

February 1, 1993

Docket Nos. 50-369  
and 50-370

Distribution  
See next page

Mr. T. C. McMeekin  
Vice President, McGuire Site  
Duke Power Company  
12700 Hagers Ferry Road  
Huntersville, North Carolina 28078-8985

Dear Mr. McMeekin:

SUBJECT: ISSUANCE OF AMENDMENTS - MCGUIRE NUCLEAR STATION, UNITS 1 AND 2  
(TAC NOS. M72213 AND M72214)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 135 to Facility Operating License NPF-9 and Amendment No. 117 to Facility Operating License NPF-17 for the McGuire Nuclear Station, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated February 10, 1989, as supplemented April 30, November 16, and December 10, 1992.

The amendments revise certain 18-month emergency diesel generator surveillance requirements governed by TS 4.8.1.1.2.e.

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

Sincerely,

/s/

Timothy A. Reed, Project Manager  
Project Directorate II-3  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No.135 to NPF-9
2. Amendment No.117 to NPF-17
3. Safety Evaluation

cc w/enclosures:  
See next page

FILE NAME: G:\MCGUIRE\MCG72213.AMD

OFC	: PDI 3/LA	: PDI AB/PM	: OTSB/BC	: OGC	: PDI 3/0
NAME	: LBERRY	: TREED:cw	: CGRIMES	:	: DMATTHEWS
DATE	: 1/5/93	: 1/11/93	: 1/14/93	: 1/26/93	: 2/1/93

Per EBT

CP-1

AFOL  
1/11



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555

February 1, 1993

Docket Nos. 50-369  
and 50-370

Mr. T. C. McMeekin  
Vice President, McGuire Site  
Duke Power Company  
12700 Hagers Ferry Road  
Huntersville, North Carolina 28078-8985

Dear Mr. McMeekin:

SUBJECT: ISSUANCE OF AMENDMENTS - MCGUIRE NUCLEAR STATION, UNITS 1 AND 2  
(TAC NOS. M72213 AND M72214)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 135 to Facility Operating License NPF-9 and Amendment No. 117 to Facility Operating License NPF-17 for the McGuire Nuclear Station, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated February 10, 1989, as supplemented April 30, November 16, and December 10, 1992.

The amendments revise certain 18-month emergency diesel generator surveillance requirements governed by TS 4.8.1.1.2.e.

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

Sincerely,

A handwritten signature in black ink, appearing to read "T. A. Reed".

Timothy A. Reed, Project Manager  
Project Directorate II-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 135 to NPF-9
2. Amendment No. 117 to NPF-17
3. Safety Evaluation

cc w/enclosures:  
See next page

Mr. T. C. McMeekin  
Duke Power Company

McGuire Nuclear Station

cc:

Mr. A. V. Carr, Esquire  
Duke Power Company  
422 South Church Street  
Charlotte, North Carolina 28242-0001

County Manager of Mecklenberg County  
720 East Fourth Street  
Charlotte, North Carolina 28202

Mr. R. O. Sharpe  
Compliance  
Duke Power Company  
McGuire Nuclear Site  
12700 Hagers Ferry Road  
Huntersville, NC 28078-8985

J. Michael McGarry, III, Esquire  
Winston and Strawn  
1400 L Street, NW.  
Washington, DC 20005

Senior Resident Inspector  
c/o U. S. Nuclear Regulatory  
Commission  
12700 Hagers Ferry Road  
Huntersville, North Carolina 28078

Mr. T. Richard Puryear  
Nuclear Technical Services  
Manager  
Carolinas District  
Westinghouse Electric Corporation  
P. O. Box 32817  
Charlotte, North Carolina 28232

Dr. John M. Barry  
Mecklenburg County  
Department of Environmental  
Protection  
700 N. Tryon Street  
Charlotte, North Carolina 28202

Mr. Dayne H. Brown, Director  
Department of Environmental,  
Health and Natural Resources  
Division of Radiation Protection  
P. O. Box 27687  
Raleigh, North Carolina 27611-7687

Mr. Alan R. Herdt, Chief  
Project Branch #3  
U. S. Nuclear Regulatory Commission  
101 Marietta Street, NW. Suite 2900  
Atlanta, Georgia 30323

