Mr. T. C. McMeekin Vice President, McGuire Site Duke Power Company 12700 Hagers Ferry Road Huntersville, NC 28078-8985

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ISSUANCE OF AMENDMENTS - MCGUIRE NUCLEAR STATION, UNITS 1 AND 2 SUBJECT: TURBINE OVERSPEED PROTECTION (TAC NOS. M92126 and M92127)

Dear Mr. McMeekin:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 156 to Facility Operating License NPF-9 and Amendment No. $_{138}$  to Facility Operating License NPF-17 for the McGuire Nuclear Station, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated April 12, 1995.

The amendments delete TS 3/4.3.4, "Turbine Overspeed Protection," and its associated Bases. The deletion of TS 3/4.3.4 and its associated Bases provides Duke Power Company the flexibility to implement the manufacturer's recommendations for turbine steam valve surveillance test requirements. These test requirements will be contained in the Selected Licensee Commitment (SLC) Manual. The SLC Manual is Chapter 16 of the Updated Final Safety Analysis Report.

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

Sincerely,

Original signed by:

Victor Nerses, Senior Project Manager Project Directorate II-2 Division of Reactor Projects - I/II Office of Nuclear Reactor Regulation

Docket Nos. 50-369 and 50-370

Enclosures:

- 1. Amendment No.  $_{156}$  to NPF-9 2. Amendment No.  $_{138}$  to NPF-17
- 3. Safety Evaluation

cc w/encl: See next page DOCUMENT NAME: G:\MCGUIRE\MCG92126.AMD To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy120

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# UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

August 2, 1995

Mr. T. C. McMeekin Vice President, McGuire Site Duke Power Company 12700 Hagers Ferry Road Huntersville, NC 28078-8985

#### ISSUANCE OF AMENDMENTS - MCGUIRE NUCLEAR STATION. UNITS 1 AND 2 SUBJECT: TURBINE OVERSPEED PROTECTION (TAC NOS. M92126 AND M92127)

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Victor Nerses, Senior Project Manager Project Directorate II-2 Division of Reactor Projects - I/II Office of Nuclear Reactor Regulation

Docket Nos. 50-369 and 50-370

Enclosures:

- 1. Amendment No. 156 2. Amendment No. 138 to NPF-9
- to NPF-17
- Safety Evaluation 3.

cc w/encl: See next page

Mr. T. C. McMeekin Duke Power Company

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UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

#### DUKE POWER COMPANY

#### DOCKET NO. 50-369

#### MCGUIRE NUCLEAR STATION, UNIT 1

#### AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 156 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 (licensee) dated April 12, 1995, 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-9 is hereby amended to read as follows:

#### Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No.  $_{156}$ , 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 and shall be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

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Herbert N. Berkow, Director Project Directorate II-2 Division of Reactor Projects - I/II Office of Nuclear Reactor Regulation

Attachment: Technical Specification Changes

Date of Issuance: August 2, 1995



UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

#### DUKE POWER COMPANY

#### DOCKET NO. 50-370

#### MCGUIRE NUCLEAR STATION, UNIT 2

#### AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 138 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 (licensee) dated April 12, 1995, 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.  $_{138}$ , 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 and shall be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

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Herbert N. Berkow, Director Project Directorate II-2 Division of Reactor Projects - I/II Office of Nuclear Reactor Regulation

Attachment: Technical Specification Changes

Date of Issuance: August 2, 1995

# ATTACHMENT TO LICENSE AMENDMENT NO. 156

# FACILITY OPERATING LICENSE NO. NPF-9

# DOCKET NO. 50-369

# <u>and</u>

#### TO LICENSE AMENDMENT NO. 138

### 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.

<u>Remove Pages</u>	<u>Insert Pages</u>		
VIII	VIII		
XVI	XVI		
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	Explosive Gas Monitoring Instrumentation
TABLE 3.3	-13 EXPLOSIVE GAS MONITORING INSTRUMENTATION
TABLE 4.3	-9 EXPLOSIVE GAS MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS
	Loose-Part Detection System
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<u>3/4.4 RE</u>	ACTOR COOLANT SYSTEM
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3/4.3.4 Deleted

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Amendment No. 156 (Unit 1) Amendment No. 138 (Unit 2)

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BASES

#### 3/4.3.3.10 LOOSE-PART DETECTION INSTRUMENTATION

The OPERABILITY of the loose-part detection instrumentation ensures that sufficient capability is available to detect loose metallic parts in the reactor system and avoid or mitigate damage to reactor system components. The allowable out-of-service times and Surveillance Requirements are consistent with the recommendations of Regulatory Guide 1.133, "Loose-Part Detection Program for the Primary System of Light-Water-Cooled Reactors," May 1981.

