



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

November 22, 1985

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. 49 to Facility Operating License
NPF-9 and Amendment No. 30 to Facility Operating License
NPF-17 - McGuire Nuclear Station, Units 1 and 2

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 49 to Facility Operating License NPF-9 and Amendment No. 30 to Facility Operating License NPF-17 for the McGuire Nuclear Station, Units 1 and 2. These amendments are issued in response to your applications dated January 12, 1984, and January 17, 1985.

The amendments modify surveillance specifications 4.11.1.3.1 and 4.11.2.4 related to dose projections from normal plant releases. Also, the Unit 1 license is being changed to extend the completion date for upgrading the core exit thermocouple system. The amendments are effective as of their dates of issuance.

A copy of the related safety evaluation supporting Amendment No. 49 to Facility Operating License No. NPF-9 and Amendment No. 30 to Facility Operating License NPF-17 is enclosed.

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

Sincerely,

for E. G. Adensam
Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Enclosures:

1. Amendment No. 49 to NPF-9
2. Amendment No. 30 to NPF-17
3. Safety Evaluation

cc w/enclosures:
See next page

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

DUKE POWER COMPANY

DOCKET NO. 50-369

McGUIRE NUCLEAR POWER STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 49
License No. NPF-9

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The applications 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 January 12, 1984, and January 17, 1985, comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations 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 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 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, Facility Operating License No. NPF-9 is changed as follows:
 - A. Change paragraph 2.C.(11)f.(3) to read:
 - (3) The licensee shall upgrade the in-containment portion of the incore thermocouple system prior to startup following the first refueling outage, and shall provide a schedule for upgrade of the remainder of the system in the Regulatory Guide 1.97 Accident Monitoring Review Report submittal pursuant to NUREG 0737, Supplement 1.

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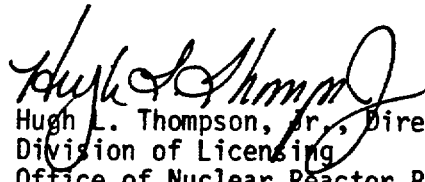
3. The license is further amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. NPF-9 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 49, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

4. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Hugh L. Thompson, Jr., Director
Division of Licensing
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification Changes

Date of Issuance: November 22, 1985



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. 30
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 January 17, 1985, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations 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 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 license amendment will not be inimical to the common defense and security or to the health and safety of the public;
 - 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. 30, are hereby incorporated into this 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 
Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Attachment:
Technical Specification Changes

Date of Issuance: November 22, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 49

FACILITY OPERATING LICENSE NO. NPF-9

DOCKET NO. 50-369

AND

TO LICENSE AMENDMENT NO. 30

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 a vertical line indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Amended
Page

3/4 11-6
3/4 11-15

Overleaf
Page

3/4 11-5
3/4 11-16

RADIOACTIVE EFFLUENTS

DOSE

LIMITING CONDITION FOR OPERATION

3.11.1.2 The dose or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released, from each unit, to UNRESTRICTED AREAS (see Figure 5.1-4) shall be limited:

- a. During any calendar quarter to less than or equal to 1.5 mrem to the total body and to less than or equal to 5 mrem to any organ, and
- b. During any calendar year to less than or equal to 3 mrem to the total body and to less than or equal to 10 mrem to any organ.

APPLICABILITY: At all times.

ACTION:

- a. With the calculated dose from the release of radioactive materials in liquid effluents exceeding any of the above limits, in lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be taken to reduce the releases and the proposed corrective actions to be taken to assure that subsequent releases will be in compliance with the above limits. This Special Report shall also include: (1) the results of radiological analyses of the drinking water source, and (2) the radiological impact on finished drinking water supplies with regard to the requirements of 40 CFR 141, Safe Drinking Water Act.*
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.2 Cumulative dose contributions from liquid effluents for the current calendar quarter and the current calendar year shall be determined in accordance with the methodology and parameters in the ODCM at least once per 31 days.

