to a station blackout.

The Surveillance Requirements for demonstrating the OPERABILITY of the Station batteries are based on the recommendations of IEEE Standard 450-1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations."

f. Fire Protection Program implementation.

g. PROCESS CONTROL PROGRAM implementation

h. OFFSITE DOSE CALCULATION MANUAL implementation.

i. Programs for effluent and environmental monitoring, using the guidance in Regulatory Guide 4.15, February 1979.

j. Station Blackout AAC Reliability Program which:

(i) defines the testing, maintenance, and parts procurement requirements necessary to maintain the AAC as a Class 1E component, and

(ii) requires that the NRC be notified if the AAC is out of service for greater than 10 days.

6.8.2 Each procedure and administrative policy of 6.8.1 above, and changes thereto, including temporary changes shall be reviewed prior to implementation as set forth in 6.5 above.

6.8.3 The following programs shall be maintained:

a. Primary Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The systems include recirculation portions of the containment spray, safety injection and chemical and volume control systems, the waste gas system, the Reactor Coolant sampling system, the residual heat removal system, and the containment atmosphere sampling system. The program shall include the following.

(i) Preventative maintenance and periodic visual inspection requirements, and

(ii) Integrated leak test requirements for each system with the exception of the waste gas system and the containment atmosphere sampling system which are "snoop" tested at refueling cycle intervals or less.

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

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

DOCKET NO. 50-364

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 93
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 March 4, 1993, as supplemented June 29, 1993, 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. 93 , 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

S. Singh Bajwa, Acting Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 22, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 93

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 Pages | Insert Pages |
|---|---|
| 3/4 8-1 | 3/4 8-1 |
| 3/4 8-2 | 3/4 8-2 |
| 3/4 8-3 | 3/4 8-3 |
| 3/4 8-4 | 3/4 8-4 |
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| B3/4 8-1 | B3/4 8-1 |
| 6-14a | 6-14a |

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two physically independent circuits from the offsite transmission network to the switchyard and two physically independent circuits from the switchyard to the onsite Class 1E distribution system, and

b. Two separate and independent emergency diesel generator sets (Set A: DG 1-2A and DG -1C, and Set B: DG-2B). Each emergency diesel generator shall be equipped with:

1. Separate day tank containing a minimum volume of 900 gallons of fuel for the 4075 kw emergency diesel generators and 700 gallons of fuel for the 2850 kw emergency diesel generator.

2. A separate fuel transfer pump for each emergency diesel generator.

3. A fuel storage system containing a minimum of 25,000 gallons of useable fuel for each required emergency diesel generator.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With only one offsite A.C. circuit operable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a on the remaining offsite A.C. circuit within 2 hours and at least once per 8 hours thereafter; and by performing Surveillance Requirement 4.8.1.1.2.a.4, on both emergency diesel generator sets within 24 hours unless such surveillance has been performed within the previous 24 hours or the emergency diesel generators are already operating. Restore at least two offsite circuits to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one emergency diesel generator set inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a on both offsite A.C. circuits within 2 hours and at least once per 8 hours thereafter. If the emergency diesel generator set became inoperable due to any cause other than preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining emergency diesel generator set by performing Surveillance Requirement 4.8.1.1.2.a.4, on the remaining emergency diesel generator set within 24 hours, unless such surveillance has been performed within the previous 24 hours or the emergency diesel generators are already operating.

ACTION (Continued)

Restore the inoperable emergency diesel generator set to OPERABLE status within 10 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. The provisions of Specification 3.0.4 are not applicable if only one of the three individual emergency diesel generators is inoperable.

c. With one offsite A.C. circuit and one emergency diesel generator set inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a on the remaining offsite A.C. circuit within 2 hours and at least once per 8 hours thereafter. If the emergency diesel generator set became inoperable due to any cause other than preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining emergency diesel generator set by performing Surveillance Requirement 4.8.1.1.2.a.4, on the remaining emergency diesel generator set within 8 hours, unless such surveillance has been performed within the previous 24 hours or the emergency diesel generators are already operating. Restore at least one of the inoperable A.C. sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore the other A.C. source (offsite A.C. circuit or emergency diesel generator set) to OPERABLE status in accordance with the provisions of Section 3.8.1.1 Action Statements a or b, as appropriate, with the time requirement of the action statement based on the time of initial loss of the remaining inoperable A.C. source.

