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July 20, 2000

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

SUBJECT: Duke Energy Corporation (DEC)
McGuire Nuclear Station Units 1 and 2
Docket Nos. 50-369/50-370

Proposed Technical Specification (TS) Amendments
TS 3.3.1 - Reactor Trip System Instrumentation
TS 3.3.2 - Engineered Safety Feature Actuation System
Instrumentation
TS 3.3.5 - Loss of Power Diesel Generator Start
Instrumentation
TS 3.3.6 - Containment Purge and Exhaust Isolation
Instrumentation

The subject amendments to the McGuire Nuclear Station TS's were submitted in docketed correspondence dated January 6, 2000 (TAC Numbers MA7941 AND MA7942). During review of these amendments, the NRC proposed changes to address some concerns with the requested TS revisions. This letter submits revised amendment pages incorporating these changes.

The changes proposed by DEC in the January 6, 2000 TS amendment request would facilitate treatment of the Reactor Trip System Instrumentation, Engineered Safety Feature Actuation System Instrumentation, Loss of Power Diesel Generator Start Instrumentation, and Containment Purge and Exhaust Isolation Instrumentation TS Trip Setpoints as nominal values. Treatment of these Trip Setpoints as nominal values would allow them to be left at the value specified in the TS's plus or minus an instrument calibration setting tolerance. In addition, the originally proposed changes contain a provision for setting the Trip Setpoint outside the instrument calibration setting tolerance band in the conservative direction if warranted by plant conditions. During their review of the amendment request, the NRC commented that application of this provision to

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TS 3.3.5 - Loss of Power DG Start Instrumentation could result in premature separation of safety related equipment from offsite power during switchyard voltage fluctuations. DEC agrees that the NRC's concerns with this provision are legitimate. Consequently, the applicable amendment pages have been revised to preclude application of this provision to TS 3.3.5. In addition, revised amendment pages are included which incorporate TS BASES wording relative to verifying offsite power system operability should a TS 3.3.5 related Trip Setpoint be found outside the instrument calibration setting tolerance band in the conservative direction.

The marked up and revised TS BASES page 3.3.5-5 included in this letter are new submittal pages and should be inserted at the end of Attachment 6 and Attachment 7 of the January 6, 2000 submittal respectively. All other pages attached to this letter should be substituted for the original pages provided in the January 6, 2000 submittal.

The No Significant Hazards Considerations determination and the Environmental Assessment/Impact Statement provided in the January 6, 2000 TS amendment package are not impacted by the attached changes. However, the Description of Proposed Changes and Technical Justification has been revised as shown in the attachment to this letter. These TS amendment changes will not impact the McGuire Station's UFSAR. In accordance with DEC policy, the changes provided in the letter are not significant enough to warrant review by the McGuire Station Plant Operations Review Committee and the DEC Nuclear Safety Review Board. These oversight and review groups have previously approved the original amendment request.

A copy of this correspondence is being forwarded to the appropriate North Carolina State Officials.

Please direct questions related to this letter to Julius Bryant at 704-875-4162.

Very truly yours,



H. B. Barron, Site Vice President
McGuire Nuclear Station

Attachment

U.S. Nuclear Regulatory Commission
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Page 3 of 4

xc: (w/attachments)

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H. B. Barron, being duly sworn, states that he is Site Vice President McGuire Nuclear Station; that he is authorized on the part of Duke Energy Corporation to sign and file with the U.S. Nuclear Regulatory Commission these revisions 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, Site Vice President
McGuire Nuclear Station
Duke Energy Corporation

Subscribed and sworn to before me this 20th day of July 2000.

Deborah S. Rome

Notary Public

Deborah S. Rome

My Commission Expires:

December 19, 2004

bxc: (w. attachments)

T.C. Geer (MG05EE)
K.L. Crane (MG01RC)
G.D. Gilbert (CN01RC)
L.J. Rudy (CN01RC)
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R.L. Pacetti (MG05EE)
T.A. Belk (MG05EE)
C.J. Thomas (EC050)
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ATTACHMENT
(12 Pages Follow)

Proposed Changes

In accordance with the requirements of 10CFR50.90 and 10CFR50.4, DEC proposes to revise the McGuire Nuclear Station TS's as stated below. The proposed revisions will facilitate treatment of the applicable RTS, ESFAS, LOP, and VP Instrumentation TS Trip Setpoints as nominal values. In addition, proposed changes to the applicable TS Bases (Attachments 6 and 7) are included which further define the TS Trip Setpoints as nominal values.

