February 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. 102 TO FACILITY OPERATING LICENSE NPF-9 AND AMENDMENT NO. 84 TO FACILITY OPERATING LICENSE NPF-17 - MCGUIRE NUCLEAR STATION, UNITS 1 AND 2 (TACS 55435 AND 55436)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 102 to Facility Operating License NPF-9 and Amendment No. 84 to Facility Operating License NPF-17 for the McGuire Nuclear Station, Units 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated September 15, 1989.

The amendments (1) make two changes to TS Table 3.3-4, Engineered Safety Features Actuation System Instrumentation Trip Setpoints, to correct and better define a trip setpoint and allowable value, and (2) change TS Table 3.3-5, Engineered Safety Features Response Times, to add appropriate response times to three items and revise the present value of the response time of a fourth item.

A copy of the related Safety Evaluation supporting Amendment No. 102 to Facility Operating License NPF-9 and Amendment No. 84 to Facility Operating License NPF-17 is also enclosed. Notice of issuance of 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. 102 to NPF-9
2. Amendment No. 84 to NPF-17
3. Safety Evaluation

cc w/enclosures:
See next page

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DATED: February 10, 1990

AMENDMENT NO.102 TO FACILITY OPERATING LICENSE NPF-9 - McGuire Nuclear Station, Unit 1
AMENDMENT NO.84 TO FACILITY OPERATING LICENSE NPF-17 - McGuire Nuclear Station, Unit 2

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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.102
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 15, 1989, 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.102 , 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: February 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. 84
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 15, 1989, 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.84 , 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

Carl Hoot for

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: February 10, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 102

FACILITY OPERATING LICENSE NO. NPF-9

DOCKET NO. 50-369

AND

TO LICENSE AMENDMENT NO. 84

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.

Amended Page
3/4 3-27
3/4 3-30
3/4 3-31

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
4. Steam Line Isolation		
a. Manual Initiation	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
c. Containment Pressure--High-High	$\leq$ 2.9 psig	$\leq$ 3.0 psig
d. Negative Steam Line Pressure Rate - High	$\leq$ 100 psi with a rate/lag function time constant $\geq$ 50 seconds	$\leq$ 120 psi with a rate/lag function time constant $\geq$ 50 seconds
e. Steam Line Pressure - Low	$\geq$ 585 psig	$\geq$ 565 psig
5. Turbine Trip and Feedwater Isolation		
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
b. Steam Generator Water level--High-High (P-14)	$\leq$ 82% of narrow range instrument span each steam generator	$\leq$ 83% of narrow range instrument span each steam generator
c. Doghouse Water Level-High (Feedwater Isolation Only)	12"	13"
6. Containment Pressure Control System		
Start Permissive/Termination (SP/T)	0.3 $\leq$ SP/T $\leq$ 0.4 PSIG	0.25 $\leq$ SP/T $\leq$ 0.45 PSIG

Amendment No. 102(Unit 1)
Amendment No. 84 (Unit 2)

TABLE 3.3-5

ENGINEERED SAFETY FEATURES RESPONSE TIMES

INITIATING SIGNAL AND FUNCTION		RESPONSE TIME IN SECONDS
1.	Manual	
a.	Safety Injection (ECCS)	N.A.
b.	Containment Spray	N.A.
c.	Containment Isolation	
	Phase "A" Isolation	N.A.
	Phase "B" Isolation	N.A.
	Purge and Exhaust Isolation	N.A.
d.	Steam Line Isolation	N.A.
e.	Feedwater Isolation	N.A.
f.	Auxiliary Feedwater	N.A.
g.	Nuclear Service Water	N.A.
h.	Component Cooling Water	N.A.
i.	Reactor Trip (from SI)	N.A.
j.	Start Diesel Generators	N.A.
2.	Containment Pressure-High	
a.	Safety Injection (ECCS)	$\leq 27^{(1)}$
b.	Reactor Trip (from SI)	≤ 2
c.	Feedwater Isolation	≤ 9
d.	Containment Isolation-Phase "A"(2)	$\leq 18^{(3)}/28^{(4)}$
e.	Containment Purge and Exhaust Isolation	≤ 4
f.	Auxiliary Feedwater(5)	N.A.
g.	Nuclear Service Water	$\leq 65^{(3)}/76^{(4)}$
h.	Component Cooling Water	$\leq 65^{(3)}/76^{(4)}$
i.	Start Diesel Generators	≤ 11

TABLE 3.3-5 (Continued)

ENGINEERED SAFETY FEATURES RESPONSE TIMES

INITIATING SIGNAL AND FUNCTION	RESPONSE TIME IN SECONDS
3. Pressurizer Pressure-Low-Low	
a. Safety Injection (ECCS)	$\leq 27^{(1)}/12^{(3)}$
b. Reactor Trip (from SI)	≤ 2
c. Feedwater Isolation	≤ 9
d. Containment Isolation-Phase "A"[2]	$\leq 18^{(3)}/28^{(4)}$
e. Containment Purge and Exhaust Isolation	≤ 4
f. Auxiliary Feedwater[5]	N.A.
g. Nuclear Service Water System	$\leq 76^{(1)}/65^{(3)}$
h. Component Cooling Water	$\leq 76^{(1)}/65^{(3)}$
i. Start Diesel Generators	≤ 11
4. Steam Line Pressure-Low	
a. Safety Injection (ECCS)	$\leq 12^{(3)}/22^{(4)}$
b. Reactor Trip (from SI)	≤ 2
c. Feedwater Isolation	≤ 9
d. Containment Isolation-Phase "A"[2]	$\leq 18^{(3)}/28^{(4)}$
e. Containment Purge and Exhaust Isolation	≤ 4
f. Auxiliary Feedwater[5]	N.A.
g. Nuclear Service Water	$\leq 65^{(3)}/76^{(4)}$
h. Steam Line Isolation	≤ 7
i. Component Cooling Water	$\leq 65^{(3)}/76^{(4)}$
j. Start Diesel Generators	≤ 11
5. Containment Pressure-High-High	
a. Containment Spray	≤ 45
b. Containment Isolation-Phase "B"	N.A.
c. Steam Line Isolation	≤ 7
6. Steam Generator Water Level-High-High	
a. Turbine Trip	N.A.
b. Feedwater Isolation	≤ 9