d. With both of the offsite A.C. circuits inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.2.a.4, on both the emergency diesel generator sets within 8 hours, unless such surveillance has been performed within the previous 24 hours or the emergency diesel generators are already operating. Restore at least one of the inoperable offsite A.C. circuits to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite A.C. circuit restored, restore the other offsite A.C. circuit to OPERABLE status within 72 hours from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

e. With both of the emergency diesel generator sets inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a on both offsite A.C. circuits within 2 hours and at least once per 8 hours thereafter; and by performing Surveillance Requirement 4.8.1.1.2.a.4, on the remaining emergency diesel generators on both units within 8 hours, unless such surveillance has been performed within the previous 24 hours or the emergency diesel generators are already operating. Restore at least one of the inoperable emergency diesel generator sets to OPERABLE status:

ACTION (Continued)

1. Within 24 hours or be in at least HOT STANDBY within the next 6 hours if DG-2B and DG-1C are inoperable; or

2. Within 8 hours or be in at least HOT STANDBY within the next 6 hours if DG 1-2A and DG-2B are inoperable; or

3. Within 2 hours or be in at least HOT STANDBY within the next 6 hours if three emergency diesel generators are inoperable.

Restore the emergency diesel generator sets to OPERABLE status within 10 days from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments, indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months during shutdown by transferring unit power supply from the normal circuit to the alternate circuit.

4.8.1.1.2 Each emergency diesel generator set shall be demonstrated OPERABLE:

a. In accordance with the frequency specified in Table 4.8-1 on a STAGGERED TEST BASIS by:

1. Verifying the fuel level in the day tank.

2. Verifying the fuel level in the fuel storage tanks.

3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank.

4. Verifying the emergency diesel starts and accelerates 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. The generator voltage and frequency shall be $\geq$ 3952 volts and $\geq$ 57 Hz within 12 seconds after the start signal and operates for 5 minutes.

5. Verifying the generator is synchronized, loaded to 2700-2850 kw for the 2850 kw generator and 3875-4075 kw for the 4075 kw generators and operates for greater than or equal to 60 minutes.

SURVEILLANCE REQUIREMENTS (Continued)

6. Verifying the emergency diesel generator is aligned to provide standby power to the associated emergency busses.

b. At least once per 92 days by verifying that a sample of emergency diesel fuel from the fuel storage tank obtained in accordance with ASTM-D270-65 is within the acceptable limits specified in Table 1 of ASTM D975-74 when checked for viscosity, water and sediment.

c. At least once per 18 months by:

1. Subjecting the emergency diesel to an inspection and maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.

2. Simulating a loss of offsite power by itself, and:

a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

b) Verifying the emergency diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 12 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 shutdown loads. After energization of all loads, the steady state voltage and frequency of the emergency busses shall be maintained at 4160 $\pm$ 420 volts and 60 $\pm$ 1.2 Hz during this test.

3. Verifying that on a Safety Injection test signal (without loss of offsite power) the emergency 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 $\geq$ 3952 volts and $\geq$ 57 Hz within 12 seconds after the auto-start signal; the steady state generator voltage and frequency shall be maintained between 4160 $\pm$ 420 volts and 60 $\pm$ 1.2 Hz during this test.

4. Simulating a loss of offsite power in conjunction with a Safety Injection test signal, and:

a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

b) Verifying the emergency diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 12 seconds, energizes the auto-connected emergency (accident) 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 ± 420 volts and 60 ± 1.2 Hz during this test.

c) Verifying that all automatic emergency diesel generator trips, except engine overspeed and generator differential and low lube oil pressure, are automatically bypassed upon loss of voltage on the emergency bus and/or a safety injection test signal.

5) Verifying the emergency diesel generator operates for at least 24 hours. During the first two (2) hours of this test, the emergency diesel generators shall be loaded to 4353 kw for the 4075 kw emergency diesels and 3100 kw for the 2850 kw emergency diesel and during the remaining 22 hours of the test, the emergency diesel generators shall be loaded to greater than or equal to 4075 kw for the 4075 kw emergency diesels and 2850 kw for the 2850 kw emergency diesel. The steady-state generator voltage and frequency shall be maintained between 4160 ± 420 volts and 60 ± 1.2 Hz during this test. Within 10 minutes after completing this 24-hour test, perform specification 4.8.1.1.2.a.4.

6) Verifying that the permanently connected and auto-connected loads to each emergency diesel generator do not exceed the 2000-hour rating of 4353 kw for the 4075 kw generators and 3100 kw for the 2850 kw generator.