The proposed changes are as follows:

1. Inequalities associated with the TRIP SETPOINT columns of TS Tables 3.3.1-1 and 3.3.2-1 would be deleted.
2. The column heading "TRIP SETPOINT" in TS Tables 3.3.1-1 and 3.3.2-1 would be changed to "NOMINAL TRIP SETPOINT".
3. The column heading "TRIP SETPOINT" in TS Table 3.3.6-1 would be changed to "NOMINAL TRIP SETPOINT".
4. "Trip Setpoint" in the first sentence of Table 3.3.1-1 Note 1 would be changed to "NOMINAL TRIP SETPOINT". "Trip Setpoint" in the definition of K_1 in Table 3.3.1-1 Note 1 would be changed to "NOMINAL TRIP SETPOINT".
5. "Trip Setpoint" in the first sentence of Table 3.3.1-1 Note 2 would be changed to "NOMINAL TRIP SETPOINT". "Trip Setpoint" in the definition of K_4 in Table 3.3.1-1 Note 2 would be changed to "NOMINAL TRIP SETPOINT".
6. Each instance of "Trip Setpoint" in TS Surveillance 3.3.5.2 would be changed to "NOMINAL TRIP SETPOINT".
7. TS Section 1.1 Definitions would be revised to add the definition of NOMINAL TRIP SETPOINT.
8. The inequalities in TS Surveillance 3.3.5.2 associated with the Unit 1 and Unit 2 Loss of Voltage Trip Setpoints and the Unit 1 and Unit 2 Degraded Voltage Trip Setpoints would be deleted.
9. An inequality will be added to the Allowable Value for Doghouse Water Level-High High in TS Table 3.3.2-1, Function 5e.
10. A Note has been added to TS Surveillance 3.3.5.2 stating that the Trip Setpoints shall be set within the calibration tolerance band.

consistent with similar requirements for Doghouse Water Level High-High in the Catawba Nuclear Station Technical Specifications.

C. Proposed Change #10

Background:

If plant conditions warrant, the proposed definition of NOMINAL TRIP SETPOINT provides an option for setting a trip setpoint in plant hardware outside the NOMINAL TRIP SETPOINT calibration tolerance band as long as the trip setpoint is conservative with respect to the NOMINAL TRIP SETPOINT. Application of that provision to TS Surveillance Requirement 3.3.5.2 could result in premature separation of safety related equipment from offsite power during switchyard voltage fluctuations. Consequently, TS Surveillance Requirement 3.3.5.2 has been modified by a Note stating that a NOMINAL TRIP SETPOINT shall be set within the channel's calibration tolerance band.

Conclusion:

The addition of the Note to TS Surveillance Requirement 3.3.5.2 as described above ensures that the applicable Trip Setpoints will be set within their respective calibration tolerance bands. This will preclude the possibility of setting these Trip Setpoints too conservatively and rendering offsite power inoperable during switchyard voltage fluctuations.

Summary

Revisions to the McGuire TS's as shown in proposed changes #1, #2, #4, #5, and #7 are consistent with the setpoint methodologies described in the Westinghouse setpoint methodology document and the EDM. Proposed changes #6 and #8 are consistent with statements in the BASES for TS 3.3.5. Revising the McGuire TS's as shown in proposed change #3 provides clarification to TS Table 3.3.6-1 and ensures consistency with ESFAS Table 3.3.2-1. Revisions to the McGuire TS's as outlined in proposed change #9 are consistent with the McGuire Design Bases and similar requirements in the Catawba Nuclear Station Technical Specifications. Proposed change #10 to TS Surveillance Requirement 3.3.5.2 would preclude the premature separation of safety related equipment from offsite power without impacting the desired safety function associated with the Loss of Voltage and Degraded Voltage Trip Setpoints.

NOMINAL TRIP SETPOINT

The NOMINAL TRIP SETPOINT shall be the design value of a setpoint. The trip setpoint implemented in plant hardware may be less or more conservative than the NOMINAL TRIP SETPOINT by a calibration tolerance. Unless otherwise specified, if plant conditions warrant, the trip setpoint implemented in plant hardware may be set outside the NOMINAL TRIP SETPOINT calibration tolerance band as long as the trip setpoint is conservative with respect to the NOMINAL TRIP SETPOINT.

