



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

May 12, 1989

Docket Nos.: 50-369  
and 50-370

Mr. H. B. Tucker, Vice President  
Nuclear Production Department  
Duke Power Company  
422 South Church Street  
Charlotte, North Carolina 28242

Dear Mr. Tucker:

SUBJECT: ISSUANCE OF AMENDMENT NO. 95 TO FACILITY OPERATING LICENSE NPF-9 AND  
AMENDMENT NO. 77 TO FACILITY OPERATING LICENSE NPF-17 - MCGUIRE  
NUCLEAR STATION, UNITS 1 AND 2 (TACS 65649/65650)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 95 to Facility Operating License NPF-9 and Amendment No. 77 to Facility Operating License NPF-17 for the McGuire Nuclear Station, Units 1 and 2. These amendments consist of changes to the Technical Specifications (TS) in response to your application dated June 19, 1987, and supplemental letters dated February 24 and November 23, 1988, and January 6, 1989.

The amendments change the Technical Specifications to authorize a one-time extension of the allowed outage time for the control area ventilation system to provide for system modification. The amendments are effective as of their date of issuance.

The staff's evaluation of risk associated with implementation of the ventilation system recognizes information provided by Mr. S. LeRoy of your company during telephone discussions. Specifically, we recognize risk reduction because the system modification will be performed one train at a time and with only one of the two McGuire units on line. We also recognize your commitment to prohibit the transport of toxic gas containers on site during the ventilation system modification.

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Mr. H. B. Tucker

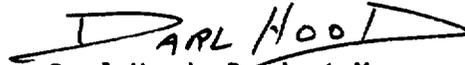
- 2 -

May 12, 1989

A copy of the related safety evaluation supporting Amendment No. 95 to Facility Operating License NPF-9 and Amendment No. 77 to Facility Operating License NPF-17 is enclosed.

Notice of issuance of amendments will be included in the Commission's next bi-weekly Federal Register notice.

Sincerely,

A handwritten signature in black ink that reads "DARL HOOD". The signature is written in a cursive style with a large, sweeping "D" and "H".

Darl Hood, Project Manager  
Project Directorate II-3  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 95 to NPF-9
2. Amendment No. 77 to NPF-17
3. Safety Evaluation

cc w/enclosures:

See next page

Mr. H. B. Tucker

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May 12, 1989

A copy of the related safety evaluation supporting Amendment No. 95 to Facility Operating License NPF-9 and Amendment No. 77 to Facility Operating License NPF-17 is enclosed.

Notice of issuance of amendments will be included in the Commission's next bi-weekly Federal Register notice.

Sincerely,

*151*

Darl Hood, Project Manager  
Project Directorate II-3  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No.95 to NPF-9
- 2. Amendment No.77 to NPF-17
- 3. Safety Evaluation

cc w/enclosures:  
See next page

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DHood: 1s  
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PDII-3  
DMatthews  
04/1/89  
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*OGC*  
*05/13/89*

Mr. H. B. Tucker  
Duke Power Company

McGuire Nuclear Station

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DATED: May 12, 1989

AMENDMENT NO. 95 TO FACILITY OPERATING LICENSE NPF-9 - McGuire Nuclear Station, Unit 1  
AMENDMENT NO. 77 TO FACILITY OPERATING LICENSE NPF-17 - McGuire Nuclear Station, Unit 2

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Docket File

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McGuire R/F

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G. Lainas	14-H-3
D. Matthews	14-H-25
M. Rood	14-H-25
D. Hood	14-H-25
C. Nichols	8-D-110
OGC-WF	15-B-18
B. Grimes	9-A-2
E. Jordan	MNBB-3302
W. Jones	P-130A
T. Meek (8)	P1-137
ACRS (10)	P-135
GPA/PA	17-F-2
ARM/LFMB	AR-2015
E. Butcher	11-F-23
D. Hagan	MNBB-3302

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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. 95  
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 (the licensee) dated June 19, 1987, as supplemented February 24 and November 23, 1988, and January 6, 1989, 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, as amended, 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.