7) Verifying the emergency 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.

8) Verifying that with the emergency diesel generators operating in a test mode (connected to its bus), a simulated safety injection signal overrides the test mode by returning the emergency diesel generator to standby operation.

9) Verifying that the automatic load sequence timer is OPERABLE with each load sequence time within ± 10% of its required value or 0.5 seconds whichever is greater.

10) Verifying that the following emergency diesel generator lockout features prevent emergency diesel generator starting only when required:

a) Oil Temperature High (OTH)

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.

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. One circuit from the offsite transmission network to the switchyard and from the switchyard to the onsite Class 1E distribution system, and

b. Emergency diesel generator 1-2A or 1C or 2B each with:

1. A day tank containing a minimum volume of 900 gallons of fuel for the 4075 kw emergency diesel generators and 700 gallons of fuel for the 2850 kw emergency diesel generator.

2. A fuel storage tank containing a minimum volume of 25,000 gallons of useable fuel, and

3. A fuel transfer pump.

APPLICABILITY: MODES 5 and 6.

ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes until the minimum required A.C. electrical power sources are restored to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1 and 4.8.1.1.2 except for requirement 4.8.1.1.2.a.5.

3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS

A.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 The following A.C. electrical busses and inverters shall be OPERABLE and energized.

| | |
|---|---|
| 4160 | volt Emergency Bus F, H and K |
| 4160 | volt Emergency Bus G, J and L |
| 600 | volt Load Centers D, K, and R |
| 600 | volt Load Centers E, L, and S |
| 120 | volt A.C. Vital Bus A energized from Inverter A connected to D.C. Bus Train A* and 600 volt Load Center D through 600 volt Motor Control Center A. |
| 120 | volt A.C. Vital Bus B energized from Inverter B connected to D.C. Bus Train A* and 600 volt Load Center D through 600 volt Motor Control Center A. |
| 120 | volt A.C. Vital Bus C energized from Inverter C connected to D.C. Bus Train B* and 600 volt Load Center E through 600 volt Motor Control Center B. |
| 120 | volt A.C. Vital Bus D energized from Inverter D connected to D.C. Bus Train B* and 600 volt Load Center E through 600 volt Motor Control Center B. |

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With less than the above complement of A.C. busses OPERABLE and energized, restore the inoperable busses to OPERABLE and energized status within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one inverter inoperable, energize the associated A.C. Vital Bus within 8 hours; restore the inverter to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.1 The specified A.C. busses and inverters shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and indicated power availability.

*Two inverters may be disconnected from the D.C. source for up to 24 hours for the purpose of performing an equalizing charge on their associated battery bank provided (1) their vital busses are OPERABLE and energized, and (2) the vital busses associated with the other battery bank are OPERABLE and energized.

ELECTRICAL POWER SYSTEMS

A. C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.2 As a minimum, the following train oriented A. C. electrical busses shall be OPERABLE and aligned to an OPERABLE diesel generator.

3 - 4160 volt Emergency Busses

3 - 600 volt Load Centers

2 - 120 volt A. C. Vital Busses

APPLICABILITY: MODES 5 and 6

ACTION:

With less than the above complement of A. C. busses OPREABLE and energized, establish CONTAINMENT INTEGRITY within 8 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.2 The specified A. C. busses shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and indicated power availability.

## 3/4.8.1 and 3/4.8.2.A.C. SOURCES AND ONSITE POWER DISTRIBUTION SYSTEMS

The OPERABILITY of the A.C. and D.C. power sources and associated distribution systems during operation ensures that sufficient power will be available to supply the safety-related equipment required for 1) the safe shutdown of the facility and 2) the mitigation and control of accident conditions within the facility. The minimum specified independent and redundant A.C. and D.C. power sources and distribution systems satisfy the requirements of General Design Criterion 17 of Appendix "A" to 10 CFR 50.

The ACTION requirements specified for the levels of degradation of the power sources provide restriction upon continued facility operation commensurate with the level of degradation. The OPERABILITY of the power sources is consistent with the initial condition assumptions of the safety analyses and is based upon maintaining at least one redundant set of onsite A.C. and D.C. power sources and associated distribution systems OPERABLE during accident conditions coincident with an assumed loss of offsite power and single failure of the other onsite A.C. source.

