

October 2, 1987

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. 76 to Facility Operating License NPF-9 and  
Amendment No. 57 to Facility Operating License NPF-17 - McGuire  
Nuclear Station, Units 1 and 2 (TACS 55821/55822)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 76 to Facility Operating License NPF-9 and Amendment No. 57 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 September 6, 1984, and supplemental letter dated May 20, 1987.

The amendments change the Technical Specifications in accordance with NRC Generic Letter (GL) 83-37, "NUREG-0737 Technical Specifications" (PWRs). The changes add requirements for the reactor vessel head vent system. As noted in your letter of February 6, 1981, this system has been previously installed and is operating. Additionally, the new surveillance requirements are being performed during the present Unit 1 refueling outage. Accordingly, the amendments are effective as of their date of issuance.

A copy of the related safety evaluation supporting Amendment No. 76 to Facility Operating License NPF-9 and Amendment No. 57 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,

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

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Enclosures:

1. Amendment No. 76 to NPF-9
2. Amendment No. 57 to NPF-17
3. Safety Evaluation

cc w/enclosures: See next page

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PDII-3/DRPI/II  
MDuncan/rad  
09/24/87

*DH*  
PDII-3/DRPI/II  
DHood  
09/24/87

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McGuire Nuclear Station

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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. 76  
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 September 6, 1984, and supplement filed May 20, 1987, comply 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.76, 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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Kahtan N. Jabbour, Acting Director  
Project Directorate II-3  
Division of Reactor Projects I/II

Attachment:  
Technical Specification  
Changes

Date of Issuance: October 2, 1987

\*SEE PREVIOUS CONCURRENCE

PDII-3/DRPI/II  
\*MDuncan/rad  
09/24/87

PDII-3/DRPI/II  
\*DHood  
09/24/87

SRXB OGC-Bethesda  
\*WHodges \*CWoodhead  
09/24/87 09/28/87

KNT  
PDII-3/DRPI/II  
Acting PD  
10/1/87



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. 57  
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 September 6, 1984, and supplement filed May 20, 1987, comply 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. 57, 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

151  
 Kahtan N. Jabbour, Acting Director  
 Project Directorate II-3  
 Division of Reactor Projects I/II

Attachment:  
 Technical Specification  
 Changes

Date of Issuance: October 2, 1987

\*SEE PREVIOUS CONCURRENCE

PDII-3/DRPI/II  
 \*MDuncan/rad  
 09/24/87

PDII-3/DRPI/II  
 \*DHood  
 09/24/87

SRXB OGC-Bethesda  
 \*WHodges CWoodhead  
 09/24/87 09/28/87

KNS  
 PDII-3/DRPI/II  
 Acting PD  
 10/1/87

ATTACHMENT TO LICENSE AMENDMENT NO. 76

FACILITY OPERATING LICENSE NO. NPF-9

DOCKET NO. 50-369

AND

TO LICENSE AMENDMENT NO. 57

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.

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## REACTOR COOLANT SYSTEM

### 3/4.4.11 REACTOR VESSEL HEAD VENT SYSTEM

#### LIMITING CONDITION FOR OPERATION

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3.4.11 Two reactor vessel head vent paths, each consisting of two valves in series powered from emergency buses shall be OPERABLE and closed.

APPLICABILITY: MODES 1, 2, 3 and 4

ACTION:

- a. With one of the above reactor vessel head paths inoperable, STARTUP and/or POWER OPERATION may continue provided the inoperable vent path is maintained closed with power removed from the valve actuator of all the valves in the inoperable vent path; restore the inoperable vent path to OPERABLE status within 30 days or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With both of the above reactor vessel head vent paths inoperable; maintain the inoperable vent path closed with power removed from the valve actuators of all the valves in the inoperable vent paths, and restore at least two of the vent paths to OPERABLE status within 72 hours or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.4.11 Each reactor vessel head vent path shall be demonstrated OPERABLE at least once per 18 months by:

1. Cycling each valve in the vent path through at least one complete cycle of full travel from the control room during COLD SHUTDOWN or REFUELING.
2. Verifying flow through the reactor vessel head vent paths during venting during COLD SHUTDOWN or REFUELING.

## REACTOR COOLANT SYSTEM

### BASES

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#### PRESSURE/TEMPERATURE LIMITS (Continued)

the RCS cold legs are less than or equal to 300°F. Either PORV has adequate relieving capability to protect the RCS from overpressurization when the transient is limited to either: (1) the start of an idle RCP with the secondary water temperature of the steam generator less than or equal to 50°F above the RCS cold leg temperatures, or (2) the start of a HPSI pump and its injection into a water-solid RCS.

#### 3/4.4.10 STRUCTURAL INTEGRITY

The inservice inspection and testing programs for ASME Code Class 1, 2 and 3 components ensure that the structural integrity and operational readiness of these components will be maintained at an acceptable level throughout the life of the plant. These programs are in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR Part 50.55a(g) except where specific written relief has been granted by the Commission pursuant to 10 CFR Part 50.55a(g)(6)(i).

Components of the Reactor Coolant System were designed to provide access to permit inservice inspections in accordance with Section XI of the ASME Boiler and Pressure Vessel Code, 1971 Edition and Addenda through Winter 1972.