Ms. Karen E. Long  
Assistant Attorney General  
North Carolina Department of  
Justice  
P. O. Box 629  
Raleigh, North Carolina 27602

Mr. G. A. Copp  
Licensing - EC050  
Duke Power Company  
P. O. Box 1006  
Charlotte, North Carolina 28201-1006

Regional Administrator, Region II  
U.S. Nuclear Regulatory Commission  
101 Marietta Street, NW. Suite 2900  
Atlanta, Georgia 30323

DATED: February 1, 1993

AMENDMENT NO. 135 TO FACILITY OPERATING LICENSE NPF-9 - McGuire Nuclear Station, Unit 1

AMENDMENT NO. 117 TO FACILITY OPERATING LICENSE NPF-17 - McGuire Nuclear Station, Unit 2

DISTRIBUTION:

**[REDACTED]**  
NRC & Local PDRs

PD II-3 R/F

McGuire R/F

S. Varga 14-E-4

G. Lainas 14-H-3

D. Matthews 14-H-25

L. Berry 14-H-25

T. Reed 14-H-25

OGC-WF 15-B-18

D. Hagan MNBB 4702

G. Hill (4) P1-22

W. Jones MNBB 7103

C. Grimes 11-F-23

E. Tomlinson

ACRS (10) P-135

PA 2-G-5

OC/LFMB MNBB 4702

E. Merschoff RII

090032



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

DUKE POWER COMPANY

DOCKET NO. 50-369

McGUIRE NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 135  
License No. NPF-9

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment to the McGuire Nuclear Station, Unit 1 (the facility), Facility Operating License No. NPF-9 filed by the Duke Power Company (licensee) dated February 10, 1989, as supplemented April 30, November 16, and December 10, 1992, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as 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 set forth in 10 CFR Chapter I;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is hereby amended by page 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-9 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 135, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION



David B. Matthews, Director  
Project Directorate II-3  
Division of Reactor Projects-I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Technical Specification  
Changes

Date of Issuance: February 1, 1993



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

DUKE POWER COMPANY

DOCKET NO. 50-370

McGUIRE NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 117  
License No. NPF-17

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment to the McGuire Nuclear Station, Unit 1 (the facility), Facility Operating License No. NPF-17 filed by the Duke Power Company (licensee) dated February 10, 1989, as supplemented April 30, November 16, and December 10, 1992, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as 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 set forth in 10 CFR Chapter I;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is hereby amended by page 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-17 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 117, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION



David B. Matthews, Director  
Project Directorate II-3  
Division of Reactor Projects-I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Technical Specification  
Changes