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that 1) the facility can be maintained in the shutdown or refueling condition for extended time periods and 2) sufficient instrumentation and control capability is available for monitoring and maintaining the unit status.

In order to comply with 10 CFR 50.63, "Loss of All Alternating Current Power," and the guidance in Regulatory Guide 1.155, "Station Blackout," the minimum reliability for emergency diesel generators has been targeted at 0.95. Each emergency diesel generator is tested monthly for the purpose of monitoring potential degradation in reliability. All data from planned and unplanned demands are used in monitoring which is based on the last 100 demands of all emergency diesel generators for Unit 2 as specified in 10 CFR 50.63(a)(3). Criteria for determining the number of failures and valid demands shall be in accordance with NUMARC 87-00, Appendix D, Revision 1, where the number of demands and failures are determined on a per emergency diesel generator basis and combined for all emergency diesel generators for Unit 2 to evaluate reliability and determine corrective action. The criteria are based upon counting only those failures that have an impact on the capability of the emergency diesel generator to respond to a station blackout.

The Surveillance Requirements for demonstrating the OPERABILITY of the Station batteries are based on the recommendations of IEEE Standard 450-1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations."

## 3/4.8.3 ELECTRICAL EQUIPMENT PROTECTION DEVICES

Containment electrical penetrations and penetration conductors are protected by either deenergizing circuits not required during reactor operation or by demonstrating the OPERABILITY of overcurrent protection circuit breakers during periodic surveillance.

f. Fire Protection Program implementation.

g. PROCESS CONTROL PROGRAM implementation

h. OFFSITE DOSE CALCULATION MANUAL implementation.

i. Programs for effluent and environmental monitoring, using the guidance in Regulatory Guide 4.15, February 1979.

j. Station Blackout AAC Reliability Program which:

(i) defines the testing, maintenance, and parts procurement requirements necessary to maintain the AAC as a Class 1E component, and

(ii) requires that the NRC be notified if the AAC is out of service for greater than 10 days.

6.8.2 Each procedure and administrative policy of 6.8.1 above, and changes thereto, including temporary changes shall be reviewed prior to implementation as set forth in 6.5 above.

6.8.3 The following programs shall be maintained:

a. Primary Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The systems include recirculation portions of the containment spray, safety injection and chemical and volume control systems, the waste gas system, the Reactor Coolant sampling system, the residual heat removal system, and the containment atmosphere sampling system. The program shall include the following.

(i) Preventative maintenance and periodic visual inspection requirements, and

(ii) Integrated leak test requirements for each system with the exception of the waste gas system and the containment atmosphere sampling system which are "snoop" tested at refueling cycle intervals or less.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 101 TO FACILITY OPERATING LICENSE NO. NPF-2

AND AMENDMENT NO. 93 TO FACILITY OPERATING LICENSE NO. NPF-8

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 March 4, 1993, as supplemented June 29, 1993, the Southern Nuclear Operating Company, Inc. (the licensee), submitted a request for changes to the Joseph M. Farley Nuclear Plant, Units 1 and 2 (Farley), Technical Specifications (TS).

The June 29, 1993, letter provided clarifying information that did not change the initial proposed no significant hazards consideration determination.

On July 21, 1988, Part 50 of 10 CFR was amended to include a new Section 50.63, Loss of all alternating current power. This condition of a complete loss of AC electrical power to a nuclear power plant is referred to as a station blackout (SBO). The SBO rule requires each nuclear power plant to be capable of maintaining core cooling and appropriate containment integrity to withstand and recover from an SBO of a duration based upon the specific site characteristics.

The licensee provided a response to the SBO rule by letters dated April 12, 1989, and March 8, 1990. They proposed modifications to the emergency electrical power system to designate one of the existing emergency diesel generators (EDG) as an alternate AC (AAC) power source as defined in Regulatory Guide (RG) 1.155, "Station Blackout." In its Safety Evaluation (SE) dated April 25, 1991, the NRC staff concluded that the proposed use of an existing EDG as an AAC is an acceptable means of resolving the SBO issue. Additional information about hardware and procedural modifications was requested by the NRC staff and was subsequently provided by the licensee's June 5, 1991. In this letter, the licensee stated that the SBO modifications that will designate existing diesel generator (DG) 2C as an AAC will be implemented during the Unit 1 twelfth and Unit 2 ninth refueling outages. These modifications will ensure that the train B safe shutdown loads in the SBO unit can be powered by DG 2C by manual actions from the control room within 10 minutes of the determination of a blackout event. When designated as the AAC power source the DG 2C will not automatically start during any design basis event. Staff approval of the licensee response to the SBO rule was provided by the staff in a letter dated August 14, 1992.