#### 3/4.4.11 REACTOR VESSEL HEAD VENT SYSTEM

Reactor Vessel Head Vents are provided to exhaust noncondensable gases and/or steam from the primary system that could inhibit natural circulation core cooling. The OPERABILITY of at least one reactor coolant system vent path from the reactor vessel head and the pressurizer steam space ensures the capability exists to perform this function. (Operability of the pressurizer steam space vent path is provided by Specifications 3/4.4.4 and 3/4.4.9.3.)

The valve redundancy of the reactor coolant system vent paths serves to minimize the probability of inadvertent or irreversible actuation while ensuring that a single failure of a vent valve, power supply or control system does not prevent isolation of the vent path.

The surveillance to verify Reactor Vessel Head Vent flowpath is qualitative as no specific size or flow rate is required to exhaust noncondensable gases. The function, capabilities, and testing requirements of the reactor coolant system vent systems are consistent with the requirements of Item II.B.1 of NUREG-0737, "Clarification of TMI Action Plan Requirements", November 1980.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO.76 TO FACILITY OPERATING LICENSE NPF-9  
AND AMENDMENT NO. 57 TO FACILITY OPERATING LICENSE NPF-17

DUKE POWER COMPANY

DOCKET NOS. 50-369 AND 50-370

McGUIRE NUCLEAR STATION, UNITS 1 AND 2

I. INTRODUCTION

Following the accident at Three Mile Island (TMI) Unit 2, the Commission issued 10 CFR 50.44(C)(3)(iii) and established requirements for the installation of reactor coolant system high point vents on each light-water nuclear power reactor. By NUREG-0737, "Clarification of TMI Action Plan Requirements," dated November 1980, the Commission identified items for which Technical Specifications (TSs) are required. This included Item II.B.1, "Reactor Coolant System Vents." By Generic Letter (GL) 83-37 dated November 1, 1983, the Commission discussed those NUREG-0737 items scheduled for implementation after December 31, 1981, and provided guidance in the form of model TSs for use by PWR licensees submitting associated applications for license amendments.

By letters dated September 6, 1984, and May 20, 1987, Duke Power Company (the licensee) proposed license amendments to change the TSs for McGuire Nuclear Station, Units 1 and 2, in response to GL 83-37 regarding reactor coolant system (RCS) vents. Specifically, the amendments add new TS 3/4.1.11 "Reactor Vessel Head Vent Systems" and associated Bases 3/4.4.11. Revised TS index pages are also included.

EVALUATION

The purpose of a RCS vent system is to provide improved operational capability to maintain adequate core cooling following an accident by venting noncondensable gases which might otherwise inhibit core cooling during natural circulation. Need of the vents would occur during the recovery phase of a severe accident once core cooling by natural circulation is restored so that the reactor coolant system can be cooled down and depressurized. If a bubble of noncondensable gas were present in the reactor vessel head, the gas could be relieved through the vent lines to prevent its relocation to the steam generators where it would retard natural circulation. The high point vents are not required to mitigate any design basis accident.

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The McGuire RCS vent system is comprised of two subsystems: the reactor vessel head vent system and the power operated relief valves (PORVs) located at the top of the pressurizer. Existing TSs 3/4.4.4 and 3/4.4.9.3 address operability of the PORVs, and their flowpaths provide for the function as a RCS vent path in accordance with NUREG-0737, Item II.B.1 and 10 CFR 50.44(c)(3)(iii). Therefore, no additional TS or change is included in these amendments regarding venting of the pressurizer. Similarly, as clarified by 10 CFR 50.44(c)(3)(iii), high point vents are not required for tubes in the U-tube steam generators. Accordingly, the TS changes by these amendments are limited to the reactor vessel head vent system.

The model TSs of GL 83-37 specify surveillance of the RCS vent system every 18 months by (1) verifying that manual isolation valves in the vent path are locked open, (2) cycling each remotely operated valve from the control room, and (3) verifying flow through the reactor coolant vent lines during venting at cold shutdown or refueling. The TS changes by these amendments include items (2) and (3) but omit item (1). Item (1) is omitted because there are no manual isolation valves in the McGuire vent paths, and omission of item (1) is, therefore, acceptable. For item (3), temperature rise is used at McGuire as the means to verify reactor vessel head vent "flow." No specific size or flow rate is required to exhaust noncondensable gases; rather, the intent of item (3) is to verify availability of the vent flowpath. Therefore, use of temperature rise for "flow" is acceptable. These surveillance requirements meet 10 CFR 50.44, which requires a high probability that the valves will perform their safety function, and NUREG-0737 Item II.B.1 requirements for provisions to test the operability of the vent system.

The amendments also add Bases 3/4.4.11 "Reactor Vessel Head Vent System" and revised index pages to the TSs. These changes have no adverse safety implications and are, therefore, acceptable.

The Commission finds that the licensee's proposed TS changes comply with those in GL 83-37 and are, 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.

#### VI. CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (50 FR 37078) on September 11, 1985. 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: Darl S. Hood, PDII-3/DRPI/II  
E. Lantz, SRXB

Dated: October 2, 1987

DATED: October 2, 1987

AMENDMENT NO.76 TO FACILITY OPERATING LICENSE NPF-9 - McGuire Nuclear Station, Unit 1  
AMENDMENT NO.57 TO FACILITY OPERATING LICENSE NPF-17 - McGuire Nuclear Station, Unit 2

DISTRIBUTION:

Docket File

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Local PDR

PRC System

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