

May 11, 1988

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 NOTICE OF AMENDMENT NO.83 TO FACILITY OPERATING LICENSE NPF-9 AND  
AMENDMENT NO. 64 TO FACILITY OPERATING LICENSE NPF-17 - MCGUIRE  
NUCLEAR STATION, UNITS 1 AND 2 (TACS 59239/59240)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 83 to Facility Operating License NPF-9 and Amendment No. 64 to Facility Operating License NPF-17 for the McGuire Nuclear Station, Units 1 and 2. These amendments consist of changes to the Technical Specifications in response to your application dated July 12, 1985, and supplemented April 14 and September 18, 1986, March 16 and August 11, 1987, and April 7, 1988.

The amendments change the Technical Specifications to increase the interval for surveillance of the ice condenser lower inlet doors. The amendments are effective as of their date of issuance.

A copy of the related safety evaluation supporting Amendment No. 83 to Facility Operating License NPF-9 and Amendment No.64 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,



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

Enclosures:

1. Amendment No. 83 to NPF-9
2. Amendment No. 64 to NPF-17
3. Safety Evaluation


cc w/enclosures:  
See next page

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MRood:  
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DHood:sw  
5/10/88



PD#II-3/DRP-I/II  
DMatthews  
5/11/88

DATED: May 11, 1988

AMENDMENT NO. 83 TO FACILITY OPERATING LICENSE NPF-9 - McGuire Nuclear Station, Unit 1  
AMENDMENT NO. 64 TO FACILITY OPERATING LICENSE NPF-17 - McGuire Nuclear Station, Unit 2

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S. Varga

14E-4

G. Lainas

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D. Matthews

M. Rood

D. Hood

OGC-WF

J. Partlow

9A-2

E. Jordan

MNBB - 3302

W. Jones

P-130A

T. Barnhart (8)P1-137

ACRS (10)

GPA/PA

ARM/LFMB

E. Butcher

11F-23

D. Hagan

MNBB - 3302

J. Pulsipher, PSB



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. 83  
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 July 12, 1985, as supplemented April 14 and September 18, 1986, March 16 and August 11, 1987, and April 7, 1988, 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. 83, 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

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

Attachment:  
Technical Specification  
Changes

Date of Issuance: May 11, 1988

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LA:PDII-3  
MRood  
4/27/88

PM:PDII-3  
DHood:sw  
4/27/88

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D:PDII-3  
DMatthews  
5/11/88



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. 64  
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 July 12, 1985, as supplemented April 14 and September 18, 1986, March 16 and August 11, 1987, and April 7, 1988, 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. 64, 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

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

Attachment:  
Technical Specification  
Changes

Date of Issuance: May 11, 1988

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LA:PDII-3  
MRood  
4/27/88

PM:PDII-3  
DHood:sw  
4/27/88

OGC-WF  
5/04/88

D:PDII-3  
BMatthews  
5/11/88

ATTACHMENT TO LICENSE AMENDMENT NO. 83

FACILITY OPERATING LICENSE NO. NPF-9

DOCKET NO. 50-369

AND

TO LICENSE AMENDMENT NO. 64

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.

Amended Page

3/4 6-37

3/4 6-38

## CONTAINMENT SYSTEMS

### ICE CONDENSER DOORS

#### LIMITING CONDITION FOR OPERATION

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3.6.5.3 The ice condenser inlet doors, intermediate deck doors, and top deck doors shall be closed and OPERABLE.

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

ACTION:

- a. With one or more ice condenser doors open or otherwise inoperable (but capable of opening automatically), POWER OPERATION may continue for up to 14 days provided the ice bed temperature is monitored at least once per 4 hours and the maximum ice bed temperature is maintained less than or equal to 27°F; otherwise, restore the doors to their closed positions or OPERABLE status (as applicable) within 48 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 or more ice condenser doors inoperable (not capable of opening automatically), restore all doors to OPERABLE status within 1 hour or be in HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.5.3.1 Inlet Doors - Ice condenser inlet doors shall be:

- a. Continuously monitored and determined closed by the inlet door position monitoring system, and
- b. Demonstrated OPERABLE during shutdown at least once per 18 months by:
  - 1) Verifying that the torque required to initially open each door is less than or equal to 675 inch pounds;
  - 2) Verifying that each door is capable of opening automatically in that it is not impaired by ice, frost, debris, or other obstruction;
  - 3) Testing each one of the doors and verifying that the torque required to open each door is less than 195 inch-pounds when the door is 40 degrees open. This torque is defined as the "door opening torque" and is equal to the nominal door torque plus a frictional torque component;



CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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- 4) Testing each one of the doors and verifying that the torque required to keep each door from closing is greater than 78 inch-pounds when the door is 40 degrees open. This torque is defined as the "door closing torque" and is equal to the nominal door torque minus a frictional torque component; and
- 5) Calculation of the frictional torque of each door tested in accordance with 3) and 4), above. The calculated frictional torque shall be less than or equal to 40 inch-pounds.

4.6.5.3.2 Intermediate Deck Doors - Each ice condenser intermediate deck door shall be:

- a. Verified closed and free of frost accumulation by a visual inspection at least once per 7 days, and
- b. Demonstrated OPERABLE at least once per 3 months during the first year after the ice bed is fully loaded and at least once per 18 months thereafter by visually verifying no structural deterioration, by verifying free movement of the vent assemblies, and by ascertaining free movement when lifted with the applicable force shown below:

<u>Door</u>	<u>Lifting Force</u>
1) Adjacent to crane wall	Equal to or less than 37.4 lbs,
2) Paired with door adjacent to crane wall	Equal to or less than 33.8 lbs,
3) Adjacent to containment wall	Equal to or less than 31.8 lbs, and
4) Paired with door adjacent to containment wall	Equal to or less than 31.0 lbs.