# 3/4.3.4 Deleted

McGUIRE - UNITS 1 and 2

Amendment No.156 (Unit 1) Amendment No.138 (Unit 2)



UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

#### SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

# RELATED TO AMENDMENT NO. 156 TO FACILITY OPERATING LICENSE NPF-9

AND AMENDMENT NO. 138 TO FACILITY OPERATING LICENSE NPF-17

### DUKE POWER COMPANY

### MCGUIRE NUCLEAR STATION, UNITS 1 AND 2

### DOCKET NOS. 50-369 AND 50-370

#### 1.0 INTRODUCTION

By letter dated April 12, 1995, Duke Power Company (the licensee) submitted a request for changes to the McGuire Nuclear Station, Units 1 and 2, Technical Specifications (TS). The requested changes would delete TS 3/4.3.4, "Turbine Overspeed Protection," and its associated Bases. The deletion of TS 3/4.3.4 would provide the licensee with the flexibility to make changes to turbine steam valve surveillance test requirements subject to the concurrence of the turbine manufacturer. Surveillance test requirements for the turbine steam valves would be contained in the Selected Licensee Commitment (SLC) Manual which is Chapter 16 of the Updated Final Safety Analysis Report.

Section 182a of the Atomic Energy Act, as amended (the "Act"), requires that applicants for nuclear power plant operating licenses to incorporate TS as a part of the license. The Commission's regulatory requirements related to the content of the TS are set forth in 10 CFR 50.36. That regulation requires that the TS include items in five specific categories, including (1) safety limits, limiting safety system settings and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements; (4) design features; and (5) administrative controls and states also that the Commission may include such additional TS as it finds to be appropriate. However, the regulation does not specify the particular TS to be included in a plant's license.

The Commission has provided guidance for the contents of the TS in its "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors" ("Final Policy Statement"), 58 FR 39132 (July 22, 1993), in which the Commission indicated that compliance with the Final Policy Statement satisfies Section 182a of the Act. In particular, the Commission indicated that certain items could be relocated from the TS to licensee-controlled documents, consistent with the standard enunciated in *Portland General Electric Co.* (Trojan Nuclear Plant), ALAB-531, 9 NRC 263, 273 (1979). In that case, the Atomic Safety and Licensing Appeal Board indicated that "technical specifications are to be reserved for those matters as to which the imposition

of rigid conditions or limitations upon reactor operation is deemed necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety."

Consistent with this approach, the Final Policy Statement identified four criteria to be used in determining whether a particular matter is required to be included in the TS, as follows: (1) Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary; (2) A process variable, design feature, or operating restriction that is an initial condition of a Design Basis Accident or Transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; (3) A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a Design Basis Accident or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; (4) A structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety. As a result, existing Limiting Condition for Operation (LCO) requirements which fall within or satisfy any of the criteria in the Final Policy Statement must be retained in the TS, while those LCO requirements which do not fall within or satisfy these criteria may be relocated to other, licensee-controlled documents.

#### 2.0 EVALUATION

The McGuire turbine generators have several sets of steam valves to control turbine speed during normal operation and to protect them from overspeed during abnormal operations. These valves are the four high pressure turbine control valves, the four high pressure turbine stop valves, the six low pressure turbine intermediate stop valves, and the six low pressure turbine intercept valves, all of which are controlled during normal operation by the turbine Electrohydraulic Control (EHC) System.

The Turbine Overspeed Protection System consists of separate mechanical and electrical sensing mechanisms each capable of independently initiating fast closure of the turbine steam valves during abnormal conditions. The mechanical overspeed trip will actuate to trip the turbine and initiate fast closure of the turbine steam valves at 110 percent of rated speed. The electrical overspeed trip (also called the backup overspeed trip) provides an additional overspeed trip and additional overspeed protection since it will actuate at 111.5 percent of rated speed.

