

#### UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D.C. 20565-0001

### DUKE ENERGY CORPORATION

#### DOCKET NO. 50-369

## MCGUIRE NUCLEAR STATION, UNIT 1

### AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 181 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 Energy Corporation (licensee) dated May 8, 1998, 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.

9809210209 980917 PDR ADOCK 05000369 P PDR

- 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:
  - (2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 181, are hereby incorporated into this 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 and shall be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

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: September 17, 1998

## ATTACHMENT TO LICENSE AMENDMENT NO. 181

## EACILITY OPERATING LICENSE NO. NPF-9

## DOCKET NO. 50-369

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	Insert	
3/4 7-1	3/4 7-1	
3/4 7-2	3/4 7-2	
B 3/4 7-1	B 3/4 7-1	
B 3/4 7-2	B 3/4 7-2	

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.1 All main steam line Code safety valves associated with each steam generator shall be OPERABLE with lift settings as specified in Table 3.7-2.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With four reactor coolant loops and associated steam generators in operation and with one or more main steam line code safety valves inoperable, operation in MODES 1, 2, and 3 may proceed provided, that within 4 hours, either the inoperable valve is restored to OPERABLE status or the Power Range Neutron Flux High Trip Setpoint is reduced per Table 3.7-1; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. The provisions of Specification 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.7.1.1 No additional requirements other than those required by Specification 4.0.5. Following testing, lift settings shall be within  $\pm 1\%$ .

#### IABLE 3.7-1

# MAXIMUM ALLOWABLE POWER RANGE NEUTRON FLUX HIGH SETPOINT WITH INOPERABLE STEAM LINE SAFETY VALVES DURING FOUR LOOP OPERATION

39

19

Maximum Number of Inoperable	Maximum Allowable Power Range
Safety Valves on Any	Neutron Flux High Setpoint
<u>Operating Steam Generator</u>	(Percent of RATED THERMAL POWER)
1	58

23

TABLE 3.7-2

#### STEAM LINE SAFETY VALVES PER LOOP

VALVE_NUMBER					LIFT SETTING(± 3%)*	ORIFICE SIZE
	LOOD A	Loop B	Loop C	Loop D		
1.2.3.4.5.	SV 20 SV 21 SV 22 SV 23 SV 24	SV 14 SV 15 SV 16 SV 17 SV 18	SV 8 SV 9 SV 10 SV 11 SV 11 SV 12	SV 2 SV 3 SV 4 SV 5 SV 6	1170 psig 1190 psig 1205 psig 1220 psig 1225 psig	12.174 in <sup>2</sup> 12.174 in <sup>2</sup> 16.00 in <sup>2</sup> 16.00 in <sup>2</sup> 16.00 in <sup>2</sup>

\* The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

McGUIRE - UNIT 1

Amendment No. 181

#### BASES

#### 3/4.7.1 TUREINE CYCLE

#### 3/4.7.1.1 SAFETY VALVES

The OPERABILITY of the main steam line Code safety valve ansures that the Secondary Coolant System pressure will be limited to within 110% of its design pressure of 1185 psig during the most severe anticipated system operational transient. The maximum relieving capacity is associated with a Turbine trip from 100% RATED THERMAL POWER coincident with an assumed loss of condenser heat sink (i.e., no steam bypass to the condenser).

The specified value lift settings and relieving capacities are in accordance with the requirements of Section III of the ASME Boiler and Pressure Code, 1971 Edition. Table 3.7-2 allows a  $\pm$  3% setpoint tolerance for OPERABILITY; however, the values are reset to  $\pm$  1% during surveillance testing to allow for drift. The total relieving capacity for all values on all of the steam lines is 15.9 x 10<sup>6</sup> lbs/hr which is 105% of the total secondary steam flow of 15.14 x 10<sup>6</sup> lbs/hr at 100% RATED THERMAL POWER. A minimum of two OPERABLE safety values per steam generator ensures that sufficient relieving capacity is available for the allowable THERMAL POWER restriction in Table 3.7-1.