4.6.5.3.3 Top Deck Doors - Each ice condenser top deck door shall be determined closed and OPERABLE at least once per 92 days by visually verifying:

- a. That the doors are in place, and
- b. That no condensation, frost, or ice has formed on the doors or blankets which would restrict their lifting and opening if required.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 83 TO FACILITY OPERATING LICENSE NPF-9  
AND AMENDMENT NO. 64 TO FACILITY OPERATING LICENSE NPF-17  
DUKE POWER COMPANY  
DOCKET NOS. 50-369 AND 50-370  
MCGUIRE NUCLEAR STATION, UNITS 1 AND 2

INTRODUCTION

By letters dated July 12, 1985, April 14, and September 18, 1986, March 16 and August 11, 1987, and April 7, 1988, Duke Power Company (the licensee) proposed certain changes to the Technical Specifications (TS) for McGuire Nuclear Station, Units 1 and 2, which would increase the interval for surveillance of the ice condenser lower inlet doors. McGuire TS 4.6.5.3.1b. presently requires surveillance to determine operability of 50% of the doors every 9 months. The doors tested at each surveillance are required to be selected such that all of the doors will have been tested after 18 months. The licensee's proposed changes would require testing/inspection of all the doors every 18 months.

The September 18, 1986, March 16 and August 11, 1987, and April 7, 1988, submittals clarified certain aspects of the original request. The substance of the changes noticed in the Federal Register on August 27, 1986 and the proposed no significant hazards determination were not affected by these clarifications.

EVALUATION

The current TS which requires testing 50% of the doors every 9 months is essentially equivalent to testing all of the doors every 18 months. The proposed surveillance interval would allow a maximum of 18 months between the tests for any one door. Therefore, the proposed surveillance interval is as conservative as the current surveillance intervals on an individual door basis.

The staff has also considered the overall effect of the change in surveillance interval on the assurance of continued operability of the lower inlet doors as a system as discussed below.

The primary purpose of the surveillance in question is to determine that the lower inlet doors are capable of opening properly when required during a LOCA or other high-energy line break so that steam released in the lower containment compartment may enter the ice condenser compartment and be condensed by the ice inside. The lower inlet doors are equipped with springs that keep them closed during normal operation. The spring torque is set based on this normal operation function and at this low torque the doors will open rapidly in

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response to a lower compartment pressure increase during a line break. The spring torque aids in preventing maldistribution of flow through the 24 pairs of lower inlet doors during a small line break accident when the doors would only open partially in order to assure equal flow through all door pairs. The surveillance in question requires that various measurements be made of door spring torque, in order to ensure that they can perform the above safety function.

The licensee provided information in the April 14, 1986 submittal concerning door reliability: Since 1981 there had been 416 individual door inspections at McGuire Unit 1 and since 1983 there had been 216 at McGuire Unit 2. In all of these tests the doors met their acceptance criteria.

From the above information, the staff finds that the doors have proven to be highly reliable. However, given that the licensee's proposal would lengthen the interval between the testing of any door (rather than a particular door) from 9 months to 18 months, the staff requested the licensee to address long-term performance of the door hinges and related hardware considering exposure to the ice condenser atmosphere for longer intervals between testing. By letter dated August 11, 1987, the licensee responded by indicating that corrosion has been considered in the detailed design of the ice condenser components. The low temperature (10°F-20°F) and low absolute humidity of the ice condenser atmosphere results in negligible corrosion of uncoated carbon steel. Nevertheless, protective coating (e.g., galvanization) and low corrosion materials such as stainless steel have been used in the ice condenser. The licensee concluded that the performance of the ice condenser materials of construction are not impaired by long-term exposure to the ice condenser environment.

On the basis of its review, the staff finds that the proposed surveillance interval is equivalent to the current interval and that the intent of the surveillance for ensuring operability of the doors is not adversely affected by the proposed changes. Therefore, the staff concludes that the proposed changes to TS 4.6.5.3.1b. for McGuire Units 1 and 2, to increase the surveillance interval to 18 months for all of the ice condenser inlet doors, are acceptable.

#### 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 and changes in surveillance requirements. 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.

CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (51 FR 30569) on August 27, 1986. 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  
J. Pulsipher, PSB/DEST

Dated: May 11, 1988

Mr. H. B. Tucker  
Duke Power Company

McGuire Nuclear Station

cc:

Mr. A.V. Carr, Esq.  
Duke Power Company  
P. O. Box 33189  
422 South Church Street  
Charlotte, North Carolina 28242

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

Mr. Robert Gill  
Duke Power Company  
Nuclear Production Department  
P. O. Box 33189  
Charlotte, North Carolina 28242

J. Michael McGarry, III, Esq.  
Bishop, Liberman, Cook, Purcell  
and Reynolds  
1200 Seventeenth Street, N.W.  
Washington, D. C. 20036

Senior Resident Inspector  
c/o U.S. Nuclear Regulatory Commission  
Route 4, Box 529  
Huntersville, North Carolina 28078

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

S. S. Kilborn  
Area Manager, Mid-South Area  
ESSD Projects  
Westinghouse Electric Corporation  
MNC West Tower - Bay 239  
P. O. Box 355  
Pittsburgh, Pennsylvania 15230

Dr. John M. Barry  
Department of Environmental Health  
Mecklenburg County  
1200 Blythe Boulevard  
Charlotte, North Carolina 28203

Mr. Dayne H. Brown, Chief  
Radiation Protection Branch  
Division of Facility Services  
Department of Human Resources  
701 Barbour Drive  
Raleigh, North Carolina 27603-2008