TS 3/4.3.4 requires at least one Turbine Overspeed Protection System to be OPERABLE in OPERATIONAL CONDITIONS 1, 2 and 3 and provides surveillance requirements for periodic testing and inspection of the turbine steam valves. The surveillance requirements include weekly cycling of each of the valves through at least one complete cycle. Cycling of the valves introduces the potential for causing plant transients which are detrimental to plant safety.

<sup>1</sup> The Commission recently promulgated a proposed change to 10 CFR 50.36, pursuant to which the rule would be amended to codify and incorporate these criteria (59 FR 48180, September 20, 1994). The Commission's Final Policy Statement specified that the Reactor Core Isolation Cooling, Isolation Condenser, Residual Heat Removal, Standby Liquid Control, and Recirculation Pump Trip are included in the TS under Criterion 4 (58 FR 39132, July 22, 1993).

In its submittal of April 12, 1995, DPC proposed that TS 3/4.3.4 and its associated Bases be deleted. The proposed change would also relocate the surveillance requirements to the McGuire Updated Final Safety Analysis Report. Changes to the relocated surveillance requirements would be based on the manufacturer's recommendations and controlled in accordance with the provisions of 10 CFR 50.59. This will permit DPC to optimize testing and inspection frequencies such that unnecessary testing and inspections will be reduced. Reduction of unnecessary testing and inspections will assist in reducing plant transients and may thereby enhance safety.

The NRC staff also notes that the proposed deletion of TS 3/4.3.4 would make the McGuire TS consistent with the guidance provided in the NRC's Standard Technical Specifications, Westinghouse Plants (NUREG-1431), in that the NRC's Standard Technical Specifications do not include TS requiring the operability of a Turbine Overspeed Protection System.

The licensee has proposed changes to TS 3/4.3.4 to remove the requirements related to the operability of the turbine overspeed controls, and related surveillance requirements. In the amendment application, the licensee committed to include the surveillance program in Chapter 16, Selected Licensee Commitment Manual, of the Updated Final Safety Analysis Report (UFSAR).

Although the design basis accidents and transients include a variety of system failures and conditions which might result from turbine missiles striking various plant systems and equipment, system failures and plant conditions could be caused by other events as well as turbine failures. In view of the low likelihood of turbine missiles, the slight lowering of this possibility by adding steam valve operability requirements would be even less likely to significantly affect the primary success path to prevent or mitigate such design basis accidents and transients. Similarly, the turbine overspeed control is not part of an initial condition of a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Probabilistic safety assessments and operating experience have demonstrated that proper maintenance of the turbine overspeed control valves is important to minimize the potential for overspeed events and turbine damage; that experience has also demonstrated that there is a low likelihood of significant risk to public health and safety because of turbine overspeed events. Further, the potential for and consequences of turbine overspeed events are diminished by the favorable orientation of the turbine, relative to the likely path of any turbine missiles, and the licensee's inservice inspection program, which must comply with 10 CFR 50.55(a), and a surveillance program for the turbine control and stop valves that is subject to the concurrence of the manufacturer.

Accordingly, the staff concluded that the requirements for turbine overspeed controls do not meet the TS criteria in the Final Policy Statement. Therefore, the limiting conditions for operation and surveillance requirements for turbine overspeed controls were removed from the Standard Technical Specifications. On this basis, the staff concludes that these requirements are not required to be in the TS under 10 CFR 50.36 or Section 182a of the Act, and are not required in order to provide adequate protection to the health and safety of the public. Further, they do not fall within any of the four criteria set forth in the Commission's Final Policy Statement, discussed above. In addition, the NRC staff finds that sufficient regulatory controls exist under 10 CFR 50.59 to ensure that future changes to these requirements are acceptable. Accordingly, the staff has concluded that these requirements may be relocated from the TS to the UFSAR.

The NRC staff has no objection to the deletion of the Bases associated with TS 3/4.3.4.

#### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the South Carolina State official was notified of the proposed issuance of the amendments. The State official had no comments.

#### 4.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC 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 the amendments involve no significant hazards consideration, and there has been no public comment on such finding (60 FR 32362 dated June 21, 1995). 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 the amendments.

#### 5.0 <u>CONCLUSION</u>

The Commission has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: S. S. Kirslis

**Date:** August 2, 1995