



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. 51  
License No. NPF-9

1. The Nuclear Regulatory Commission (the Commission) 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 (licensee) dated April 25, 1985, September 6, 1985 and August 20, 1985, as supplemented November 6, 1985, and January 28, 1986, comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's 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 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-9 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 51, are hereby incorporated into the license.

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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

Original signed by:  
D. Hood

*for*

B. J. Youngblood, Director  
PWR Project Directorate #4  
Division of PWR Licensing-A

Attachment:  
Technical Specification Changes

Date of Issuance: March 5, 1986

*DSH*  
PWR#4/DPWR-A  
DHood/mac  
02/ 4 /86

*MD*  
PWR#4/DPWR-A  
MDuncan  
02/12/86

*GE*  
OELD  
G E Johnson  
02/26/86

*DSH*  
PWR#4/DPWR-A  
BJYoungblood  
02/ 11 /86

*Done DSH*  
*change to*  
*letter and*  
*see Envr. Conf. 2.*  
*section*  
*check w/ SECY for*  
*comments/pat. turns*  
*2/23*



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. 32  
License No. NPF-17

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The applications 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 25, 1985, September 6, 1985 and August 20, 1985, as supplemented November 6, 1985, and January 28, 1986, comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's 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 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;
  - 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. 32, are hereby incorporated into the license.

The licensee shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:  
D. Hood

*for*

B. J. Youngblood, Director  
PWR Project Directorate #4  
Division of PWR Licensing-A

Attachment:  
Appendix A Technical  
Specification Changes

Date of Issuance: March 5, 1986

*DSit*  
PWR#4/DPWR-A  
DHood/mac  
2/11/85

*MDuncan*  
PWR#4/DPWR-A  
MDuncan  
2/12/85

OELD  
*GE Johnson*  
2/26/85

*DSit/m*  
PWR#4/DPWR-A  
BJYoungblood  
2/11/85

*w/changes to  
letter v  
SRM/Env. Cons.  
check w/Secy for  
Comments/Petitions 2/20*

ATTACHMENT TO LICENSE AMENDMENT NO. 51

FACILITY OPERATING LICENSE NO. NPF-9

DOCKET NO. 50-369

AND

TO LICENSE AMENDMENT NO. 32

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. The corresponding overleaf pages are also provided to maintain document completeness.

<u>Amended</u> <u>Page</u>	<u>Overleaf</u> <u>Page</u>
3/4 3-20	3/4 3-19
3/4 3-24a (new page)	
3/4 3-27	
3/4 3-36	3/4 3-35
3/4 3-37	3/4 3-38
3/4 6-2	
6-23	

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
4. Steam Line Isolation					
a. Manual Initiation					
1) System	2	1	2	1, 2, 3	22
2) Individual	1/steam line	1/steam line	1/operating steam line	1, 2, 3	23
b. Automatic Actuation Logic and Actuation Relays	2	1	2	1, 2, 3	21
c. Containment Pressure-- High-High	4	2	3	1, 2, 3	16
d. Negative Steam Line Pressure Rate - High					
Four Loops Operating	3/steam line	2/steam line in any steam line	2/steam line	3 <sup>##</sup>	15*
Three Loops Operating	(**)	(**)	(**)	(**)	(**)
e. Steam Line Pressure - Low					
Four Loops Operating	3/steam line	2/steam line in any steam line	2/steam line	1, 2, 3 <sup>#</sup>	15*
Three Loops Operating	(**)	(**)	(**)	(**)	(**)

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
5. Turbine Trip & Feedwater Isolation					
a. Automatic Actuation Logic and Actuation Relay	2	1	2	1, 2	21
b. Steam Generator Water Level-- High-High	3/stm. gen.	2/stm. gen. in any operating stm gen.	2/stm. gen. in each operating stm. gen.	1, 2	15*
c. Doghouse Water Level (Feedwater Isolation Only)	3/train/Doghouse	2/train/Doghouse	2/train/Doghouse	1, 2	25*
6. Containment Pressure Control System					
a. Start Permissive	4/train	2/train	3/train	1, 2, 3, 4	19*
b. Termination	4/train	2/train	3/train	1, 2, 3, 4	19*

McGUIRE - UNITS 1 and 2

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Amendment No. 51 (Unit 1)  
Amendment No. 32 (Unit 2)

ACTION 25 - With one of the two trains of doghouse water level instrumentation inoperable (less than the minimum required number of channels operable), restore the inoperable train to operable status in 72 hours. After 72 hours with one train inoperable, or within one hour with 2 trains inoperable, monitor doghouse water level in the affected doghouse continuously until both trains are restored to operable status.



TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
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	≤ 2.9 psig	≤ 3.0 psig
d. Negative Steam Line Pressure Rate - High	≤ -100 psi/sec	≤ -120 psi/sec
e. Steam Line Pressure - Low	≥ 585 psig	≥ 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)	< 82% of narrow range Instrument span each steam generator	< 83% of narrow range Instrument span each steam generator
c. Doghouse Water Level-High (Feedwater Isolation Only)	12"	13"
6. Containment Pressure Control System		
a. Start Permissive	≤ 0.25 psid	≤ 0.25 psid
b. Termination	≤ 0.25 psid	≤ 0.25 psid

McGUIRE - UNITS 1 and 2

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Amendment No.51 (Unit 1)  
Amendment No.32 (Unit 2)

MCGUIRE - UNITS 1 and 2

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TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
3. Containment Isolation								
a. Phase "A" Isolation								
1) Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3, 4
3) Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
b. Phase "B" Isolation								
1) Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3, 4
3) Containment Pressure-High-High	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
c. Purge and Exhaust Isolation								
1) Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3, 4
3) Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
4. Steam Line Isolation								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3
c. Containment Pressure--High-High	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
d. Negative Steam Line Pressure Rate-High	S	R	M	N.A.	N.A.	N.A.	N.A.	3
e. Steam Line Pressure--Low	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
5. Turbine Trip and Feedwater Isolation								
a. Automatic Actuation Logic and Actuation Relay	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2
b. Steam Generator Water Level-High-High (P-14)	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2
c. Doghouse Water Level-High (Feedwater Isolation Only)	S	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2
6. Containment Pressure Control System								
a. Start Permissive	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3, 4
b. Termination	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3, 4

McGUIRE - UNITS 1 & 2

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Amendment No. 51 (Unit 1)  
Amendment No. 32 (Unit 2)

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
7. Auxiliary Feedwater								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3
c. Steam Generator Water Level--Low-Low	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
d. Auxiliary Feedwater Suction Pressure-Low	N.A.	R	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
e. Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements							
f. Station Blackout	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
g. Trip of Main Feedwater Pumps	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2
8. Automatic Switchover to Recirculation								
RSWT Level	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
9. Loss of Power								
4 kV Emergency Bus Undervoltage-Grid Degraded Voltage	N.A.	R	N.A.	M	N.A.	N.A.	N.A.	1, 2, 3, 4

McGUIRE - UNITS 1 and 2

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Amendment No.51 (Unit 1)  
Amendment No.32 (Unit 2)

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
10. Engineered Safety Features Actuation System Interlocks								
a. Pressurizer Pressure, P-11	N.A.	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
b. Reactor Trip, P-4	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
c. Low, Low T <sub>avg</sub> , P-12	N.A.	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
d. Steam Generator Level, P-14	S	R	M	N.A.	M(1)	M(1)	Q	1, 2, 3

## CONTAINMENT SYSTEMS

### CONTAINMENT LEAKAGE

#### LIMITING CONDITION FOR OPERATION

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3.6.1.2 Containment leakage rates shall be limited to:

- a. An overall integrated leakage rate of:
  - 1) Less than or equal to  $L_a$ , 0.30% by weight of the containment air per 24 hours at  $P_a$ , 14.8 psig, or
  - 2) Less than or equal to  $L_t$ , 0.14% by weight of the containment air per 24 hours at a reduced pressure of  $P_t$ , 7.4 psig.
- b. A combined leakage rate of less than  $0.60 L_a$  for all penetrations and valves subject to Type B and C tests, when pressurized to  $P_a$ , and
- c. A combined bypass leakage rate of less than  $0.07 L_a$  for all penetrations identified in Table 3.6-1 as secondary containment bypass leakage paths when pressurized to  $P_a$ .

APPLICABILITY: MODES 1, 2, 3, and 4.

#### ACTION:

With (a) the measured overall integrated containment leakage rate exceeding  $0.75 L_a$  or  $0.75 L_t$ , as applicable, or (b) the measured combined leakage rate for all penetrations and valves subject to Types B and C tests exceeding  $0.60 L_a$ , or (c) the combined bypass leakage rate exceeding  $0.07 L_a$ , restore the overall integrated leakage rate to less than  $0.75 L_a$  or less than or equal to  $0.75 L_t$ , as applicable, and the combined leakage rate for all penetrations and valves subject to Type B and C tests to less than  $0.60 L_a$ , and the combined bypass leakage rate to less than  $0.07 L_a$  prior to increasing the Reactor Coolant System temperature above  $200^\circ\text{F}$ .

#### SURVEILLANCE REQUIREMENTS

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4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR 50 using the methods and provisions of ANSI N45.4-1972 or the mass-plot method:

## ADMINISTRATIVE CONTROLS

### RECORD RETENTION (Continued)

- g. Records of training and qualification for current members of the unit staff;
- h. Records of inservice inspections performed pursuant to these Technical Specifications;
- i. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59;
- j. Records of meetings of the NSRB and reports required by Specification 6.5.1.12;
- k. Records of the service lives of all snubbers listed in Tables 3.7-4a and 3.7-4b including the date at which the service life commences and associated installation and maintenance records;
- l. Records of secondary water sampling and water quality; and
- m. Records of analyses required by the Radiological Environmental Monitoring Program that would permit evaluation of the accuracy of the analysis at a later date. This should include procedures effective at specified times and QA records showing that these procedures were followed.

6.10.3 Records of quality assurance activities required by the QA Manual shall be retained for a period of time required by ANSI N45.2.9-1974.

### 6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.

### 6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c)(2) of 10 CFR 20, each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP)\*. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

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\*Health Physics personnel or personnel escorted by Health Physics personnel shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they are otherwise following plant radiation protection procedures for entry into high radiation areas.