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2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachments 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. 95, are hereby incorporated into the 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

  
per 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: May 12, 1989

2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachments 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. 95, are hereby incorporated into the 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

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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: May 12, 1989

OFFICIAL RECORD COPY

LA: PDII-3  
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PM: PDII-3  
DHood: ls  
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DMatthews  
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*OGC Review  
2/6/5/89*



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. 77  
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 (the licensee) dated June 19, 1987, as supplemented February 24 and November 23, 1988, and January 6, 1989, 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, as amended, 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 attachments 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. 77, are hereby incorporated into the 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



for 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: May 12, 1989

2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachments 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. 77, are hereby incorporated into the 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

*/s/*

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: May 12, 1989

OFFICIAL RECORD COPY

LA:PDII-3  
MRood  
04/1/89

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PM:PDII-3  
DHood:ls  
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OGC  
*R Bachmann*  
05/4/89

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D:PDII-3  
DMatthews  
04/1/89  
*5/12*

ATTACHMENT TO LICENSE AMENDMENT NO. 95

FACILITY OPERATING LICENSE NO. NPF-9

DOCKET NO. 50-369

AND

TO LICENSE AMENDMENT NO. 77

FACILITY OPERATING LICENSE NO. NPF-17

DOCKET NO. 50-370

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains a vertical line indicating the area of change.

Amended Page

3/4 7-13

## PLANT SYSTEMS

### 3/4.7.6 CONTROL AREA VENTILATION SYSTEM

#### LIMITING CONDITION FOR OPERATION

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3.7.6 Two independent Control Area Ventilation Systems shall be OPERABLE.

APPLICABILITY: ALL MODES

ACTION: (Units 1 and 2)

MODES 1, 2, 3 and 4:

With one Control Area Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7\* days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

MODES 5 and 6:

- a. With one Control Area Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7\* days or initiate and maintain operation of the remaining OPERABLE Control Area Ventilation System in the recirculation mode; and
- b. With both Control Area Ventilation Systems inoperable, or with the OPERABLE Control Area Ventilation System, required to be in the recirculation mode by ACTION a., not capable of being powered by an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.
- c. The provisions of Specification 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.7. Each Control Area Ventilation System shall be demonstrated OPERABLE:

- a. At least once per 12 hours, by verifying that the control room air temperature is less than or equal to 120°F;
- b. At least once per 31 days on a STAGGERED TEST BASIS, by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 hours with the heaters operating;

\*An allowed outage time extension to 21 days is granted for each train, one at a time, to allow system modifications related to replacement of the two 50% capacity outside air filter fans with one 100% capacity fan. During system modification, one of the two McGuire units is to be in a refueling outage, and no transport of toxic gas containers on site is to occur.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 95 TO FACILITY OPERATING LICENSE NPF-9  
AND AMENDMENT NO. 77 TO FACILITY OPERATING LICENSE NPF-17

DUKE POWER COMPANY

DOCKET NOS. 50-369 AND 50-370

MCGUIRE NUCLEAR STATION, UNITS 1 AND 2

1.0 INTRODUCTION

By letter dated June 19, 1987, as supplemented February 24 and November 23, 1988, and January 6, 1989, Duke Power Company (the licensee) proposed amendments which would grant a one-time extension of the allowed outage time for each of the two trains of the Control Area Ventilation (VC) System to provide for system modifications to improve reliability. Technical Specification (TS) 3.7.6 requires both independent VC Systems to be operable in all modes. With one VC System inoperable during Modes 1, 2, 3 or 4, the TS requires the operators to restore the inoperable system to operable status within 7 days or both McGuire Units are to be in at least Hot Standby within the next 6 hours and in Cold Shutdown within the following 30 hours. Similarly, with one VC System inoperable during Modes 5 or 6, the operator is to restore the inoperable system to operable status within 7 days or initiate and maintain operation of the remaining operable VC System in the recirculation mode. The proposed change would add a footnote to TS 3.7.6, referenced after the specified 7 days, to state that an allowed outage time extension to 21 days is granted for each train, one at a time, to allow system modifications related to replacement of the two 50% capacity outside air filter fans with one 100% capacity fan. The system modification will be implemented during a scheduled refueling outage for one of the two McGuire units such that only one unit will be at power during the modification. No transport of toxic gas containers on site is permitted during the system modification.