Following the SBO modifications, DG 2C will no longer be relied upon to perform the function of an emergency power source for design basis events (i.e., automatically starting upon a safety injection or loss of offsite power (LOSP) signal). Therefore, in a letter dated March 4, 1993, the licensee proposed to revise TS 3/4.8.1 and 3/4.8.2 to delete all references to its use as a design basis diesel generator.

DISCUSSION

As provided in the June 5, 1991, licensee response, DG 2C will be dedicated as an AAC power source for SBO events and will be connectable from the control room to the train B safe shutdown buses in either unit. The few safe shutdown loads (approximately 150 kW total for both units) currently being supplied by DG 2C will be supplied by EDGs 1B or 2B. With the remaining four EDGs, both units will continue to comply with the licensing basis for all design basis accidents, considering a single failure, without taking credit for DG 2C. The capacity of the remaining EDGs and their alignment will provide adequate power for safe shutdown loads during the worst case loading scenarios (i.e., LOSP in both units concurrent with a loss-of-coolant accident in one unit).

The loads previously powered by DG 2C will now be powered by EDGs 1B or 2B. The impact of the additional shutdown loads formerly supplied from DG 2C has been analyzed by the licensee. This analysis determined that EDGs 1B and 2B will continue to have sufficient capacity to energize a complete safety train of shutdown loads of one unit during its worst case scenario. Further, this analysis contains a revised diesel generator loading calculation. The results from this calculation were provided to the staff by the licensee. These results show that for the worst case loading scenarios the continuous rating (4075 Kw) of EDGs 1B and 2B is not exceeded. The train A EDG loading will be unaffected by the SBO modifications and will continue to have sufficient capacity to supply power to a complete safety train during all design basis events. Therefore, the elimination of DG 2C from the TS as an emergency power source during design basis events so it may be used as the AAC in case of SBO will not significantly diminish the ability of the emergency electrical power system to cope with the worst case design basis event.

2.0 EVALUATION

Proposed revisions to the Unit 1 and Unit 2 TS Sections 3/4.8.1, A.C. Sources, are addressed below.

References To Diesel Generator 2C Deleted From TS Sections 3/4.8.1 and 3/4.8.2. and Revisions to TS Section 6.8.1

The current TS for Farley contain five EDGs for both units. Each of these EDGs has a 10 day allowed outage time (AOT).

The 10 day AOT was approved by the NRC staff based on the flexibility of the Farley onsite electrical power system design. Three EDGs identified as 1-2A, 1B, and 2B are rated at 4075 kW each, and two EDGs identified as 1C and 2C are rated at 2850 kW each. Emergency diesel generators 1-2A and 1C are assigned to the load group Train A, while EDGs 1B, 2B, and 2C are assigned to load group Train B. Emergency diesel generator 1B is dedicated to Unit 1, while EDG 2B is dedicated to Unit 2. Emergency diesel generators 1-2A and 1C swing between the two units and EDG 2C is shared between the two units in certain accident scenarios.

Presently, DG 2C automatically starts upon a LOSP or a safety injection signal and powers only some small miscellaneous safe shutdown loads (150 kW) for both units. The elimination of DG 2C as an emergency power source, as proposed, does not significantly impact the remaining four EDGs ability to supply all needed shutdown loads during the worst case design basis accident. The licensee asserts that a high degree of flexibility is provided in the Farley design because of the ability to align DG 2C to both B-train emergency buses and manually connect shutdown loads, if necessary. When this argument is examined in light of the SBO modifications that included the addition of an automatic sequencer for shutdown loads and removal of the automatic start feature from DG 2C, it remains valid. Ordinarily, the staff would not accept a DG that was neither covered by the TS, nor had an automatic start feature as acceptable for mitigating a design basis event and because DG 2C is used not only for an AAC power source, but also as a basis for extended AOTs, this was an issue that the staff carefully evaluated. Nevertheless, the loss of the automatic start feature is compensated for by a number of other factors. Following completion of implementation of the SBO modifications, the operator continues to have the ability to manually start DG 2C and the flexibility to select and add shutdown loads to either of the Unit 1 or Unit 2 B-train emergency buses from the control room. In addition, the operator will not have to perform any breaker realignments in order to connect DG 2C to the B-train safe shutdown emergency buses (i.e., 1G or 2G and 1L and 2L) as is currently required. Thus, the degree of flexibility of the Farley emergency AC electrical power system design is not significantly diminished. Further, in order to ensure that DG 2C is maintained in a high state of readiness so that the flexibility afforded by its use is not significantly diminished, the licensee is to implement a reliability program that will ensure its reliability is maintained at .95 or greater. This program defines the testing, maintenance, and parts procurement requirements necessary to maintain the AAC as a Class 1E component. In a submittal dated June 29, 1993, the licensee provided revisions to TS Section 6.0, Administrative Controls. These revisions revise Section 6.8.1 to address the AAC reliability program and to indicate that NRC is to be notified if the AAC is out of service for greater than 10 days. This submittal also documents the licensee's policy of