INSERT FOR PAGE 1.1-4

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.3.5.1 Perform TADOT.	31 days
<p>SR 3.3.5.2</p> <p style="text-align: center;">-----NOTE-----</p> <p>A NOMINAL TRIP SETPOINT associated with this SR shall be set within the channel's calibration tolerance band.</p> <p>Perform CHANNEL CALIBRATION with Trip Setpoint and Allowable Value as follows: NOMINAL TRIP SETPOINT</p> <p>a. Loss of voltage Allowable Value ≥ 3122 V (Unit 1) ≥ 3108 V (Unit 2) with a time delay of 8.5 ± 0.5 second.</p> <p style="text-align: center;">NOMINAL TRIP SETPOINT</p> <p>Loss of voltage Trip Setpoint ≥ 3174 V (Unit 1) ≥ 3157 V (Unit 2) ± 45 V with a time delay of 8.5 ± 0.5 second.</p> <p>b. Degraded voltage Allowable Value ≥ 3661 V (Unit 1) ≥ 3685.5 V (Unit 2) with a time delay of ≤ 11 seconds with SI and ≤ 600 seconds without SI.</p> <p style="text-align: center;">NOMINAL TRIP SETPOINT</p> <p>Degraded voltage Trip Setpoint ≥ 3678.5 V (Unit 1) ≥ 3703 V (Unit 2) with a time delay of ≤ 11 seconds with SI and ≤ 600 seconds without SI.</p>	<p>INSERT NOTE</p> <p>18 months</p>

1.1 Definitions (continued)

MASTER RELAY TEST	A MASTER RELAY TEST shall consist of energizing each master relay and verifying the OPERABILITY of each relay. The MASTER RELAY TEST shall include a continuity check of each associated slave relay.
MODE	A MODE shall correspond to any one inclusive combination of core reactivity condition, power level, average reactor coolant temperature, and reactor vessel head closure bolt tensioning specified in Table 1.1-1 with fuel in the reactor vessel.
NOMINAL TRIP SETPOINT	The NOMINAL TRIP SETPOINT shall be the design value of a setpoint. The trip setpoint implemented in plant hardware may be less or more conservative than the NOMINAL TRIP SETPOINT by a calibration tolerance. Unless otherwise specified, if plant conditions warrant, the trip setpoint implemented in plant hardware may be set outside the NOMINAL TRIP SETPOINT calibration tolerance band as long as the trip setpoint is conservative with respect to the NOMINAL TRIP SETPOINT.
OPERABLE — OPERABILITY	A system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s) and when all necessary attendant instrumentation, controls, normal or emergency electrical power, cooling and seal water, lubrication, and other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its specified safety function(s) are also capable of performing their related support function(s).
PHYSICS TESTS	<p>PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation. These tests are:</p> <ul style="list-style-type: none"> a. Described in Chapter 14 of the UFSAR; b. Authorized under the provisions of 10 CFR 50.59; or c. Otherwise approved by the Nuclear Regulatory Commission.

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.3.5.1 Perform TADOT.	31 days
<p data-bbox="207 457 1133 489">SR 3.3.5.2 -----NOTE-----</p> <p data-bbox="396 489 1101 594">A NOMINAL TRIP SETPOINT associated with this SR shall be set within the channel's calibration tolerance band.</p> <p data-bbox="396 657 1133 720">Perform CHANNEL CALIBRATION with NOMINAL TRIP SETPOINT and Allowable Value as follows:</p> <p data-bbox="396 762 1141 856">a. Loss of voltage Allowable Value ≥ 3122 V (Unit 1) ≥ 3108 V (Unit 2) with a time delay of 8.5 ± 0.5 second.</p> <p data-bbox="493 898 1141 993">Loss of voltage NOMINAL TRIP SETPOINT 3174 V (Unit 1) 3157 V (Unit 2) ± 45 V with a time delay of 8.5 ± 0.5 second.</p> <p data-bbox="396 1035 1141 1129">b. Degraded voltage Allowable Value ≥ 3661 V (Unit 1) ≥ 3685.5 V (Unit 2) with a time delay of ≤ 11 seconds with SI and ≤ 600 seconds without SI.</p> <p data-bbox="493 1171 1141 1287">Degraded voltage NOMINAL TRIP SETPOINT 3678.5 V (Unit 1) 3703 V (Unit 2) with a time delay of ≤ 11 seconds with SI and ≤ 600 seconds without SI.</p>	18 months

