

February 7, 1997

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Mr. H. B. Barron
 Vice President, McGuire Site
 Duke Power Company
 12700 Hagers Ferry Road
 Huntersville, NC 28078-8985

SUBJECT: ISSUANCE OF AMENDMENTS - McGUIRE NUCLEAR STATION, UNITS 1 AND 2
 (TAC NOS. M97319 AND M97320)

Dear Mr. Barron:

The Nuclear Regulatory Commission has issued the enclosed Amendment No.172 to Facility Operating License NPF-9 and Amendment No.154 to Facility Operating License NPF-17 for the McGuire Nuclear Station, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated November 26, 1996, as supplemented December 17, 1996.

The amendments revise TS 3.8.2.1 to allow a one-time change to replace the existing 125-volt AT&T high specific gravity round cell battery banks with the conventional low specific gravity cell battery banks.

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,

Original signed by:

Victor Nerses, Senior Project Manager
 Project Directorate II-2
 Division of Reactor Projects - I/II
 Office of Nuclear Reactor Regulation

Docket Nos. 50-369 and 50-370

- Enclosures: 1. Amendment No. 172 to NPF-9
 2. Amendment No. 154 to NPF-17
 3. Safety Evaluation

cc w/encl: See next page

DOCUMENT NAME: G:\MCGUIRE\97319.AMD

OFFICE	PDII-2/PM	PDII-2/IA	EELB:BC	OGC	PDII-2/D
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DATE	1/22/97	1/20/97	1/28/97	1/30/97	2/6/97
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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

February 7, 1997

Mr. H. B. Barron
Vice President, McGuire Site
Duke Power Company
12700 Hagers Ferry Road
Huntersville, NC 28078-8985

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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 cursive script that reads "Victor Nerses".

Victor Nerses, Senior Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-369 and 50-370

Enclosures: 1. Amendment No. 172 to NPF-9
2. Amendment No. 154 to NPF-17
3. Safety Evaluation

cc w/encl: See next page

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

DUKE POWER COMPANY

DOCKET NO. 50-369

McGUIRE NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 172
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 November 26, 1996, as supplemented December 17, 1996, 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.

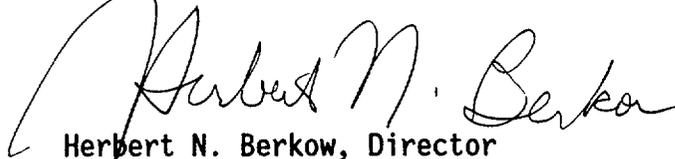
2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-9 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 172, are hereby incorporated into this license. The licensee 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 from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment: Technical Specification
Changes

Date of Issuance: February 7, 1997

ATTACHMENT TO LICENSE AMENDMENT NO. 172

FACILITY OPERATING LICENSE NO. NPF-9

DOCKET NO. 50-369

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.

<u>Remove</u>	<u>Insert</u>
3/4 8-12	3/4 8-12
3/4 8-14	3/4 8-14
3/4 8-15	3/4 8-15
3/4 8-16	3/4 8-16

ELECTRICAL POWER SYSTEM.

3/4.8.2 D.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 The following D.C. channels shall be OPERABLE and energized:

- a. Channel 1 consisting of 125-Volt D.C. Bus No. EVDA, 125-Volt D.C. Battery Bank No. EVCA and a full-capacity charger,*#
- b. Channel 2 consisting of 125-Volt D.C. Bus No. EVDB, 125-Volt D.C. Battery Bank No. EVCB and a full-capacity charger,*#
- c. Channel 3 consisting of 125-Volt D.C. Bus No. EVDC, 125-Volt D.C. Battery Bank No. EVCC and a full-capacity charger,*# and
- d. Channel 4 consisting of 125-Volt D.C. Bus No. EVDD, 125-Volt D.C. Battery Bank No. EVCD and a full-capacity charger,*#

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION: (Units 1 and 2)

- a. With one 125-volt D.C. bus inoperable or not energized, restore the inoperable bus to OPERABLE and energized status within 2 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 125-volt D.C. battery and/or its normal and standby chargers inoperable or not energized, either:
 1. Restore the inoperable battery and/or charger to OPERABLE and energized status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours, or
 2. Energize the associated bus with an OPERABLE battery bank via OPERABLE tie breakers within 2 hours; operation may then continue for up to 72 hours from time of initial loss of OPERABILITY, otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

*A vital bus may be disconnected from its D.C. source for up to 24 hours for the purpose of performing an equalizing charge on its associated battery bank provided the vital busses associated with the other battery banks are OPERABLE and energized.