Date of Issuance: February 1, 1993



ATTACHMENT TO LICENSE AMENDMENT NO. 135

FACILITY OPERATING LICENSE NO. NPF-9

DOCKET NO. 50-369

AND

TO LICENSE AMENDMENT NO. 117

FACILITY OPERATING LICENSE NO. NPF-17

DOCKET NO. 50-370

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

Remove Pages

3/4 8-4

3/4 8-5

3/4 8-6

3/4 8-7

----

Insert Pages

3/4 8-4

3/4 8-5

3/4 8-6

3/4 8-7

B 3/4 8-1a

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

---

- b) A kinematic viscosity at 40°C of greater than or equal to 1.9 centistokes, but less than or equal to 4.1 centistokes (alternatively, Saybolt viscosity, SUS at 100°F of greater than or equal to 32.6, but less than or equal to 40.1), if gravity was not determined by comparison with the supplier's certification.
  - c) A flash point equal to or greater than 125°F, and
  - d) A clear and bright appearance with proper color when tested in accordance with ASTM D4176-82.
- 2) By verifying within 31 days of obtaining the sample that the other properties specified in Table 1 of ASTM D975-81 are met when tested in accordance with ASTM D975-81 except that the analysis for sulfur may be performed in accordance with ASTM D1552-79 or ASTM D2622-82.
- d. At least once every 31 days by obtaining a sample of fuel oil from the storage tanks in accordance with ASTM D2276-78, and verifying that total particulate contamination is less than 10 mg/liter when checked in accordance with ASTM D2276-78, Method A.
  - e. At least once per 18 months, by:
    - 1) Subjecting the diesel to an inspection, during shutdown, in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service;
    - 2) Verifying, during shutdown, the generator capability to reject a load of greater than or equal to 576 kW while maintaining voltage at  $4160 \pm 420$  volts and frequency at  $60 \pm 1.2$  Hz;
    - 3) Verifying, during shutdown, the generator capability to reject a load of 4000 kW without tripping. The generator voltage shall not exceed 4784 volts during and following the load rejection;
    - 4) Simulating a loss-of-offsite power by itself, during shutdown, and:
      - a) Verifying deenergization of the emergency busses and load shedding from the emergency busses, and
      - b) Verifying the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 11 seconds, energizes the auto-connected blackout loads through the load sequencer and operates for greater than or equal to 5 minutes while the generator is loaded with the blackout loads. After energization, 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.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

---

- 5) Verifying that on an ESF 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 at least 4160 volts and 57 Hz within 11 seconds after the auto-start signal; the steady-state generator voltage and frequency shall be maintained within  $4160 \pm 420$  volts and  $60 \pm 1.2$  Hz during this test;
- 6) Simulating a loss-of-offsite power in conjunction with an ESF actuation test signal, and
  - a) Verifying, during shutdown, deenergization of the emergency busses and load shedding from the emergency busses;
  - b) Verifying, during shutdown, the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 11 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  $4160 \pm 420$  volts and  $60 \pm 1.2$  Hz during this test; and
  - c) Verifying, during shutdown,\* that all automatic diesel generator trips, except engine overspeed, lube oil pressure, and generator differential are automatically bypassed upon loss of voltage on the emergency bus concurrent with a Safety Injection Actuation signal. Additionally, all diesel generator breaker trips, except generator time overcurrent, are verified to be automatically bypassed upon concurrent loss of voltage on the emergency bus and a Safety Injection Actuation signal.
- 7) [Deleted, Left Blank]
- 8) Verifying, during shutdown, the diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded between 4200 kW and 4400 kW\*\* and during the remaining 22 hours of this test, the diesel generator shall be loaded between 3800 kW and 4000 kW.\*\* The generator voltage and frequency shall be at least 4160 volts and 57 Hz within 11 seconds after the start signal. The steady-state generator voltage and frequency shall be maintained within  $4160 \pm 420$  volts and  $60 \pm 1.2$  Hz during this test. Within 5 minutes of shutting down the diesel generator, restart the diesel generator and verify that the generator voltage and frequency reaches at least 4160 volts and 57 Hz within 11 seconds.\*\*\*

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

- 9) Verifying that the auto-connected loads to each diesel generator do not exceed the 2-hour rating of 4400 kW;
- 10) Verifying, during shutdown, 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.
- 11) Verifying, during shutdown, that with the diesel generator operating in a test mode, connected to its bus, a simulated Safety Injection signal overrides the test mode by: (1) returning the diesel generator to standby operation, and (2) automatically energizing the emergency loads with offsite power;
- 12) Verifying that the fuel transfer pump transfers fuel from each fuel storage tank to the day tank of each diesel via the installed cross-connection lines;
- 13) Verifying that the automatic load sequence timer is OPERABLE with the interval between each load block are within the tolerances shown in Table 4.8-2;
- 14) Verifying, during shutdown,\* that the following diesel generator lockout features prevent diesel generator starting only when required:
  - a) Turning gear engaged, or
  - b) Emergency stop.
- 15) Verifying, during shutdown, that with all diesel generator air start receivers pressurized to less than or equal to 220 psig and the compressors secured, the diesel generator starts at least 2 times from ambient conditions and accelerates to at least 488 rpm in less than or equal to 11 seconds.

\*This Surveillance Requirement may be performed in conjunction with periodic preplanned preventative maintenance activity that causes the diesel generator to be inoperable provided that performance of the surveillance requirement does not increase the time the diesel generator would be inoperable for the PM activity alone.