STARTUP and/or POWER OPERATION is allowable with safety valves inoperable within the limitations of the ACTION requirements on the basis of the reduction in Secondary Coolant System steam flow and THERMAL POWER required by the reduced Reactor Trip Settings of the Power Range Neutron Flux channels. The Reactor Trip Setpoint reductions are derived based on the algorithm contained in Westinghouse's Nuclear Safety Advisory Letter (NSAL) 94-001.

#### PLANT SYSTEMS

#### BASES

### 3/4.7.1.2 AUXILIARY FEEDWATER SYSTEM

The OPERABILITY of the Auxiliary Feedwater System ensures that the Reactor Coolant System can be cooled down to less than 350°F from normal operating conditions in the event of a total loss-of-offsite power.

Each electric motor-driven auxiliary feedwater pump is capable of delivering a total feedwater flow of 450 gpm at a pressure of 1210 psig to the entrance of the steam generators. The steam-driven auxiliary feedwater pump is capable of delivering a total feedwater flow of 900 gpm at a pressure of 1210 psig to the entrance of the steam generators. This capacity is sufficient to ensure that adequate feedwater flow is available to remove decay heat and reduce the Reactor Coolant System temperature to less than 350°F when the RHR System may be placed into operation.

Verification of the steam turbine-driven pump discharge pressure should be deferred until suitable test conditions are established (i.e., greater than or equal to 900 psig in the secondary side of the steam generator). This deferral is required because until 900 psig is reached, there is insufficient steam pressure to perform the test.

#### 3/4.7.1.3 SPECIFIC ACTIVITY

The limitations on Secondary Coolant System specific activity ensure that the resultant offsite radiation dose will be limited to a small fraction of 10 CFR Part 100 dose guideline values in the event of a steam line rupture. This dose also includes the effects of a coincident 1.0 gpm reactor to secondary tube leak in the steam generator of the affected steam line. These values are consistent with the assumptions used in the accident analyses.



#### UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D.C. 20555-0001

DUKE ENERGY CORPORATION

### DOCKET NO. 50-370

## MCGUIRE NUCLEAR STATION, UNIT 2

## AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 163 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 Energy Corporation (licensee) dated May 8, 1998, 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.

- 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:
  - (2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 163 , are hereby incorporated into this 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 and shall be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

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: September 17, 1998

## ATTACHMENT TO LICENSE AMENDMENT NO. 163

## 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	Insert		
3/4 7-1	3/4 7-1		
3/4 7-2	3/4 7-2		
B 3/4 7-1	B 3/4 7-1		
B 3/4 7-2	B 3/4 7-2		

.

.

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.1 All main steam line Code safety valves associated with each steam generator shall be OPERABLE with lift settings as specified in Table 3.7-2.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With four reactor coolant loops and associated steam generators in operation and with one or more main steam line code safety valves inoperable, operation in MODES 1, 2, and 3 may proceed provided, that within 4 hours, either the inoperable valve is restored to OPERABLE status or the Power Range Neutron Flux High Trip Setpoint is reduced per Table 3.7-1; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.1 No additional requirements other than those required by Specification 4.0.5. Following testing, lift settings shall be within  $\pm 1\%$ .

## IABLE 3.7-1

## MAXIMUM ALLOWABLE POWER RANGE NEUTRON FLUX HIGH SETPOINT WITH INOPERABLE STEAM LINE SAFETY VALVES DURING FOUR LOOP OPERATION

Maximum Number of Inoperable	Maximum Allowable Power Range
Safety Valves on Any	Neutron Flux High Setpoint
Operating Steam Generator	(Percent of RATED THERMAL POWER)
1	58