2.0 EVALUATION

The proposed system modifications will replace the outside air pressure filter train fans with one nuclear-grade fan per filter unit. The licensee stated that the existing fans are light-duty commercial-grade fans purchased as part of a nuclear-grade package. The licensee considers the present fans undersized for their intended duty. The result is that a high fan wheel speed is needed to accomplish the desired flow rate. The high running speeds have caused cracks in the fan frames and premature bearing failure. The fan manufacturer does not provide nuclear-grade replacement parts. Direct replacement would require an original design and, therefore, would be excessively costly. The licensee does not consider the existing fans reliable, based on the fact that the fans fail frequently even though preventative maintenance is performed on them and they have limited run time.

Presently, each filter train contains two 50% capacity fans that operate in parallel. The modification will replace the two 50% capacity fans with a single 100% capacity fan per filter train. Present parallel ducting from the fan discharge to the control room return duct will handle 100% flow, therefore, one of the existing ducts will be removed, along with its humidity sensor, pressure switches, firestat, and flow instrumentation.

The licensee has performed a failure analysis to compare the probabilities and consequences of postulated equipment failures for the existing and post-modified systems. The function of the filter train fans is to maintain, in a radiological emergency, a positive pressure in the common control room to prevent in-leakage of potentially contaminated (unfiltered) air and to provide for the flow of outside air (required for pressurization) through the control room area filter package. The probability of losing this function is dominated by the failure probabilities of the filter train fans. By replacing the two 50% capacity fans by a single 100% capacity fan, the probability of failing the above function is reduced, since failing of any one of two fans would lead to failure of the existing train function. Thus, the overall probability of failing to function in an emergency is reduced.

The licensee stated that the implementation risk (single train vulnerability) will be minimized by testing one train just prior to and during the 21 days that the opposite train is being modified. This will provide increased confidence regarding proper system actuation and operation, if needed. Also, if trouble with the support systems is encountered, the operable system may be realigned to the support systems from the other unit.

The failure sequence of ECCS and containment to the extent that the filter would be required is highly unlikely. In addition to a core melt, the operable filter train would have to fail to affect safety. Such a total failure during the additional 14 days of requested allowed outage time is not considered a credible event.

The VC outside air intakes have chlorine sensors which automatically isolate the affected intake upon detection of chlorine. These are train related and having one train down for an extended period of time will not affect the ability of the other train to isolate on chlorine detection. The licensee also stated that, as an additional precaution to further minimize the probability of a chlorine release from the only potential source at the site (approximately 15 150-pound bottles), the chlorine bottles will not be handled (i.e., transported) during the system modification. Furthermore, air masks and self-contained breathing apparatus and thyroid dose blocking potassium iodide pills are readily available to the control room operators in the unlikely event that they are needed to protect the operators in a radiological or toxic gas emergency.

The staff has reviewed the licensee's submittals and, based on this review, has determined that the proposed modification to the design of the VC system

will result in a significant improvement in the reliability of the system and, therefore, an improvement in safety. The staff further finds that the risks associated with implementing the modifications are negligible. Therefore, the proposed change to the TS is acceptable.

### 3.0 ENVIRONMENTAL CONSIDERATION

These amendments involve changes to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. The 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 exposure. The NRC staff has made a determination that the amendments involve no significant hazards consideration, and there has been no public comment on such finding. 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 these amendments.

### 4.0 CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (54 FR 7632) on February 22, 1989. The Commission consulted with the state of North Carolina. No public comments were received, and the state of North Carolina did not have any comments.

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: D. Hood, PD#II-3/DRP-I/II  
C. Nichols, SPLB/DEST

Dated: May 12, 1989