\*\*Diesel generator loadings for the purpose of this surveillance may be in accordance with vendor recommendations. The purpose of the load range is to prevent overloading the engine and momentary excursions outside of the range shall not invalidate the test.

\*\*\*If there is a test failure during the 24-hour test run, the hot restart test can be performed prior to completing the 24-hour test provided the diesel generator had operated for at least 2 hours loaded between 3800 and 4000 kW.\*\*

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

---

- f. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting both diesel generators simultaneously, during shutdown, and verifying that both diesel generators accelerate to at least 488 rpm in less than or equal to 11 seconds; and
- g. At least once per 10 years by:
  - 1) Draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite solution, and
  - 2) Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND of the ASME Code at a test pressure equal to 110% of the system design pressure.

4.8.1.1.3 Reports - All diesel generator failures, valid or non-valid, shall be reported to the Commission pursuant to Specification 6.9.2 within 30 days. Reports of diesel generator failures shall include the information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977. If the number of failures in the last 100 valid tests (on a per nuclear unit basis) is greater than or equal to 7, the report shall be supplemented to include the additional information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977.

4.8.1.1.4 Diesel Generator Batteries - Each diesel generator 125-volt battery bank and charger shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying that:
  - 1) The electrolyte level of each battery is above the plates, and
  - 2) The overall battery voltage is greater than or equal to 125 volts under a float charge.
- b. At least once per 18 months by verifying that:
  - 1) The batteries, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration;
  - 2) The battery-to-battery and terminal connections are clear, tight, free of corrosion and coated with anti-corrosion material; and
  - 3) The battery capacity is adequate to supply and maintain in OPERABLE status its emergency loads when subjected to a battery service test.

## ELECTRICAL POWER SYSTEMS

### BASES

---

Some of the Surveillance Requirements for demonstrating the operability of the diesel generators are modified by a footnote. The Specifications state the Surveillance Requirements are to be performed during shutdown, with the unit in mode 3 or higher. The footnote allows the particular surveillance to be performed during preplanned Preventative Maintenance (PM) activities that would result in the diesel generator being inoperable. The surveillance can be performed at that time as long as it does not increase the time the diesel generator is inoperable for the PM activity that is being performed. The footnote is only applicable at that time. The provision of the footnote shall not be utilized for operational convenience.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 135 TO FACILITY OPERATING LICENSE NPF-9  
AND AMENDMENT NO. 117 TO FACILITY OPERATING LICENSE NPF-17

DUKE POWER COMPANY

MCGUIRE NUCLEAR STATION, UNITS 1 AND 2

DOCKET NOS. 50-369 AND 50-370

1.0 INTRODUCTION

By letter dated February 10, 1989, as supplemented April 30, November 16, and December 10, 1992, Duke Power Company (the licensee), submitted proposed changes to the McGuire Nuclear Station, Units 1 and 2 Technical Specifications (TS). The TS changes proposed by the licensee involve changes to the 18-month emergency diesel generator (DG) surveillance requirements and are to provide greater flexibility regarding the scheduling and performance of the subject DG surveillance tests.

The April 30, November 16, and December 10, 1992, letters provided clarifying information and corrections which were not outside the scope of the original Federal Register notice and did not change the initial proposed no significant hazards consideration determination. The changes proposed by the licensee are evaluated below.

2.0 EVALUATION

The proposed TS change involves Surveillance Requirement (SR) 4.8.1.1.2.e, which includes 15 individual SRs, 4.8.1.1.2.e.1 through 4.8.1.1.2.e.15. SR 4.8.1.1.2.e includes the term "during shutdown." This restriction is imposed on all 15 individual surveillances and requires that the unit be in shutdown before any of the SRs can be performed. This mode restriction creates scheduling problems which the licensee proposes to ease with the proposed TS changes. The following is the staff evaluation of the proposed changes to the individual SRs. The evaluation is keyed to the individual SR numbers.

SR 4.8.1.1.2.e

The licensee proposes to delete the term "during shutdown" from this SR. The staff finds this acceptable because the term and the associated mode restriction are selectively included in the subsequent SRs, as applicable.