During periods of battery bank replacement only, the affected channel may be considered OPERABLE for up to 30 days provided a full capacity temporary battery is configured to a full capacity charger and connected to the respective bus. All limiting conditions for operation, action statements, and surveillance requirements pertaining to the permanent batteries shall be maintained for the temporary battery during periods of battery bank replacement. This battery replacement option is only applicable once per battery bank.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- d. At least once per 18 months by verifying that the battery capacity is adequate to either:
 - 1) Supply and maintain in OPERABLE status all of the actual emergency loads for 1 hour when the battery is subjected to a battery service test, or
 - 2) Supply a dummy load of greater than or equal to 440 amperes for 60 minutes while maintaining the battery terminal voltage greater than or equal to 105 volts.

- e. At least once per 60 months by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test. Once per 60-month interval, this performance discharge test may be performed in lieu of the battery discharge test required by Specification 4.8.2.1.2d.

- f. Annual performance discharge tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 80% of the manufacturer's rating.

TABLE 4.8-3

BATTERY SURVEILLANCE REQUIREMENTS (Low Specific Gravity Cells)

	Category A (1)	Category B (2)	
PARAMETER	LIMITS FOR EACH DESIGNATED PILOT CELL	LIMITS FOR EACH CONNECTED CELL	ALLOWABLE (3) VALUE FOR EACH CONNECTED CELL
Electrolyte Level	> Minimum level indication mark, and $\leq \frac{1}{4}$ " above maximum level indication mark	> Minimum level indication mark, and $\leq \frac{1}{4}$ " above maximum level indication mark	Above top of plates, and not overflowing
Float Voltage	≥ 2.13 volts	≥ 2.13 volts (c)	> 2.07 volts
Specific Gravity (a)	≥ 1.200 (b)	≥ 1.195 Average of all connected cells > 1.205	Not more than .020 below the average of all connected cells or ≥ 1.195 Average of all connected cells ≥ 1.195 (b)

- (a) Corrected for electrolyte temperature and level.
- (b) Or battery charging current is less than 2 amps when on charge.
- (c) Corrected for average electrolyte temperature.
- (1) For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours all the Category B measurements are taken and found to be within their allowable values, and provided all Category B parameter(s) are restored to within limits within the next 6 days.
- (2) For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category B parameters are within their allowable values and provided the Category B parameter(s) are restored to within limits within 7 days.
- (3) Any Category B parameter not within its allowable value indicates an inoperable battery.

TABLE 4.8-3 (Continued)

BATTERY SURVEILLANCE REQUIREMENTS (High Specific Gravity Cells)

	Category A (1)	Category B(2)	Category C(3)	
Parameter	Limits for each designated pilot cell	Limits for each connected cell	Allowable value for each connected cell	
Electrolyte Level	≥ Minimum level indication mark, and ≤ 1/4" above maximum level indication mark	≥ Minimum level indication mark, and ≤ 1/4" above maximum level indication mark	Above top of plates, and not overflowing	
Float Voltage	≥ 2.20 Volts	≥ 2.17 Volts (4)	> 2.14 Volts	
Specific (5) Gravity	≥ 1.285 (6)	C E L L	≥ 1.280	Not more than 0.020 below the average of all connected cells or ≥ 1.280
		B A T T E R Y	Average of all connected cells > 1.285 (7)	Average of all connected cells ≥ 1.280 (6)(7)

- (1) For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours, all the Category C measurements are taken and found to be within their allowable values. All Category B parameter(s) must be within limits in the next 6 days.
- (2) For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category C parameters are within their allowable values and provided the Category B parameter(s) are restored to within limits within 7 days.
- (3) Any Category C parameter not within its allowable value indicates an INOPERABLE battery.
- (4) Corrected for average electrolyte temperature.
- (5) Corrected for electrolyte temperature and level.
- (6) Or battery charging current is less than 2 amps when on float charge.
- (7) With no more than 5 cells at the minimum limits.