A relay shall be OPERABLE if the point at which the relay trips is found equal to or more conservative than the Allowable Value. If the point at which the relay trips is found outside of the NOMINAL TRIP SETPOINT calibration tolerance band in a conservative direction, the relaying shall be checked to verify that it will not render the offsite power system INOPERABLE due to premature actuation. If the trip setpoint is found outside of the NOMINAL TRIP SETPOINT calibration tolerance band, the setpoint shall be re-adjusted. In the event a relay's trip setpoint is found less conservative than the Allowable Value, or the transmitter, instrument loop, signal processing electronics, or bistable is found inoperable, then all affected Functions provided by that relay must be declared inoperable and the LCO Condition(s) entered for the protection Function(s) affected.

INSERT FOR PAGE B.3.3.5-2

A channel shall be OPERABLE if the point at which the channel trips is found equal to or more conservative than the Allowable Value. If the point at which the channel trips is found outside of the NOMINAL TRIP SETPOINT calibration tolerance band in a conservative direction, the channel shall be checked to verify that it will not render the offsite power system INOPERABLE due to premature actuation. If the trip setpoint is found outside of the NOMINAL TRIP SETPOINT calibration tolerance band, the setpoint shall be re-adjusted. In the event a channel's trip setpoint is found less conservative than the Allowable Value, or the transmitter, instrument loop, signal processing electronics, or bistable is found inoperable, then all affected Functions provided by that channel must be declared inoperable and the LCO Condition(s) entered for the protection Function(s) affected.

INSERT FOR PAGE B.3.3.5-3

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.5.2

SR 3.3.5.2 is the performance of a CHANNEL CALIBRATION.

The setpoints, as well as the response to a loss of voltage and a degraded voltage test, shall include a single point verification that the trip occurs within the required time delay, as shown in Reference 1.

A CHANNEL CALIBRATION is performed every 18 months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to a measured parameter within the necessary range and accuracy. The Frequency of 18 months is based on operating experience and consistency with the typical industry refueling cycle and is justified by the assumption of an 18 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

INSERT TEXT

If plant conditions warrant, the definition of NOMINAL TRIP SETPOINT provides an option for setting a trip setpoint in plant hardware outside the NOMINAL TRIP SETPOINT calibration tolerance band as long as the trip setpoint is conservative with respect to the NOMINAL TRIP SETPOINT. Application of that provision to this SR could result in premature separation of safety related equipment from offsite power during switchyard voltage fluctuations. Consequently, this SR has been modified by a Note stating that a NOMINAL TRIP SETPOINT shall be set within the channel's calibration tolerance band.

REFERENCES

1. UFSAR, Section 8.3.
2. UFSAR, Chapter 15.
3. Loss of Voltage Relay Setting Calculation, MCC-1381.05-00-0094.
4. 10 CFR 50.36, Technical Specifications, (c)(2)(ii).

BASES

BACKGROUND (continued)

Allowable Values and NOMINAL TRIP SETPOINTS are specified for each Function in the LCO. The NOMINAL TRIP SETPOINTS are selected to ensure that the setpoint measured by the surveillance procedure does not exceed the Allowable Value if the relay is performing as required. A relay shall be OPERABLE if the point at which the relay trips is found equal to or more conservative than the Allowable Value. If the point at which the relay trips is found outside of the NOMINAL TRIP SETPOINT calibration tolerance band in a conservative direction, the relaying shall be checked to verify that it will not render the offsite power system INOPERABLE due to premature actuation. If the trip setpoint is found outside of the NOMINAL TRIP SETPOINT calibration tolerance band, the setpoint shall be re-adjusted. In the event a relay's trip setpoint is found less conservative than the Allowable Value, or the transmitter, instrument loop, signal processing electronics, or bistable is found inoperable, then all affected Functions provided by that relay must be declared inoperable and the LCO Condition(s) entered for the protection Function(s) affected. Each Allowable Value and NOMINAL TRIP SETPOINT specified is more conservative than the analytical limit assumed in the transient and accident analyses in order to account for instrument uncertainties appropriate to the trip function. These uncertainties are defined in setpoint calculations (Ref. 3).