58 39 19

23

## TABLE 3.7-2

### STEAM LINE SAFETY VALVES PER LOOP

VALVE NUMBER					LIFT SETTING (± 3%)*	ORIFICE SIZE
	LOOP A	Loop B	Loop C	Loop D		
1. 2. 3. 4. 5.	SV 20 SV 21 SV 22 SV 23 SV 24	SV 14 SV 15 SV 16 SV 17 SV 18	SV 8 SV 9 SV 10 SV 11 SV 12	SV 2 SV 3 SV 4 SV 5 SV 6	1170 psig 1190 psig 1205 psig 1220 psig 1225 psig	12.174 in <sup>2</sup> 12.174 in <sup>2</sup> 16.00 in <sup>2</sup> 16.00 in <sup>2</sup> 16.00 in <sup>2</sup>

\* The lift setting pressure shall correspond to ambient conditions for the valve at nominal operating temperature and pressure.

#### BASES

## 3/4.7.1 TURBINE CYCLE

### 3/4.7.1.1 SAFETY VALVES

The OPERABILITY of the main steam line Code safety valves ensures that the Secondary Coolant System pressure will be limited to within 110% of its design pressure of 1185 psig during the most severe anticipated system operational transient. The maximum relieving capacity is associated with a Turbine trip from 100% RATED THERMAL POWER coincident with an assumed loss of condenser heat sink (i.e., no steam bypass to the condenser).

The specified valve lift settings and relieving capacities are in accordance with the requirements of Section III of the ASME Boiler and Pressure Code, 1971 Edition. Table 3.7-2 allows a  $\pm$  3% setpoint tolerance for OPERABILITY; however, the valves are reset to  $\pm$  1% during surveillance testing to allow for drift. The total relieving capacity for all valves on all of the steam lines is 15.9 x 10<sup>6</sup> lbs/hr which is 105% of the total secondary steam flow of 15.14 x 10<sup>6</sup> lbs/hr at 100% RATED THERMAL POWER. A minimum of two OPERABLE safety valves per steam generator ensures that sufficient relieving capacity is available for the allowable THERMAL POWER restriction in Table 3.7-1.

STARTUP and/or POWER OPERATION is allowable with safety valves inoperable within the limitations of the ACTION requirements on the basis of the reduction in Secondary Coolant System steam flow and THERMAL POWER required by the reduced Reactor Trip Settings of the Power Range Neutron Flux channels. The Reactor Trip Setpoint reductions are derived based on the algorithm contained in Westinghouse's Nuclear Safety Advisory Letter (NSAL) 94-001.

### PLANT SYSTEMS

#### BASES

## 3/4.7.1.2 AUXILIARY FEEDWATER SYSTEM

The OPERABILITY of the Auxiliary Feedwater System ensures that the Reactor Coolant System can be cooled down to less than 350°F from normal operating conditions in the event of a total loss-of-offsite power.

Each electric motor-driven auxiliary feedwater pump is capable of delivering a total feedwater flow of 450 gpm at a pressure of 1210 psig to the entrance of the steam generators. The steam-driven aux liary feedwater pump is capable of delivering a total feedwater flow of 900 torm at a pressure of 1210 psig to the entrance of the steam generators. This capacity is sufficient to ensure that adequate feedwater flow is available to remove decay heat and reduce the Reactor Coolant System temperature to less than 350°F when the RHR System may be placed into operation.

Verification of the steam turbine-driven pump discharge pressure should be deferred until suitable test conditions are established (i.e., greater than or equal to 900 psig in the secondary side of the steam generator). This deferral is required because until 900 psig is reached, there is insufficient steam pressure to perform the test.

### 3/4.7.1.3 SPECIFIC ACTIVITY

The limitations on Secondary Coolant System specific activity ensure that the resultant offsite radiation dose will be limited to a small fraction of 10 CFR Part 100 dose guideline values in the event of a steam line rupture. This dose also includes the effects of a coincident 1.0 gpm reactor to secondar; tube leak in the steam generator of the affected steam line. These values are consistent with the assumptions used in the accident analyses.