



**Duke Energy Corporation**

McGuire Nuclear Station  
12700 Hagers Ferry Road  
Huntersville, NC 28078-9340

(704) 875-4800 OFFICE  
(704) 875-4809 FAX

H. B. Barron  
Vice President

February 29, 2000

U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001  
ATTENTION: Document Control Desk

SUBJECT: Duke Energy Corporation (DEC)  
McGuire Nuclear Station Units 1 and 2  
Docket Nos. 50-369 and 50-370  
Proposed Amendment to Technical Specification (TS)  
3.3.2 - Engineered Safety Feature Actuation System  
Instrumentation

Pursuant to 10 CFR 50.4 and 10 CFR 50.90, this letter submits a license amendment request (LAR) for McGuire Nuclear Station Facility Operating Licenses (FOL) NPF-9 and NPF-17, Appendix A (Technical Specifications).

In accordance with NRC Administrative Letter 98-10: "Dispositioning of Technical Specifications that Are Insufficient to Assure Plant Safety", this proposed amendment modifies the allowable value and trip setpoint listed in Table 3.3.2-1 for Auxiliary Feedwater pump suction transfer on low suction pressure to a conservative value relative to the minimum analyzed limit. The trip setpoints currently used to calibrate the pressure switches are conservative with respect to the minimum analyzed limit and administratively controlled by instrumentation procedures.

The amendment package contains the following:

- Attachment 1 provides a marked copy of the Technical Specifications showing the proposed changes.
- Attachment 2 provides the proposed reprinted Technical Specifications page.
- Attachment 3 provides the Technical Justification.
- Pursuant to 10 CFR 50.92, Attachment 4 documents the determination that the amendment contains No Significant Hazards Considerations.
- Pursuant to 10 CFR 51.22(c)(9), Attachment 5 provides the basis for the categorical exclusion from performing an Environmental Assessment/Impact Statement.

A001

U.S. Nuclear Regulatory Commission  
February 29, 2000  
Page 2

Implementation of this amendment to the McGuire Facility Operating License and Technical Specifications will not impact the McGuire UFSAR. The Bases for the Technical Specifications are not affected by this amendment request.

In accordance with Duke internal procedures and the Quality Assurance Program Topical Report, the proposed amendment has been reviewed and approved by the Plant Operations Review Committee and Duke Corporate Nuclear Safety Review Board. During NRC review of the LAR, the McGuire Nuclear Station will continue the current practice of using the valid trip setpoint values documented in the instrumentation procedures.

Pursuant to 10 CFR 50.91, a copy of this LAR is being forwarded to the appropriate North Carolina State Officials.

Please direct questions on this LAR to Norman T. Simms at (704) 875-4685.

Very truly yours,



H.B. Barron, Vice President  
McGuire Nuclear Station

Attachments

U.S. Nuclear Regulatory Commission  
February 29, 2000  
Page 3

xc: (w/attachments)

L.A. Reyes  
Regional Administrator, Region II  
U.S. Nuclear Regulatory Commission  
Atlanta Federal Center  
61 Forsyth Street, SW, Suite 23T85  
Atlanta, GA. 30303

S.M. Shaeffer  
NRC Senior Resident Inspector  
McGuire Nuclear Station

F. Rinaldi  
NRC Senior Project Manager  
Office of U.S. Nuclear Reactor Regulation  
One White Flint North, Mail Stop O-14H25  
Washington, D.C. 20555-0001

R.M. Fry, Director  
Division of Radiation Protection  
State of North Carolina  
3825 Barrett Drive  
Raleigh, N.C. 27609-7221

AFFIDAVIT

H.B. Barron, being duly sworn, states that he is Site Vice President of McGuire Nuclear Station, Duke Energy Corporation; that he is authorized on the part of said corporation to sign and file with the U.S. Nuclear Regulatory Commission this amendment to the McGuire Nuclear Station Facility Operating Licenses Nos. NPF-9 and NPF-17; and, that all statements and matters set forth therein are true and correct to the best of his knowledge.