* These requirements are applicable only if the drinking water supply is taken from the river 3 miles downstream of the plant discharge.

RADIOACTIVE EFFLUENTS

LIQUID RADWASTE TREATMENT SYSTEM

LIMITING CONDITION FOR OPERATION

3.11.1.3 The Liquid Radwaste Treatment System shall be OPERABLE and appropriate portions of the system shall be used to reduce releases of radioactivity when the projected doses due to the liquid effluent, from each unit, to UNRESTRICTED AREAS (see Figure 5.1-4) would exceed 0.06 mrem to the total body or 0.2 mrem to any organ in a 31-day period.

APPLICABILITY: At all times.

ACTION:

- a. With radioactive liquid waste being discharged without treatment and in excess of the above limits and any portion of the Liquid Radwaste Treatment System not in operation, in lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days pursuant to Specification 6.9.2 a Special Report that includes the following information:
 1. Explanation of why liquid radwaste was being discharged without treatment, identification of any inoperable equipment or subsystems, and the reason for the inoperability,
 2. Action(s) taken to restore the inoperable equipment to OPERABLE status, and
 3. Summary description of action(s) taken to prevent a recurrence.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.3.1 Doses due to liquid releases from each unit to UNRESTRICTED AREAS shall be projected at least once per 31 days in accordance with the methodology and parameters in the ODCM when water systems are being released without being processed by its Radwaste Treatment System.

4.11.1.3.2 The installed Liquid Radwaste Treatment System shall be demonstrated OPERABLE by meeting Specifications 3.11.1.1 and 3.11.1.2.

RADIOACTIVE EFFLUENTS

GASEOUS RADWASTE TREATMENT SYSTEM

LIMITING CONDITION FOR OPERATION

3.11.2.4 The VENTILATION EXHAUST TREATMENT SYSTEM and the WASTE GAS HOLDUP SYSTEM shall be OPERABLE and appropriate portions of these systems shall be used to reduce releases of radioactivity when the projected doses in 31 days due to gaseous effluent releases, from each unit, to areas at and beyond the SITE BOUNDARY (see Figure 5.1-3) would exceed:

- a. 0.2 mrad to air from gamma radiation, or
- b. 0.4 mrad to air from beta radiation, or
- c. 0.3 mrem to any organ of a MEMBER OF THE PUBLIC.

APPLICABILITY: At all times.

ACTION:

- a. With radioactive gaseous waste being discharged without treatment and in excess of the above limits, in lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that includes the following information:
 1. Identification of any inoperable equipment or subsystems, and the reason for the inoperability,
 2. Actions(s) taken to restore the inoperable equipment to OPERABLE status, and
 3. Summary description of actions(s) taken to prevent a recurrence.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.4.1 Doses due to gaseous releases from each unit to areas at and beyond the SITE BOUNDARY shall be projected at least once per 31 days in accordance with the methodology and parameters in the ODCM when gaseous streams are being released without being processed by its Radwaste Treatment System.

4.11.2.4.2 The installed Gaseous Radwaste Treatment System shall be demonstrated OPERABLE by meeting Specifications 3.11.2.1 and 3.11.2.2 or 3.11.2.3.

RADIOACTIVE EFFLUENTS

EXPLOSIVE GAS MIXTURE

LIMITING CONDITION FOR OPERATION

3.11.2.5 The concentration of oxygen in the WASTE GAS HOLDUP SYSTEM shall be limited to less than or equal to 2% by volume whenever the hydrogen concentration exceeds 4% by volume.

APPLICABILITY: At all times.

ACTION:

- a. With the concentration of oxygen in the WASTE GAS HOLDUP SYSTEM greater than 2% by volume but less than or equal 4% by volume, reduce the oxygen concentration to the above limits within 48 hours.
- b. With the concentration of oxygen in the WASTE GAS HOLDUP SYSTEM greater than 4% by volume and the hydrogen concentration greater than 4% by volume, immediately suspend all additions of waste gases to the system and reduce the concentration of oxygen to less than or equal to 4% by volume, and immediately take ACTION a. above.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.5 The concentrations of hydrogen and oxygen in the WASTE GAS HOLDUP SYSTEM shall be determined to be within the above limits by monitoring the waste gases in the WASTE GAS HOLDUP SYSTEM with the hydrogen and oxygen monitors required OPERABLE by Table 3.3-13 of Specification 3.3.3.9.