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

DUKE POWER COMPANY

DOCKET NO. 50-370

McGUIRE NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 154
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 2 (the facility), Facility Operating License No. NPF-17 filed by the Duke Power Company (licensee) dated November 26, 1996, as supplemented December 17, 1996, 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.

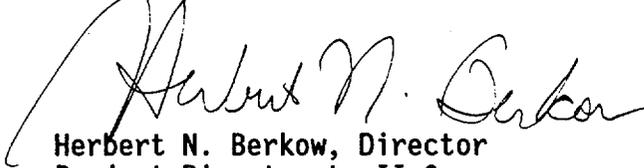
2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-17 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 154, are hereby incorporated into this license. The licensee 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 from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment: Technical Specification
Changes

Date of Issuance: February 7, 1997

ATTACHMENT TO LICENSE AMENDMENT NO. 154

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

3/4 8-12

3/4 8-14

3/4 8-15

3/4 8-16

Insert

3/4 8-12

3/4 8-14

3/4 8-15

3/4 8-16

ELECTRICAL POWER SYSTEM

3/4.8.2 D.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 The following D.C. channels shall be OPERABLE and energized:

- a. Channel 1 consisting of 125-Volt D.C. Bus No. EVDA, 125-Volt D.C. Battery Bank No. EVCA and a full-capacity charger,*#
- b. Channel 2 consisting of 125-Volt D.C. Bus No. EVDB, 125-Volt D.C. Battery Bank No. EVCB and a full-capacity charger,*#
- c. Channel 3 consisting of 125-Volt D.C. Bus No. EVDC, 125-Volt D.C. Battery Bank No. EVCC and a full-capacity charger,*# and
- d. Channel 4 consisting of 125-Volt D.C. Bus No. EVDD, 125-Volt D.C. Battery Bank No. EVCD and a full-capacity charger,*#

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION: (Units 1 and 2)

- a. With one 125-volt D.C. bus inoperable or not energized, restore the inoperable bus to OPERABLE and energized status within 2 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 125-volt D.C. battery and/or its normal and standby chargers inoperable or not energized, either:
 1. Restore the inoperable battery and/or charger to OPERABLE and energized status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours, or
 2. Energize the associated bus with an OPERABLE battery bank via OPERABLE tie breakers within 2 hours; operation may then continue for up to 72 hours from time of initial loss of OPERABILITY, otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

*A vital bus may be disconnected from its D.C. source for up to 24 hours for the purpose of performing an equalizing charge on its associated battery bank provided the vital busses associated with the other battery banks are OPERABLE and energized.

During periods of battery bank replacement only; the affected channel may be considered OPERABLE for up to 30 days provided a full capacity temporary battery is configured to a full capacity charger and connected to the respective bus. All limiting conditions for operation, action statements, and surveillance requirements pertaining to the permanent batteries shall be maintained for the temporary battery during periods of battery bank replacement. This battery replacement option is only applicable once per battery bank.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- d. At least once per 18 months by verifying that the battery capacity is adequate to either:
 - 1) Supply and maintain in OPERABLE status all of the actual emergency loads for 1 hour when the battery is subjected to a battery service test, or
 - 2) Supply a dummy load of greater than or equal to 440 amperes for 60 minutes while maintaining the battery terminal voltage greater than or equal to 105 volts.

- e. At least once per 60 months by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test. Once per 60-month interval, this performance discharge test may be performed in lieu of the battery discharge test required by Specification 4.8.2.1.2d.

- f. Annual performance discharge tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 80% of the manufacturer's rating.

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Float Voltage	≥ 2.13 volts	≥ 2.13 volts (c)	> 2.07 volts
Specific Gravity (a)	≥ 1.200 (b)	≥ 1.195 Average of all connected cells > 1.205	Not more than .020 below the average of all connected cells or ≥ 1.195 Average of all connected cells ≥ 1.195 (b)

- (a) Corrected for electrolyte temperature and level.
 (b) Or battery charging current is less than 2 amps when on charge.
 (c) Corrected for average electrolyte temperature.
 (1) For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours all the Category B measurements are taken and found to be within their allowable values, and provided all Category B parameter(s) are restored to within limits within the next 6 days.
 (2) For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category B parameters are within their allowable values and provided the Category B parameter(s) are restored to within limits within 7 days.
 (3) Any Category B parameter not within its allowable value indicates an inoperable battery.