SR 4.8.1.1.2.e.1, 4.8.1.1.2.e.2, 4.8.1.1.2.e.3, 4.8.1.1.2.e.4  
4.8.1.1.2.e.6 (a), 4.8.1.1.2.e.6 (b), 4.8.1.1.2.e.10, 4.8.1.1.2.e.11, and  
4.8.1.1.2.e.15

The term "during shutdown" is included in these SRs. The staff finds this acceptable because performance of the SRs is still limited to when the unit is in shutdown. For these SRs, there is effectively no change.

SR 4.8.1.1.2.e.5

The shutdown mode restriction is deleted from this SR. The staff finds this acceptable because starting a DG using an engineered safety feature (ESF) signal is an acceptable method for the monthly SR, which is required to be performed with the unit at power. Therefore, inclusion of a shutdown restriction is contradictory. In addition, the design of the DG control systems at McGuire is such that starting the DG on an ESF signal in no way compromises the capability of the DG to fully respond to an actual design basis event.

SR 4.8.1.1.2.e.6)c)

The term "during shutdown" is added to this SR. The staff finds this acceptable because performance of the SR is still limited to when the unit is in shutdown. However, a footnote is added to this SR which allows the SR to be performed with the unit at power, if it is done in conjunction with a periodic preplanned preventive maintenance activity. The footnote includes a restriction that performance of the SR can not increase the time the DG would be inoperable for the preventive maintenance activity alone.

It is the staff's view that preventive maintenance can increase DG reliability and that the increase in reliability more than offsets the limited risk of having a DG inoperable to perform the maintenance. If this SR were to be performed in parallel with the scheduled maintenance activity, and not increase the total inoperability time or associated risk, the staff finds no reason why it couldn't be done. Additionally, performance of this SR in conjunction with a preventive maintenance activity would result in a net increase in DG availability. Therefore, the staff finds the proposed footnote to be acceptable. Implicit in the staff's finding is that the licensee has knowledge of how long the maintenance activity should take and will make the appropriate provisions to ensure that conducting the SR in parallel will not increase this time.

SR 4.8.1.1.2.e.7

The licensee proposes to delete the loss-of-offsite power ESF actuation (LOOP/LOCA) test portion of this SR entirely and to relocate the hot restart portion of the SR to SR 4.8.1.1.2.e.8. Elimination of the LOOP/LOCA test is consistent with what the staff has allowed for other licensees and what has been approved for the Technical Specification Improvement Program (TSIP). The staff has concluded that the primary purpose of this SR is to demonstrate the ability of the DG to restart shortly after being shutdown following prolonged operation at or near full power (hot restart). Requiring a LOOP/LOCA test in



conjunction with a hot restart imposes a strain on multiple systems/components without measurable benefit and should be eliminated. Therefore, the licensee's proposal to delete the LOOP/LOCA test from this SR is acceptable. Relocation of the hot restart test to SR 3.8.1.1.2.e.8 is acceptable for the reasons provided in the staff evaluation for that SR.

With the deletion of the LOOP/LOCA test from this SR, and the relocation of the hot restart to another SR, this SR is deleted. The staff finds this acceptable.

#### SR 4.8.1.1.2.e.8

The term "during shutdown" is added to this SR. The staff finds this acceptable because performance of the SR is still limited to when the unit is in shutdown. Effectively, there is no change with respect to when the SR is to be performed. However, the term "to greater than or equal to" as it applies to DG load has been deleted in two places. A footnote is added which, in part, states a load range for the two parts of this SR. The load range is intended to preclude overloading of the DG with the resultant DG degradation. It is the staff's view that a DG that operates at greater than 90% of rated capacity with no abnormal indications provides more than adequate indication that the DG can produce 100% of its rating. The proposed load ranges are 95-100% of rating and are, therefore, acceptable. The proposed footnote also includes a statement to the effect that momentary excursions outside the load range do not invalidate the test. The staff recognizes that the load on a DG can increase or decrease as a function of grid voltage, which is beyond the control of the DG operator. In the staff's view, these load variations are acceptable for short periods of time provided the operator takes action to restore the load to within the range. This second part of the footnote is, therefore, acceptable.