UNITED STATES
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WASHINGTON, D. C. 20555

SAFETY EVALUATION REPORT

RELATED TO AMENDMENT NO. 49 TO FACILITY OPERATING LICENSE NPF-9

AND TO AMENDMENT NO. 30 TO FACILITY OPERATING LICENSE NPF-17

DUKE POWER COMPANY

MCGUIRE NUCLEAR STATION, UNITS 1 AND 2

I. INTRODUCTION

By letter dated January 12, 1984, Duke Power Company (the licensee) proposed an amendment to License No. NPF-9 which would change the completion date in License Condition 2.C.(11)f.(3) for upgrading the Core Exit Thermocouple (CET) System. By letter dated January 17, 1985, the licensee proposed amendments to License No. NPF-9 and NPF-17 which would change Surveillance Specifications 4.11.1.3.1 and 4.11.2.4 with respect to dose projections for normal plant releases. The NRC staff has evaluated these proposed amendments.

II. EVALUATION

1. Schedule Change for Upgrading the Unit 1 Core Exit Thermocouple System Outside Containment

Upgrading of the McGuire CET system to the criteria in NUREG-0737, "Clarification of TMI Action Plan Requirements," Item II.F.2, "Inadequate Core Cooling Instruments," is being accomplished in two phases. The first phase was completed during the first refueling of each McGuire unit and involved upgrading the in-containment portion of the system. This included meeting qualification and separation requirements. The second phase will involve upgrading of the control room displays and is being accomplished to a schedule providing for integration with the licensee's Control Room Design Review and Regulatory Guide 1.97 Accident Monitoring Instrumentation Review performed in accordance with Supplement 1 to NUREG-0737, "Requirements for Emergency Response Capability." Such integration is desirable in that it provides for the proper consideration of all pertinent criteria in the final design of the display system. However, the schedule for completion of the upgrade required by Unit 1 License Condition 2.C.(11)f.(3) does not provide for this integration.

On June 15, 1984 the Commission issued an Order Confirming Licensee Commitments on Emergency Response Capability. The Order identified and required implementation of licensee's schedular commitments for providing submittals and for implementing certain actions from Supplement 1 to NUREG-0737. Item 3a of the table within the Order addressed

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a requirement that licensees submit a report for implementation of the provisions of Regulatory Guide 1.97, Revision 2, and noted that this requirement had been completed for the McGuire Nuclear Station. Prior to issuance of the Order, and by letter dated March 29, 1984, the licensee had provided a response to Item 3a which stated, in relevant part (page 5-20), that "The qualified in containment portion of the core exit thermocouple system will be installed prior to startup following the first refueling outage for each unit. The Class 1E backup display (the remaining ex-containment portion) will be added by the end of the first refueling outage following January 1986 for each unit, contingent upon equipment availability."

License Condition 2.C.(11)f.(3) of the operating license for McGuire Unit 1, as last amended December 31, 1981 (prior to the Order) required the licensee to upgrade the outside containment portion of the CET system no later than December 31, 1983. On December 30, 1983, the licensee provided initial notification to the NRC of its inability to comply with this License Condition. By letter dated January 12, 1984, the licensee requested that the Unit 1 license condition be changed with respect to the outside containment portion of the CET system to delete the specified implementation date and substitute a requirement that the licensee "provide a schedule for upgrade of the remainder of the system in the Regulatory Guide 1.97 Accident Monitoring Review Report submitted pursuant to NUREG-0737, Supplement 1." By letter dated September 17, 1984, the NRC informed the licensee that "(3) the proposed schedules to upgrade the CET system...by the first refueling outage of each unit after January 1986,... are acceptable."

