

May 10, 1990

Dockets 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. 108 TO FACILITY OPERATING LICENSE NPF-9 AND
AMENDMENT NO. 90 TO FACILITY OPERATING LICENSE NPF-17 - MCGUIRE
NUCLEAR STATION, UNITS 1 AND 2 (TACS 75830/75831)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 108 to
Facility Operating License NPF-9 and Amendment No. 90 to Facility Operating
License NPF-17 for the McGuire Nuclear Station, Units 1 and 2. These amend-
ments consist of changes to the Technical Specifications (TSs) in response to
your application dated January 19, 1990.

The amendments revise the (TSs) by deleting an obsolete footnote, reducing the
allowable air temperature in the control room, and correcting the extent of
methyl iodide penetration for laboratory testing of charcoal adsorbers of the
control area ventilation system.

A copy of the related Safety Evaluation is also enclosed. Notice of issuance of
the amendments will be included in the Commission's biweekly Federal Register
notice.

Sincerely,

/s/

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

Enclosures:

- 1. Amendment No. 108 to NPF-9
- 2. Amendment No. 90 to NPF-17
- 3. Safety Evaluation

cc w/enclosures:
See next page

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DATED: May 8, 1990

AMENDMENT NO. 108 TO FACILITY OPERATING LICENSE NPF-9 - McGuire Nuclear Station, Unit 1
AMENDMENT NO. 90 TO FACILITY OPERATING LICENSE NPF-17 - McGuire Nuclear Station, Unit 2

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

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Sincerely,

A handwritten signature in cursive script that reads "Darl Hood".

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

Enclosures:

1. Amendment No. 108 to NPF-9
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See next page



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. 108
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 January 19, 1990, 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, 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 attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-9 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 108, 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
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: May 10, 1990



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. 90
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 19, 1990, 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, 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 attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-17 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 90, 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
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: May 8, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 108

FACILITY OPERATING LICENSE NO. NPF-9

DOCKET NO. 50-369

AND

TO LICENSE AMENDMENT NO. 90

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.

Remove Pages

3/4 7-13
3/4 7-14

Insert Pages

3/4 7-13
3/4 7-14

PLANT SYSTEMS

3/4.7.6 CONTROL AREA VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

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

4.7.6 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 90°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;

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- c. At least once per 18 months, or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system, by:
- 1) Verifying that the system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% and uses the test procedure guidance of Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 2000 cfm \pm 10%;
 - 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 0.175%; and
 - 3) Verifying a system flow rate of 2000 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1975.
- d. After every 720 hours of charcoal adsorber operation, by verifying within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 0.175%;
- e. At least once per 18 months, by:
- 1) Verifying that the pressure drop across the combined pre-filters, HEPA filters and charcoal adsorber banks is less than 5 inches Water Gauge while operating the system at a flow rate of 2000 cfm \pm 10%;
 - 2) Verifying that upon actuation of a diesel generator sequencer the system automatically switches into a mode of operation with flow through the HEPA filters and charcoal adsorber banks;
 - 3) Verifying that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch W.G. relative to the outside atmosphere during system operation; and
 - 4) Verifying that the heaters dissipate 10 \pm 1.0 kW when tested in accordance with ANSI N510-1975.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 108 TO FACILITY OPERATING LICENSE NPF-9
AND AMENDMENT NO. 90 TO FACILITY OPERATING LICENSE NPF-17
DUKE POWER COMPANY
DOCKETS NOS. 50-369 AND 50-370
MCGUIRE NUCLEAR STATION, UNITS 1 AND 2

1.0 INTRODUCTION

By letter dated January 19, 1990, Duke Power Company (the licensee) proposed amendments to the operating licenses for McGuire Nuclear Station, Units 1 and 2. The amendments would revise the Technical Specifications (TSs) by: (1) deleting an obsolete footnote and its associated reference from TS 3.7.6; (2) reducing the allowable air temperature in the control room, specified by TS Surveillance Requirement 4.7.6.a, from 120°F to 90°F; and (3) correcting the extent of methyl iodide penetration, specified in TS Surveillance Requirements 4.7.6.c.2 and 4.7.6.d, for laboratory testing of charcoal adsorbers of the control area ventilation system from less than 1% to less than 0.175%.

