

Docket Nos.: 50-369  
and 50-370

May 9, 1988

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. 81 to Facility Operating License NPF-9  
and Amendment No. 62 to Facility Operating License NPF-17 -  
McGuire Nuclear Station, Units 1 and 2 (TACS 67200/67201)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 81 to Facility Operating License NPF-9 and Amendment No. 62 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 February 5, 1988.

The amendments change the Technical Specifications to delete the maximum fuel rod weight limit of 1766 grams of uranium. The amendments are effective as of their date of issuance.

A copy of the related safety evaluation supporting Amendment No. 81 to Facility Operating License NPF-9 and Amendment No. 62 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.81 to NPF-9
2. Amendment No.62 to NPF-17
3. Safety Evaluation

cc w/enclosures: See next page

PD#II-3/DRP-I/II  
MRood  
4/15/88

DSH  
PD#II-3/DRP-I/II  
DHood:sw  
4/15/88

DM  
PD#II-3/DRP-I/II  
DMatthews  
5/10/88

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PDR ADDCK 05000369  
P PDR

DATED: May 9, 1988

AMENDMENT NO. 81 TO FACILITY OPERATING LICENSE NPF-9 - McGuire Nuclear Station, Unit 1  
AMENDMENT NO. 62 TO FACILITY OPERATING LICENSE NPF-17 - McGuire Nuclear Station, Unit 2

DISTRIBUTION:  
Docket File 50-369/370

NRC PDR	
Local PDR	
PD#II-3 R/F	
McGuire R/F	
M. Rood	
D. Hood	
G. Lainas	14H-4
S. Varga	14E_4
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
L. Reyes	R-II



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. 81  
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 February 5, 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. 81, 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

Original signed by:

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

Attachment:  
Technical Specification  
Changes

Date of Issuance: May 9, 1988

PD#II-3  
MRood  
04/15/88

DSH  
PD#II-3  
DHood:sw  
04/15/88

to  
rec  
SRX  
WHodges  
04/15/88

OGC  
Allouart  
04/19/88

PD#II-3  
DMatthews  
04/10/88

AD-40-I/II  
Gaines  
04/11/88

*sent to various STATE & SECY for issuance*



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. 62  
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 February 5, 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. 62, 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

Original signed by:

David B. Matthews, Director  
Project Directorate 11-3  
Division of Reactor Projects-I/II

Attachment:  
Technical Specification  
Changes

Date of Issuance: May 9, 1988

PD#II-3 MRood 4/15/88	DSIT PD#II-3 DHood:sw 4/18/88	SRXB WHodges 4/18/88	OGC MLooney 4/14/88	PD#I-3 DMatthews 5/10/88	AD-PDI/II GLainas 05/11/88
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*Administrative  
STATE SECY  
before issuance*

ATTACHMENT TO LICENSE AMENDMENT NO. 81

FACILITY OPERATING LICENSE NO. NPF-9

DOCKET NO. 50-369

AND

TO LICENSE AMENDMENT NO. 62

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

5-6

## DESIGN FEATURES

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### 5.2.1.2 REACTOR BUILDING

- a. Nominal annular space = 5 feet.
- b. Annulus nominal volume = 427,000 cubic feet.
- c. Nominal outside height (measured from top of foundation base to the top of the dome) = 177 feet.
- d. Nominal inside diameter = 125 feet.
- e. Cylinder wall minimum thickness = 3 feet.
- f. Dome minimum thickness = 2.25 feet.
- g. Dome inside radius = 87 feet.

### DESIGN PRESSURE AND TEMPERATURE

5.2.2 The reactor containment is designed and shall be maintained for a maximum internal pressure of 15.0 psig and a temperature of 250°F.

### 5.3 REACTOR CORE

#### FUEL ASSEMBLIES

5.3.1 The core shall contain 193 fuel assemblies with each fuel assembly containing 264 fuel rods clad with Zircaloy-4, except that limited substitutions of fuel rods by filler rods consisting of Zircaloy-4 or stainless steel, or by vacancies, may be made in peripheral fuel assemblies if justified by cycle-specific reload analyses. Each fuel rod shall have a nominal active fuel length of 144 inches. Reload fuel shall be similar in physical design to the initial core loading and shall have a maximum enrichment of 4.0 weight percent U-235.

#### CONTROL ROD ASSEMBLIES

5.3.2 The core shall contain 53 full-length and no part-length control rod assemblies. The full-length control rod assemblies shall contain a nominal 142 inches of absorber material. The nominal values of absorber material for Unit 1 control rods shall be 80% silver, 15% indium, and 5% cadmium. The nominal values of absorber material for Unit 2 control rods shall be 100% boron carbide ( $B_4C$ ) for 102 inches and 80% silver, 15% indium, and 5% cadmium for the 40-inch tip. All control rods shall be clad with stainless steel tubing.





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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 81 TO FACILITY OPERATING LICENSE NPF-9  
AND AMENDMENT NO. 62 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 application dated February 5, 1988, Duke Power Company (the licensee) proposed amendments which would delete from the Design Features section 5.3.1 of the Technical Specifications (TS) the maximum fuel rod weight limit of 1766 grams of uranium. The purpose of the change was to permit the use of assemblies found to be slightly over the weight limit. Additional change requests within the February 5, 1988 letter are outside the scope of these amendments and will be addressed separately.

EVALUATION

The NRC staff has reviewed the proposed change and finds that the deletion of the fuel rod uranium weight limit does not have an adverse impact upon safety analyses or plant operation. The variation in fuel rod weight that can occur even without a TS limit is small based on other fuel design constraints, e.g., rod diameter, gap size, UO<sub>2</sub> density and active fuel length; all of which provide some limit on the variation in rod weight. The current safety analyses are not based directly on fuel rod weight, but rather on design parameters such as power and fuel dimensions. These parameters are either not affected at all by fuel rod weight, or are only slightly affected. A review of design parameters which may be affected indicated that a change in fuel weight does not cause other design parameters to exceed the values assumed in the various safety analyses, or to cause acceptance criteria to be exceeded. The effects are not significant with respect to measured nuclear parameters (power, power distribution, nuclear coefficients), i.e., they remain within their TS limits. Although future reloads may consist of fuel fabricated by a different vendor, all of the fuel contained in the fuel rod is and will be similar to and designed to function similarly to previous fuel. In addition, the existing new and spent fuel storage criticality analyses bound the proposed changes observed.

The margin of safety is also maintained by continued adherence to other fuel related TS limits and the FSAR design bases. Adherence to these TS limits and FSAR design bases is confirmed for each fuel cycle by reload safety evaluations.

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Accordingly, we conclude that deletion of fuel rod weight limits in the TS Design Features section 5.3.1 does not adversely affect any safety analysis, or safety limit or plant operation. The proposed change is, therefore, 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. 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 (53 FR 11368) on April 6, 1988 and 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 Contributor: Darl Hood, PD#II-3

Dated: May 9, 1988

Mr. H. B. Tucker  
Duke Power Company

McGuire Nuclear Station

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