TABLE 4.8-3 (Continued)

BATTERY SURVEILLANCE REQUIREMENTS (High Specific Gravity Cells)

	Category A (1)	Category B(2)	Category C(3)
Parameter	Limits for each designated pilot cell	Limits for each connected cell	Allowable value for each connected cell
Electrolyte Level	≥ Minimum level indication mark, and ≤ 1/4" above maximum level indication mark	≥ Minimum level indication mark, and ≤ 1/4" above maximum level indication mark	Above top of plates, and not overflowing
Float Voltage	≥ 2.20 Volts	≥ 2.17 Volts (4)	> 2.14 Volts
Specific (5) Gravity	≥ 1.285 (6)	C E L L	Not more than 0.020 below the average of all connected cells or ≥ 1.280
		B A T T E R Y	Average of all connected cells > 1.285 (7) Average of all connected cells ≥ 1.280 (6)(7)

- (1) For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours, all the Category C measurements are taken and found to be within their allowable values. All Category B parameter(s) must be within limits in the next 6 days.
- (2) For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category C parameters are within their allowable values and provided the Category B parameter(s) are restored to within limits within 7 days.
- (3) Any Category C parameter not within its allowable value indicates an INOPERABLE battery.
- (4) Corrected for average electrolyte temperature.
- (5) Corrected for electrolyte temperature and level.
- (6) Or battery charging current is less than 2 amps when on float charge.
- (7) With no more than 5 cells at the minimum limits.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 172 TO FACILITY OPERATING LICENSE NPF-9
AND AMENDMENT NO. 154 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 November 26, 1996, as supplemented December 17, 1996, Duke Power Company (the licensee) submitted a request for changes to the McGuire Nuclear Station, Units 1 and 2, Technical Specifications (TS). The requested changes would allow a one-time change in the limiting condition for operation (LCO) of TS 3.8.2.1 to allow on-line replacement of the existing 125-volt AT&T high specific gravity (HSG) round cell battery banks with the conventional low specific gravity (LSG) cell battery banks. While each battery bank is being replaced, a temporary battery bank composed of a new LSG cell battery bank would be installed and connected to the affected vital 125-volt dc bus so that a full complement of TS-required dc configuration would remain. The proposed amendment also adds a modified performance discharge test to the battery surveillance tests and clarifies whether the battery has LSG or HSG cells in the TS and the Bases section.

On October 28, 1996, one of the four AT&T HSG battery banks failed its TS surveillance test, resulting in the shutdown of both McGuire units until the failed bank was replaced with a new AT&T HSG battery bank. In order to prevent a recurrence of such a dual-unit shutdown, the licensee is planning to replace all AT&T HSG cells with new conventional LSG cells by the end of 1997. It should be noted that in a similar amendment requesting a one-time only change in 1991, the staff granted the replacement of LSG batteries with AT&T HSG batteries while both units were operating at 100 percent power.

The December 17, 1996, letter provided clarifying information that did not change the scope of the November 26, 1996, application and the initial proposed no significant hazards consideration determination.

2.0 EVALUATION

The purpose of the 125-volt dc vital power system in nuclear power plants is to provide control and motive power to valves, instrumentation, emergency diesel generators, and many other components and systems during all phases of plant operation, including abnormal shutdown and accident situations. The failure of the dc power supplies (i.e., battery banks) could result in a loss of shutdown cooling capability which, in turn, could increase the probability of core damage.

Recent experience with AT&T HSG round cell batteries in the industry has shown that they are subject to both inadvertent discharges and discharges associated with TS surveillance testing. With the discharged battery, the safety function described above cannot be completed and the prolonged use of a discharged battery can accelerate battery degradation. Given the recent battery failure at McGuire, the licensee decided to replace AT&T HSG cell batteries with either new conventional LSG square cell (first option) or new AT&T LSG round cell (second option) batteries.