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 102 TO FACILITY OPERATING LICENSE NPF-9

AND AMENDMENT NO. 84 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 September 15, 1989, Duke Power Company (the licensee) proposed amendments to the McGuire Nuclear Station Technical Specifications (TSs) which would (1) make two changes to TS Table 3.3-4, Engineered Safety Features Actuation System Instrumentation Trip Setpoints, to correct and better define a trip setpoint and allowable value, and (2) change TS Table 3.3-5, Engineered Safety Features Response Times, to add appropriate response times to three items and revise the present value of the response time of a fourth item.

2.0 EVALUATION

2.1 Table 3.3-4

The first proposed change to TS Table 3.3-4, Item 4.d, Negative Steam Line Pressure Rate-High, would delete the minus signs from the numerical values for the Trip Setpoint and the Allowable Values. The heading for Item 4.d already indicates a "negative" rate of pressure change; the additional minus sign could cause confusion. This change is for clarifying editorial purposes, and is, therefore, acceptable.

The second revision to Item 4.d of TS Table 3.3-4 would change the entry under Trip Setpoint from "$\leqq$ 100 psi/sec" to "$\leqq$ 100 psi with a rate/lag function time constant $\geqq$ 50 seconds." Similarly, the entry under Allowable Values would be changed from "$\leqq$ 120 psi/sec" to "$\leqq$ 120 psi with a rate/lag function time constant $\geqq$ 50 seconds." This change in format and method of denoting the setpoints would correspond to the design of the as-built steam line pressure rate instrumentation and ensure its performance consistent with safety analyses. The numerical values were derived using the methodology discussed in the report "Westinghouse Reactor Protection System/Engineered Safety Features Actuation System Setpoint Methodology, Duke Power Company, McGuire Unit 1," by C. R. Tuley et al., April 1981. The methodology has been reviewed by the NRC staff and found to be acceptable.

These clarifying changes correct the trip setpoint and allowable values consistent with the NRC's original intent and consistent with actual plant practice. Accordingly, the changes are administrative in nature and do not involve changes to the actual values themselves or the manner in which they are used. Consequently, the requested changes are acceptable.

2.2 Table 3.3-5

The proposed changes to TS Table 3.3-5, Items 2.e, 3.e, and 4.e would specify response times of ≦ 4 seconds for the Containment Purge and Exhaust Isolation systems for each of three initiating signals: Containment Pressure-High, Pressurizer Pressure-Low-Low, and Steam Line Pressure-Low. At present, response times for Containment Purge and Exhaust Isolation are specified to be "N.A", i.e., not applicable. This is incorrect since response times were considered in analyses of the offsite consequences of accidents involving the use of the Containment Purge and Exhaust System.

The case of a loss of coolant accident (LOCA) concurrent with lower containment pressure relief is analyzed in Section 15.B.2 of the McGuire Final Safety Analysis Report (FSAR). One of the parameters used in the evaluation of this case is the isolation time for the Containment Air Release and Addition System valves. As indicated in FSAR Table 15.B.2-1, the isolation time for these valves in this analysis is 4 seconds. The results of this analysis, shown in FSAR Table 15.0.12-1, are in compliance with the assumptions used in the plant licensing basis accident analysis. Isolation times ≦ 4 seconds are therefore acceptable.

The proposed ≦ 4-second response times are consistent with FSAR Section 9.5.12.3 which indicates that these valves have a 3-second closure time, plus an allowable 1 second for generating an Engineered Safety Feature (ESF) response as indicated in FSAR Section 7.3.1.2.6.

The licensee also proposed a revision to Item 6.b of TS Table 3.3-5, which specifies the Engineered Safety Features Response Time addressing Feedwater Isolation based upon a Steam Generator Water Level-High-High signal. The requested change would lower the required response time from the currently specified ≦ 13 seconds to ≦ 9 seconds. The licensing basis safety analysis which determines this response time is excessive feedwater flow at full power, analyzed in FSAR Section 15.1.2. FSAR Table 15.1.2-1 gives the sequence of events for this analysis. The High-High Steam Generator Water Level setpoint is reached at 27 seconds, with feedwater isolation occurring at 36 seconds (i.e., 9 seconds later). If feedwater flow continued for another 4 seconds, as permitted by the currently specified isolation time of 13 seconds, an additional mass increase beyond that assumed in the analysis could be expected. This additional feedwater level could affect the consequences of the event at power, if there had been a trip, with potential effects on reactivity control (e.g., power restoration) and/or overfill of the steam generator to cause water ingress (i.e., flooding) into the main steam lines. Additionally, it could have consequences of potentially larger importance for the event occurring from sub-critical zero power.

Therefore, the proposed lowering of the required isolation response time from ≦ 13 seconds to ≦ 9 seconds is required to make it consistent with the licensing basis. The requested change to Item 6.b of TS Table 3.3-5 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. 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 Commission has previously published 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 impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

4.0 CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (55 FR 931) on January 10, 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 Contributors: D. Hood, PDII-3/DRP-I/II
S. Kirslis, PDII-3/DRP-1/II

Dated: February 10, 1990