<p>APPLICABLE SAFETY ANALYSES</p>	<p>The LOP DG start instrumentation is required for the Engineered Safety Features (ESF) Systems to function in any accident with a loss of offsite power. Its design basis is that of the ESF Actuation System (ESFAS).</p>
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Accident analyses credit the loading of the DG based on the loss of offsite power during a loss of coolant accident (LOCA). The actual DG start has historically been associated with the ESFAS actuation. The DG loading has been included in the delay time associated with each safety system component requiring DG supplied power following a loss of offsite power. The analyses assume a non-mechanistic DG loading, which does not explicitly account for each individual component of loss of power detection and subsequent actions.

The required channels of LOP DG start instrumentation, in conjunction with the ESF systems powered from the DGs, provide unit protection in the event of any of the analyzed accidents discussed in Reference 2, in which a loss of offsite power is assumed.

The delay times assumed in the safety analysis for the ESF equipment include the 10 second DG start delay, and the appropriate sequencing delay, if applicable. The response times for ESFAS actuated equipment in LCO 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," include the appropriate DG loading and sequencing delay. The LOP DG start instrumentation channels satisfy Criterion 3 of 10 CFR 50.36 (Ref. 4).

BASES

LCO The LCO for LOP DG start instrumentation requires that three channels per bus of both the loss of voltage and degraded voltage Functions shall be OPERABLE in MODES 1, 2, 3, and 4 when the LOP DG start instrumentation supports safety systems associated with the ESFAS. In MODES 5 and 6, the three channels must be OPERABLE whenever the associated DG is required to be OPERABLE to ensure that the automatic start of the DG is available when needed. Loss of the LOP DG Start Instrumentation Function could result in the delay of safety systems initiation when required. This could lead to unacceptable consequences during accidents. During the loss of offsite power the DG powers the motor driven auxiliary feedwater pumps. Failure of these pumps to start would leave only one turbine driven pump, as well as an increased potential for a loss of decay heat removal through the secondary system.

APPLICABILITY The LOP DG Start Instrumentation Functions are required in MODES 1, 2, 3, and 4 because ESF Functions are designed to provide protection in these MODES. Actuation in MODE 5 or 6 is required whenever the required DG must be OPERABLE so that it can perform its function on an LOP or degraded power to the vital bus.

ACTIONS A channel shall be OPERABLE if the point at which the channel trips is found equal to or more conservative than the Allowable Value. If the point at which the channel trips is found outside of the NOMINAL TRIP SETPOINT calibration tolerance band in a conservative direction, the channel shall be checked to verify that it will not render the offsite power system INOPERABLE due to premature actuation. If the trip setpoint is found outside of the NOMINAL TRIP SETPOINT calibration tolerance band, the setpoint shall be re-adjusted. In the event a channel's trip setpoint is found less conservative than the Allowable Value, or the transmitter, instrument loop, signal processing electronics, or bistable is found inoperable, then all affected Functions provided by that channel must be declared inoperable and the LCO Condition(s) entered for the protection Function(s) affected.

Because the required channels are specified on a per bus basis, the Condition may be entered separately for each bus as appropriate.

A Note has been added in the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed in the LCO. The Completion Time(s) of the inoperable channel(s) of a Function will be tracked separately for each Function starting from the time the Condition was entered for that Function.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.5.2

SR 3.3.5.2 is the performance of a CHANNEL CALIBRATION.

The setpoints, as well as the response to a loss of voltage and a degraded voltage test, shall include a single point verification that the trip occurs within the required time delay, as shown in Reference 1.

A CHANNEL CALIBRATION is performed every 18 months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to a measured parameter within the necessary range and accuracy. The Frequency of 18 months is based on operating experience and consistency with the typical industry refueling cycle and is justified by the assumption of an 18 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

If plant conditions warrant, the definition of NOMINAL TRIP SETPOINT provides an option for setting a trip setpoint in plant hardware outside the NOMINAL TRIP SETPOINT calibration tolerance band as long as the trip setpoint is conservative with respect to the NOMINAL TRIP SETPOINT. Application of that provision to this SR could result in premature separation of safety related equipment from offsite power during switchyard voltage fluctuations. Consequently, this SR has been modified by a Note stating that a NOMINAL TRIP SETPOINT shall be set within the channel's calibration tolerance band.

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