H.B. Barron

H.B. Barron, Vice President  
McGuire Nuclear Station  
Duke Energy Corporation

Subscribed and sworn to before me: February 25, 2000  
Date

Deborah G. Thrap  
Notary Public  
Deborah G. Thrap

My Commission Expires: April 6, 2002  
Date

bxc: (w. attachments)

M.T. Cash (MG01RC)  
K.L. Crane (MG01RC)  
T.C. Geer (MG05EE)  
B.K. Marrow (MG05EE)  
R.F. Turpin (MG05EE)  
G.D. Gilbert (CN01RC)  
G.B Swindlehurst (EC08H)

ELL (EC050)  
MNS Regulatory Compliance File  
McGuire Master File  
NSRB Support Staff (EC05N)

**Attachment 1**

**Marked Copy of the  
Technical Specifications**

Table 3.3.2-1 (page 4 of 6)  
 Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TRIP SETPOINT
6. Auxiliary Feedwater (continued)						
c. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.					
d. Station Blackout						
(1) Loss of voltage	1,2,3	3 per bus	D	SR 3.3.2.7 SR 3.3.2.9	≥ 3122 V (Unit 1) ≥ 3108 V (Unit 2) with 8.5 ± 0.5 sec time delay	≥ 3174 V (Unit 1) ≥ 3157 V (Unit 2) ± 45 V with 8.5 ± 0.5 sec time delay
(2) Degraded Voltage	1,2,3	3 per bus	D	SR 3.3.2.7 SR 3.3.2.9	≥ 3661 V (Unit 1) ≥ 3685.5 V (Unit 2) with ≤ 11 sec with SI and ≤ 600 sec without SI time delay	≥ 3678.5 V (Unit 1) ≥ 3703 V (Unit 2) with ≤ 11 sec with SI and ≤ 600 sec without SI time delay
e. Trip of all Main Feedwater Pumps	1,2(a)	1 per MF pump	K	SR 3.3.2.7 SR 3.3.2.9	NA	NA
f. Auxiliary Feedwater Pump Suction Transfer on Suction Pressure - Lo	1,2,3	2 per MDP, 4 per TDP	N,O	SR 3.3.2.7 SR 3.3.2.8 SR 3.3.2.9	≥ 4 psig 3 psig	≥ 2 psig 3.5 psig
7. Automatic Switchover to Containment Sump						
a. Refueling Water Storage Tank (RWST) Level - Lo	1,2,3	3	P	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.8 SR 3.3.2.9	≥ 175.85 inches	≥ 180 inches
Coincident with Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.					

(continued)

(a) Above the P-11 (Pressurizer Pressure) Interlock.

**Attachment 2**

**Proposed Technical Specifications Page**

Table 3.3.2-1 (page 4 of 6)  
 Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TRIP SETPOINT
6. Auxiliary Feedwater (continued)						
c. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.					
d. Station Blackout						
(1) Loss of voltage	1,2,3	3 per bus	D	SR 3.3.2.7 SR 3.3.2.9	≥ 3122 V (Unit 1) ≥ 3108 V (Unit 2) with 8.5 ± 0.5 sec time delay	≥ 3174 V (Unit 1) ≥ 3157 V (Unit 2) ± 45 V with 8.5 ± 0.5 sec time delay
(2) Degraded Voltage	1,2,3	3 per bus	D	SR 3.3.2.7 SR 3.3.2.9	≥ 3661 V (Unit 1) ≥ 3685.5 V (Unit 2) with ≤ 11 sec with SI and ≤ 600 sec without SI time delay	≥ 3678.5 V (Unit 1) ≥ 3703 V (Unit 2) with ≤ 11 sec with SI and ≤ 600 sec without SI time delay
e. Trip of all Main Feedwater Pumps	1,2(a)	1 per MF pump	K	SR 3.3.2.7 SR 3.3.2.9	NA	NA
f. Auxiliary Feedwater Pump Suction Transfer on Suction Pressure - Lo	1,2,3	2 per MDP, 4 per TDP	N,O	SR 3.3.2.7 SR 3.3.2.8 SR 3.3.2.9	≥ 3 psig	≥ 3.5 psig
7. Automatic Switchover to Containment Sump						
a. Refueling Water Storage Tank (RWST) Level - Lo	1,2,3	3	P	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.8 SR 3.3.2.9	≥ 175.85 inches	≥ 180 inches
Coincident with Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.					

(continued)

(a) Above the P-11 (Pressurizer Pressure) Interlock.

**Attachment 3**

**Technical Justification**

Background:

The Auxiliary Feedwater (CA) System automatically supplies feedwater to the steam generators to remove decay heat from the Reactor Coolant System upon the loss of normal feedwater supply. The CA system is required to operate until normal feedwater flow is restored or until the reactor coolant pressure is lowered to the point where the Residual Heat Removal (ND) System can be utilized. In order of preference and quality, the CA System sources of water include: the condensate storage tank, the upper surge tanks, the condenser hotwell and then the Nuclear Service Water (RN) System. The condenser hotwell is normally isolated, but can be aligned to the CA pumps, if necessary. The RN System is the source of safety-related water for the CA System. Upon low CA pump suction pressure, pump suction is automatically aligned to the RN System.