The Class 1E backup display will provide a temperature range from 200°F to 2300°F which does not rely on the plant computer, and its channels will be powered by a battery-backed power supply. Once installed, it will provide improvement in the reliability and human factors aspects of existing displays. However, the Commission finds that the extension of the implementation date for this upgrading of the outside containment portion of the CET system beyond December 31, 1983, does not involve significant adverse safety considerations because the thermocouple monitoring system as presently installed is a simple but reasonably reliable and accessible system. The system presently has the following capabilities:

- (a) A spatially oriented core map is available on demand which indicates the temperature at core exit thermocouple locations. This map can be displayed or printed on demand.
- (b) An example of the McGuire selective readings is an on-demand tabular listing of instantaneous incore thermocouple values. This listing can be displayed or printed on demand.

- (c) Direct readout of average and instantaneous values, as well as hard-copy capabilities, is provided for thermocouple temperatures. The range is 0-2300°F.
- (d) Trend capability showing temperature-time histories is designed into the system. Strip chart recorder points are available to assign to any incore thermocouples on demand. In addition, a point-value trend printout is available on the control room typer.
- (e) Alarm capability is provided in conjunction with the Subcooling Monitor, which uses the average of valid thermocouple readings in its calculations and alarms when the value drops below the setpoint.
- (f) The cathode ray tube displays are designed for rapid operator access and ease of viewing data. In addition, the incore program has a validity-check comparison which reduces the probability of accessing false readings.

Accordingly, the Commission finds that the proposed change to Unit 1 License Condition 2.C.(11)f.(3) provides for consistency between the Operating License and the Commission's Order of June 15, 1984, and letter of September 17, 1984, and that the existing capabilities of the installed CET system are such that deferring the implementation date for upgrading the outside containment portion of the system beyond December 31, 1983, does not create a significant adverse impact upon safety and, therefore, is acceptable.

2. Clarification of Dose Projections for Normal Releases

By letter dated January 17, 1985, the licensee proposed changes to eliminate ambiguities in two surveillance requirements in the McGuire Unit 1 and Unit 2 Technical Specifications for Radwaste Treatment Systems by more clearly indicating that the requirements for dose projections are intended only with respect to untreated releases. Specifically, Surveillance Specification 4.11.1.3.1 was requested to be changed to reflect that dose projections are not required for liquid effluents which have been processed by the Liquid Radwaste Treatment System prior to being discharged. Similarly, the request would clarify Surveillance Specification 4.11.2.4 to reflect that dose projections are not required for gaseous effluents which have been processed by the Gaseous Radwaste Treatment System prior to being released.

The clarifications sought by the licensee are consistent with the Commission's original intent to require dose projection due to liquid or gaseous releases only when untreated effluents are to be discharged,

and with the intent of the Commission's model Radiological Effluent Technical Specifications (RETS) for PWRs, NUREG-0472, Revision 2, February 1, 1980. Thus, we find the changes to be administrative and acceptable.

III. ENVIRONMENTAL CONSIDERATION

These amendments involve a change in use of facility components located within the restricted area as defined in 10 CFR Part 20 and change 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 radiation exposure. The Commission has previously issued a proposed finding that these 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 Section 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental assessment need be prepared in connection with the issuance of these amendments.

IV. CONCLUSION

The Commission made proposed determinations that the amendments involve no significant hazards consideration which were published in the Federal Register on February 24, 1984 (49 FR 7033) and August 28, 1985 (50 FR 34939), 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 Contributors: D. S. Hood, Licensing Branch No. 4, DL
M. Meinke, Radiological Assessment Branch, DSI

Dated: November 22, 1985

November 22, 1985

AMENDMENT NO. 49 TO FACILITY OPERATING LICENSE NPF-9 - McGUIRE NUCLEAR STATION, UNIT 1
AMENDMENT NO. 30 TO FACILITY OPERATING LICENSE NPF-17 - McGUIRE NUCLEAR STATION, UNIT 2

DISTRIBUTION:

Docket Nos. 50-369/370

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