In addition to the above, this SR is also modified by adding the requirement to conduct a hot restart of the DG within 5 minutes of completing the 24-hour DG endurance run. Performance of this test at the conclusion of the 24-hour run is appropriate because the DG will be as hot as it will get in normal operation. Therefore, the staff concludes that the addition of the hot restart test to this SR is acceptable.

This SR is further modified by a footnote that allows the hot restart test to be performed prior to completing the 24-hour run provided the DG has operated for at least 2 hours at or near full load. This footnote is included to address the possibility of a test failure during the 24-hour run. It precludes excessive testing of a DG simply to achieve operating temperature. Operation at load for at least 2 hours will achieve an acceptable temperature for conducting the hot restart test. The staff concludes, therefore, that the footnote to this SR is acceptable.

#### SR 4.8.1.1.2.e.9

The licensee proposes to delete the mode restriction from this SR. The staff finds this acceptable because the SR involves only a calculation and as a result has no direct impact on unit operation or safety.

SR 4.8.1.1.2.e.12

The licensee proposes to delete Mode restrictions from this SR. The SR involves manual realignment of the day tanks to the fuel oil storage tanks to demonstrate that each day tank can be supplied from each storage tank. The SR does not involve any DG starts or require the DG to be rendered inoperable, and during the test the day tanks remain full. Based on this, the staff concludes that deleting the Mode restriction from this SR is acceptable. The staff acceptance is predicated on the licensee implementing appropriate QA procedures to ensure the DG fuel system is realigned for proper automatic operation following performance of the SR.

SR 4.8.1.1.2.e.13

The licensee proposes to delete Mode restrictions from this SR. The rationale provided by the licensee in support of this deletion is that the DG systems at McGuire Units 1 and 2 are designed for this type of on-line testing. The DG remains fully functional during the test, and any valid actuation signal (LOOP or LOCA) received would override the test mode enabling the DG to carry out its intended function. Any valid actuation signal would also reset the sequencer. The staff has conducted an extensive review of the design of the sequencer circuits, including the applicable schematic diagrams. As a result of this review, the staff agrees that this SR can be conducted safely with the associated unit at power. The staff concludes, therefore, that the licensee's proposal to delete mode restrictions from this SR is acceptable.

SR 4.8.1.1.2.e.14

The term "during shutdown" is added to this SR. The staff finds this acceptable because performance of the SR is still limited to when the unit is in shutdown. However, a footnote is added to this SR which allows the SR to be performed with the unit at power if it is done in conjunction with a periodic preplanned maintenance activity. The footnote includes a restriction that performance of the SR can not increase the time the DG would be inoperable for the preventive maintenance activity alone.

It is the staff's view that preventive maintenance can increase DG reliability and that the increase in reliability more than offsets the limited risk of having the DG inoperable to perform the maintenance. If this SR were to be performed in parallel with the scheduled maintenance activity, and not increase the total inoperability time or associated risk, the staff finds no reason why it could not be done. Additionally, performance of this SR in conjunction with a preventive maintenance activity would result in a net increase in DG availability. Therefore, the staff finds the proposed footnote to be acceptable. Implicit in the staff's finding is that the licensee has knowledge of how long the maintenance activity should take and will make the appropriate provisions to ensure that conducting the SR in parallel will not increase this time.

### Bases

The licensee has added a Bases discussion of the proposed footnote to allow SR 4.8.1.1.2.e.6)c) and SR 4.8.1.1.2.e.14 to be conducted in conjunction with DG outages for preplanned preventive maintenance instead of being performed with the unit shut down. The discussion emphasizes that the footnote is only applicable during preplanned maintenance periods, that performance of the SR should not increase the time the DG would be inoperable, and that the footnote shall not be utilized for operational convenience. The staff agrees with the proposed Bases addition. It is, therefore, acceptable.

The staff concludes that the TS changes to DG surveillance as proposed by the licensee, including the proposed footnotes and Bases discussions, are acceptable.

### 3.0 STATE CONSULTATION

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

### 4.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change 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 (54 FR 9583 dated March 7, 1989). 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: Ed Tomlinson

Date: February 1, 1993