While a battery bank is being replaced on-line, the licensee plans to install a full capacity temporary LSG battery bank that will be procured through the commercial grade program for Class 1E usage and sized in accordance with IEEE Std. 485-1983 and that will be connected so that the affected vital bus will remain battery-backed. The temporary battery will be installed in the Service Building due to space limitations in the battery room in the Auxiliary Building. During each battery replacement period, the remaining three vital battery banks and their associated equipment will remain in their normal configuration and will not be reconfigured for preplanned activities or routine maintenance.

The NRC staff has reviewed the proposed TS and its Bases changes for the 125-volt batteries for McGuire, Units 1 and 2. Its evaluation of each of the proposed changes follows.

2.1 Replacement of a Footnote (#) for TS LCO 3.8.2.1 on Page 3/4 8-12

The licensee proposes to delete the existing footnote (#) shown on items a through d in TS LCO 3.8.2.1 that was used for the replacement of the licensee's previous battery banks and to replace it with the following new footnote (#):

During periods of battery bank replacement only, the affected channel may be considered OPERABLE for up to 30 days provided a full capacity temporary battery is configured to a full capacity charger and connected to the respective bus. All limiting conditions for operation, action statements, and surveillance requirements pertaining to the permanent batteries shall be maintained for the temporary battery during periods of battery bank replacement. This battery replacement option is only applicable once per battery bank.

On the basis of its previous experience, the licensee determined that the replacement of each vital battery bank would take approximately 30 days, with 7-day and 24-hour work coverage. During the 30 days when a battery bank is being replaced, the licensee contends that TS LCO 3.8.2.1 is still satisfied because all four 125-volt dc channels (i.e., items a through d) are operable and energized.

The licensee offered the following justifications and compensatory measures:

1. The 125-volt dc vital power system at McGuire has been designed as a "shared system" by having four dc channels that serve Units 1 and 2. Each dc channel consists of a battery bank, a full-capacity battery charger, and a 125-volt bus. For each unit, two trains (A&B) are available and

each train consists of two dc channels. A cross-tie capability exists with its "associated" bus within the same train. Each battery is sized to carry the accident loads of one unit and the safe shutdown of the other unit assuming both a loss of offsite power and a single failure in the 125-volts system. With two 100 percent batteries in each train, the McGuire-shared dc system design has additional battery capacity and is not vulnerable to a single failure. In actuality, a battery can be removed from service for the purpose of performing the replacement and still meet its safety functions.

2. During the 30 days, a new LSG cell full-capacity temporary battery bank composed of the standby battery charger and bus at a fifth channel will be installed and connected to the affected 125-volt bus using a temporary operating procedure developed and approved for this purpose. Thus, a full complement of TS-required dc channels would be available while the battery bank is being replaced, i.e., the bus and all associated safety-related equipment remain battery-backed with a dedicated battery bank and charger at all times. Therefore, the temporary dc channel configuration maintains its TS-required train redundancy at all times.
3. The ambient temperature of the temporary battery room will be periodically monitored to ensure that it remains within battery specifications. All necessary training related to the procedure will be performed prior to replacement of the first battery bank. New inter-cell connectors and inter-tier jumpers/cables will be connected and tested for connection resistance.
4. Before being connected to the vital bus, the temporary battery will receive a full complement of surveillance measurements, including a service test. In addition, all 7-day surveillance requirements (SRs) associated with the 125-volt dc channels would be performed for the temporary battery configuration to verify its operability.
5. Upon completion of a new battery installation, the battery will be charged and will receive a service test in accordance with TS SR 4.8.2.1.2.d.1. The battery will be recharged after testing using existing station procedures and post-charge TS SR taken to determine operability. Factory acceptance tests will be used to satisfy TS SR 4.8.2.1.2.e rather than performing an onsite performance discharge test (i.e., TS SR 4.8.2.1.2.e).
6. The size of the replacement batteries are in accordance with IEEE Std. 485-1983, will meet the current licensing basis, and can perform the same safety function as the existing vital battery. A list of battery replacement activities and the basis for their 30-day estimates were provided.
7. The Service Building is not a Seismic Category 1 structure and the temporary battery will not be seismically mounted. In addition, the temporary battery will not be stored in an area protected from tornados or missiles, or where Equipment Qualification has been performed. All of these factors were reviewed and were found to be insignificant when calculating the actual risk associated with the short duration of the battery replacement.