Licensee Event Report (LER) 369/92-11, submitted to the NRC on January 29, 1993, documented a Technical Specification violation which occurred due to inoperable CA pressure switches. Several pressure switches were found outside of their specified setpoint limit. Corrective actions consisted of new analyses to compensate for setpoint drifting, recalibration of all pressure switches, along with the replacement of several pressure switches. New trip setpoints were determined and administratively controlled by instrumentation procedures, although Technical Specifications were not revised to properly document the valid values. As a result of guidance provided by the NRC in Administrative Letter 98-10 Duke Energy continues to review Technical Specifications for nonconservative values. During a recent review of Table 3.3.2-1 it was determined that this table needed to be reconciled with the appropriate values.

Justification:

Technical Specification 3.3.2, "Engineered Safety Features Actuation System Instrumentation" states that the Auxiliary Feedwater suction pressure auto-realignment to the RN System shall be operable with trip setpoints set consistent with the values as shown in Table 3.3.2-1(6f) "Engineered Safety Features Actuation System Instrumentation Trip Setpoints". The current Technical Specifications state that the trip setpoint is greater than or equal to 2.0 PSIG and the allowable value is greater than or equal to 1.0 PSIG. As documented in LER 369/92-11, the trip setpoint was reanalyzed as the result of concerns regarding setpoint drifting.

The minimum analytical limit is analyzed in calculation MCC-1223.42-00-0032 as 1.87 PSIG. The instrument loop uncertainty value is analyzed in calculation MCC-1210.04-00-0043. The

instrument loop uncertainty calculation evaluated the Technical Specification trip setpoint to be greater than or equal to 3.5 PSIG. The instrument loop uncertainty calculation also concluded that the Technical Specification allowable value should be greater than or equal to 3.0 PSIG. Based on the parameters as analyzed by these calculations, the technical specification trip setpoint and allowable value should be changed as shown in Table 3.3.2-1. The amended trip setpoint and allowable value are conservative relative to the minimum analytical limit and to the current technical specification values.

**Attachment 4**

**No Significant Hazards Consideration**

No Significant Hazards Considerations:

In accordance with the criteria set forth in 10 CFR 50.91 and 50.92, the McGuire Nuclear Station has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

No. Only the trip setpoint and allowable value for CA pump low suction pressure auto-realignment to RN System are being modified in the Technical Specifications to accurately document the valid analyzed values stated in the calculations. The proposed change is consistent with the current licensing basis for the McGuire Nuclear Station, the setpoint methodologies used to develop the trip setpoints, the McGuire Safety Analyses, and current station calibration procedures and practices. The Engineered Safety Features Actuation System (ESFAS) is an accident mitigating system, and not an accident initiator. Therefore, the proposed change will have no impact on any accident probabilities. Accident consequences will not be affected, as no changes are being made to the plant which will involve a reduction in reliability or effectiveness of the CA System. Consequently, any previous evaluations associated with accidents will not be affected by these changes.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

No. Only the trip setpoint and allowable value for CA pump low suction pressure auto-realignment to RN System are being modified in the Technical Specifications to accurately document the valid analyzed values stated in the calculations. No changes are being made to actual plant hardware which will result in any new failure modes or new accident initiation mechanisms. Also, no changes are being made to the way the plant is being operated. The McGuire Nuclear Station will continue the current practice of using the valid trip setpoint values documented in the instrumentation procedure. Consequently, no new plant accidents will be created by these changes.

3. Does this change involve a significant reduction in a margin of safety?

No. Only the trip setpoint and allowable value for CA pump low suction pressure auto-realignment to RN System are being modified in the Technical Specifications to accurately document the valid analyzed values stated in the calculations. The methods used for analyzing the allowable value are endorsed by Duke Power's EDM 102, "Instrument Uncertainty Calculations". Margin of safety is related to the confidence in the ability of the fission product barriers to perform their design functions during and following accident conditions. The impact of the proposed change will not challenge or exceed any safety limits or design limits during a design basis accident. Consequently, the integrity of the fission product barriers will still be maintained.

**Conclusion:**

Based on the above analysis, McGuire Nuclear Station concludes that the requested amendment involves no significant hazards considerations.

**Attachment 5**

**Environmental Assessment/Impact Statement**

Environmental Impact Assessment:

Pursuant to 10 CFR 51.22(b), an evaluation of this license amendment request has been performed to determine whether or not it meets the criteria for categorical exclusion set forth in 10 CFR 51.22 (c)(9) of the regulations. It has been determined that the proposed amendment does not involve a significant hazards consideration, nor increase the types and amounts of effluents that may be released offsite, nor increase individual or cumulative occupational radiation exposures. Therefore, the proposed amendment meets the criteria given in 10 CFR 51.22(c)(9) for a categorical exclusion from the requirement for an Environmental Impact Assessment.