not intentionally removing two diesel generators from service at the same time. In summary, the four factors mitigating the removal of the DG 2C from the TS and the removal of the auto start from DG 2C are: (1) the capacity of the remaining four EDGs included in the TS is sufficient to handle design basis accident loads without exceeding their continuous ratings, (2) the addition of an automatic sequencer to DG 2C increases the speed and simplicity of loading that DG, (3) maintenance of the 2C DG as a Class 1E diesel generator, and (4) the flexibility available for manually loading DG 2C to handle a wide variety of accidents.

On the bases of the above, the staff finds the proposed revisions to the delete references to DG 2C in TS Sections 3/4.8.1 and 3/4.8.2 are acceptable. In addition, the staff finds the proposed revisions to TS section 6.8.1 to be acceptable.

Revisions to the Emergency Diesel Generator Accelerated Testing Schedule Based Upon Nuclear Management and Resources Council (NUMARC) Guidance

The licensee proposed revisions to TS Table 4.8-1 that revises the diesel generator accelerated testing schedule. A proposed revision requires testing an EDG every 7 days if the number of failures in the last 25 valid tests is greater than or equal to 4. If the number of failures is equal to or less than 3 in the last 25 valid tests, an EDG is to be tested every 31 days.

The staff is currently performing a generic review involving the issue of accelerated testing of EDGs and the related specific staff guidance has not been finalized. Therefore, the staff is unable to complete its review of this issue at this time.

Deletion of 600 Volt Load Centers J and H as Listed in TS Section 3/4.8.2

By letter dated December 30, 1982, the licensee requested that the requirements associated with the river water system be deleted from the Farley TS. This request was approved by the NRC staff by License Amendments 45 and 36, for Units 1 and 2, respectively. The justification for removing 600 volt load centers J and H from the TS was provided in the Safety Evaluations for these license amendments. However, references to the 600 volt load centers J and H, which supply power to the river water pump auxiliaries, were not deleted from TS Section 3.8.2.1. Therefore, the proposed deletions provide corrections and are administrative changes. Thus, the staff finds them acceptable.

Revision of the Requirements of TS Section 6.9.1.12 for the Annual Emergency Diesel Generator Reliability Report

The licensee proposed revisions to TS Section 6.9.1.12. These revisions revise the information that should be contained in the Emergency Diesel Generator Reliability Report that is submitted annually to the NRC. The proposed revisions change the content of this annual report to include the calculated unit reliability as required by the SBO rule.

The staff is currently performing a generic review related to the special reporting requirements of EDGs and the related specific staff guidance has not been finalized. Therefore, the staff is unable to complete its review of this issue at this time.

SUMMARY

The proposed revisions to the Farley electrical power system TS resulted from licensee's resolutions to the SBO rule. These resolutions have been previously reviewed and approved by the NRC staff. Regarding the proposed revisions to TS Table 4.8-1 and the proposed revisions to TS Section 6.9.1.12, the staff is currently performing a generic review and related staff guidance has not been finalized at this time.

With the exception of the above two issues, we conclude that the proposed revisions will not significantly increase the probability or consequences of any accident previously evaluated, create the possibility of a new or different kind of accident from any accident previously evaluated, or involve a significant reduction in the margin of safety. Thus, these proposed revisions for the Farley TS are 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 amendment. The State official had no comments.

## 4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes the Surveillance Requirements. The NRC staff has determined that the amendment involves 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 amendment involves no significant hazards consideration, and there has been no public comment on such finding (58 FR 39060). Accordingly, the amendment meets 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 amendment.

## 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: D. Nguyen
F. Ashe

Date: September 22, 1993