Should the temporary battery configuration become degraded and incapable of fulfilling the required function while a battery is being replaced, then the affected 125-volt channel will be declared inoperable and TS Action b.2 of LCO 3.8.2.1 will be applied, which requires the associated bus to be cross-tied to an operable battery bank within 2 hours so that operating in this configuration can then be continued up to 72 hours from the time of initial loss of operability.

On the basis of the 125-volt dc power system design at McGuire and the proposed compensatory actions, the staff finds no significant decrease in margin of safety or increased risk of core damage for the proposed amendment request that, on a one-time only basis, allows a limited period of 30 days to replace the existing AT&T HSG battery bank with the conventional LSG battery bank. Therefore, the staff concludes that the proposed footnote (#) shown on items a through d of TS LCO 3.8.2.1 is acceptable.

2.2 Addition of Modified Performance Discharge Test in TS SR 4.8.2.1.2.e and Its Justification in the Bases Section

The licensee proposes to add a modified performance discharge test in TS SR 4.8.2.1.2.e and provides its justification in the Bases section. Under TS SR 4.8.2.1.2.e, the licensee currently requires only a performance discharge test to be performed once per 60-month interval to verify that the battery capacity is at least 80 percent of the manufacturer's rating. With a modified performance discharge test added to TS SR 4.8.2.1.2.e, a modified performance discharge test can be performed in lieu of a performance discharge test. In the Bases section, the licensee justified that the modified performance discharge test is a combination of the performance discharge test and the service test that results in a more conservative surveillance test.

Since a modified performance discharge test is permitted by IEEE Std. 450-1995 and the latest improved Standard TS for Westinghouse plants allows either the modified performance discharge test or the performance discharge test, the staff finds the proposed addition of a modified performance discharge test in TS SR 4.8.2.1.2.e and its justification in the Bases section acceptable.

2.3 Interim Modification to TS and Bases Section

Until the battery replacement on all four battery banks is completed in late 1997, both LSG and HSG battery banks would be in service for the McGuire 125-volt vital power system. For clarification, the licensee proposes to modify the following TS and Bases section.

2.3.1 Modification of TS Table 4.8-3 on Pages 3/4 8-15 and 16

Currently, the licensee maintains two tables (Table 4.8-3 on page 3/4 8-15 and 16) in the TS for its battery cell parameter values (limits) for electrolyte level, float voltage, and specific gravity. One table is for the previous conventional LSG square cell battery that was replaced and identified as "Gould cells;" the other table is for the AT&T HSG round cell battery identified as "AT&T cells." Since both HSG and LSG batteries will be in service for the McGuire 125-volt vital power system while the battery bank is being replaced, the licensee proposes to clarify that these Gould cells and AT&T cells should be identified more generically as low specific gravity cells

and high specific gravity cells, respectively.

The staff has reviewed the proposed change that specifies either LSG or HSG cells in their respective cell parameters on the two tables. Since the cell parameter values for new LSG battery banks will be identical to those of Gould cells, the staff finds that the proposed modification correctly identifies appropriate battery cell parameter values. Therefore, the staff concludes that the proposed modification is acceptable.

2.3.2 Clarification of TS Bases on Page B 3/4 8-2

The AT&T HSG cell battery bank has a special 10-day waiting restriction to prevent another performance discharge test before the tested battery has a chance to fully recharge. Since the restriction applies to only AT&T HSG batteries, the licensee proposes to denote the difference from new LSG batteries by inserting the words "high specific gravity" and further to clarify by adding more sentences (changes are delineated) in the following TS Bases section:

In SURVEILLANCE 4.8.2.1.2.e, after the high specific gravity battery is returned to service (reconnected to and supplying its normal DC distribution center) following a performance discharge test (PDT), no discharge testing shall be done within 10 days on the other high specific gravity batteries. This is a conservative measure to ensure the tested high specific gravity battery is fully charged. This restriction is an interim measure until the concern regarding recovered battery capacity immediately following recharging is resolved or until replacement of these batteries with low specific gravity batteries. Low specific gravity batteries are not subjected to the 10 day restriction.

The proposed changes in the Bases section are temporary and will expire when all battery banks are replaced. The changes are submitted for information only and the staff finds the proposed changes 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 (61 FR

65605 dated December 13, 1996). 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.

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Date: February 7, 1997