2.0 EVALUATION

2.1 Deletion of Obsolete Footnote

By Amendments 95 (Unit 1) and 77 (Unit 2), the NRC added a footnote to TS 3.7.6 granting a one-time extension of the outage time specified for the Control Room Area Ventilation Chilled Water system to allow fan replacements and associated system modifications. The replacements and modifications have been completed and the footnote is no longer applicable. Removal of the footnote and the reference to it within the text is purely an administrative change and has no adverse effect upon safety. The change is, therefore, acceptable.

2.2 Reduction of Control Room Air Temperature

The air conditioning portion of the Control Room Area Ventilation Chilled Water system is designed to maintain the control room temperature at about 75°F. However, TS 4.6.7.a currently requires that control room temperature be maintained less than or equal to 120°F. Under the present limit McGuire has been occasionally experiencing erratic behavior and failures of certain solid state electronic components located in cabinets in the control room complex and associated with controls for safety systems and engineered safety features. The erratic behavior and failures occurred when control room air temperature was increased above 90°F. To provide a higher level of reliability for electronic equipment in the control room area, the licensee proposes to revise the TSs by reducing the present limit of 120°F to a more restrictive 90°F.

The NRC staff has reviewed the licensee's request and agrees that use of the lower temperature limit will provide a more favorable operating environment for systems and components in the control room area, especially solid state electronic components. Moreover, lowering the allowable limit to 90°F will produce no adverse effect on safety. Therefore, the proposed change is acceptable.

2.3 Penetration of Methyl Iodide During Testing of Charcoal Adsorbers

On March 2, 1983, the NRC issued Generic Letter (GL) 83-13, "Clarification of Surveillance Requirements for HEPA Filters and Charcoal Adsorber Units in Standard Technical Specifications on ESF Cleanup Systems." The GL provided model specifications to be followed in the preparation of surveillance requirements for testing of high efficiency particulate air (HEPA) filters and charcoal adsorber units in atmospheric cleanup systems used as an engineered safety feature. The model addressed a laboratory analysis of a carbon sample obtained in accordance with, and required to meet testing criteria of, Regulatory Guide 1.52 for a certain upper limit for methyl iodide penetration. The GL explained the appropriate upper limit to be used for methyl iodide penetration accordingly:

"0.175% value applicable when a charcoal adsorber efficiency of 99% is assumed, or 1% value applicable when a charcoal adsorber efficiency of 95% is assumed ... in the NRC staff's safety evaluation."

The carbon filter beds of the McGuire Control Area Ventilation System are rated at a 99% decontamination efficiency with respect to methyl iodide removal. For such filters, periodic testing of carbon samples in accordance with Regulatory Guide 1.52 and TS 4.7.6 should be based upon methyl iodide penetration of less than 0.175%. Presently, TS 4.7.6.c.2 and 4.7.6.d specify a testing criterion for methyl iodide penetration of less than 1%, corresponding to a decontamination efficiency of 95%. The licensee calculates that the thyroid dose to control room personnel assuming a 95% decontamination efficiency would exceed the acceptance criterion of Standard Review Plan 6.4. Therefore, the existing TS is not sufficiently conservative and should be corrected to specify a methyl iodide penetration of 0.175%, the appropriate value for a filter with 99% efficiency.

Accordingly, we find that the proposed change is appropriate to correct a nonconservative error in the existing TSs regarding charcoal testing. Moreover, the proposed change is consistent with the actual design, the licensing basis for operator exposure and with GL 83-13. It is, therefore, acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

These amendments involve changes in requirements with respect 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 radiation exposure. The NRC staff has previously issued a proposed finding 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 assessment need be prepared in connection with the issuance of these amendments.

4.0 CONCLUSION

The Commission's proposed determination that the amendments involve no significant hazards consideration was published in the Federal Register (55 FR 8222) on March 7, 1990. 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 Contributor: D. Hood, PD#II-3/DRP-I/II

Dated: May 10, 1990