



April 2, 2009

L-MT-09-041  
10 CFR 50.90

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

Monticello Nuclear Generating Plant  
Docket 50-263  
Renewed Facility Operating License No. DPR-22

Supplement to License Amendment Request: Revision to the Allowable Value and Channel Calibration Surveillance Interval for the Recirculation Riser Differential Pressure – High Function (TAC No. MD6864)

- References: 1) Letter NMC to NRC, "License Amendment Request: Revision to the Allowable Value and Channel Calibration Surveillance Interval for the Recirculation Riser Differential Pressure – High Function," (L-MT-07-055), dated September 25, 2007.
- 2) Letter from the Technical Specification Task Force (TSTF) to the NRC, TSTF-09-07, 'Industry Plan to Resolve TSTF-493, "Clarify Application of Setpoint Methodology for LSSS Functions",' dated February 23, 2009. (ADAMS Ascension No. ML090540849)

On September 25, 2007, the Nuclear Management Company, (NMC) LLC a predecessor license holder to the Northern States Power Company – a Minnesota corporation (NSPM),<sup>(1)</sup> submitted a license amendment request(LAR) to revise the allowable value and channel calibration surveillance interval for the Recirculation Riser Differential Pressure – High function (Function 2.j in Technical Specification (TS) Table 3.3.5.1-1 (Reference 1). This proposed change was based on a reanalysis of the small break Loss of Coolant Accident which determined a new minimum detectable break area for the Low Pressure Coolant Injection loop select logic.

At a public meeting on January 8, 2009, the industry and the U.S. Nuclear Regulatory Commission (NRC) discussed actions to resolve TSTF-493. It was agreed the industry would develop and submit a course of action for resolution. As described therein, Reference 2 provides a mutually acceptable approach incorporating both industry and NRC concerns and preferences.

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1. NSPM is incorporated as a wholly owned subsidiary of Xcel Energy, Inc. Transfer of operating authority from the NMC to NSPM occurred on September 15, 2008.

Reference 2 indicates that licensees with licensing actions in process during the development, review and approval of TSTF-493, Revision 4, are encouraged to apply approaches consistent with that proposed in Reference 2, with the exception that the TSTF-493 footnotes would be applied only to the specific setpoints being changed.

The NRC indicated during a teleconference with the NSPM on April 1, 2009, that to readily address concerns with respect to the setpoint issues associated with TSTF-493, and facilitate further processing of the LAR (Reference 1), that the NSPM should consider adopting an approach consistent with that described in Reference 2, and propose footnotes consistent with that proposal.

Consistent with this direction, NSPM proposes to add appropriate footnotes<sup>(2)</sup> to Surveillance Requirement (SR) 3.3.5.1.7 in TS Table 3.3.5.1-1 for Function 2.j, Recirculation Riser Differential Pressure – High (Break Detection).

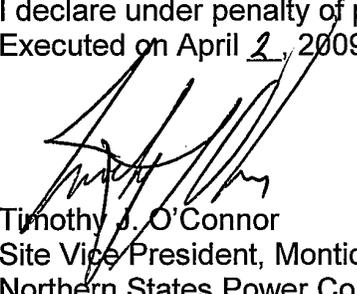
Enclosure 1 provides a copy of the revised TS pages. Enclosure 2 provides a revised copy of the associated draft marked-up TS Bases pages for information.

The NSPM has reviewed the No Significant Hazards Consideration determination provided in Reference 1 for this LAR and determined that it is still applicable. The MNGP Plant Operations Review Committee has reviewed the proposed changes herein. In accordance with 10 CFR 50.91, a copy of this application, with enclosures, is being provided to the designated Minnesota Official.

#### Summary of Commitments

No new commitments or changes to any existing commitments are proposed by this letter.

I declare under penalty of perjury that the foregoing is true and correct.  
Executed on April 2, 2009.



Timothy J. O'Connor  
Site Vice President, Monticello Nuclear Generating Plant  
Northern States Power Company – Minnesota

cc: Administrator, Region III, USNRC  
Project Manager, Monticello, USNRC  
Resident Inspector, Monticello, USNRC  
Minnesota Department of Commerce

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2. Footnotes (c) and (d) within this TS table were developed during the Monticello Improved Standard Technical Specifications conversion and approved by the NRC as part of that amendment, Amendment No. 146.

**ENCLOSURE 1**

**MONTICELLO NUCLEAR GENERATING PLANT**

**PROPOSED TECHNICAL SPECIFICATION CHANGES**

(2 pages follow)

Table 3.3.5.1-1 (page 3 of 6)  
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI System					
e. Reactor Steam Dome Pressure Permissive - Bypass Timer (Pump Permissive)	1, 2, 3 4 <sup>(a)</sup> , 5 <sup>(a)</sup>	2 2	C B	SR 3.3.5.1.7 SR 3.3.5.1.8 SR 3.3.5.1.7 SR 3.3.5.1.8	≥ 18 minutes and ≤ 22 minutes ≥ 18 minutes and ≤ 22 minutes
f. Low Pressure Coolant Injection Pump Start - Time Delay Relay	1, 2, 3, 4 <sup>(a)</sup> , 5 <sup>(a)</sup>	4 per pump	B	SR 3.3.5.1.7 SR 3.3.5.1.8	
Pumps A, B					≤ 5.33 seconds
Pumps C, D					≤ 10.59 seconds
g. Low Pressure Coolant Injection Pump Discharge Flow - Low (Bypass)	1, 2, 3, 4 <sup>(a)</sup> , 5 <sup>(a)</sup>	1 per pump	E	SR 3.3.5.1.2 SR 3.3.5.1.7 SR 3.3.5.1.8	≥ 360 gpm and ≤ 745 gpm
h. Reactor Steam Dome Pressure - Low (Break Detection)	1, 2, 3,	4	B	SR 3.3.5.1.2 SR 3.3.5.1.7 SR 3.3.5.1.8	≥ 873.6 psig and ≤ 923.4 psig
i. Recirculation Pump Differential Pressure - High (Break Detection)	1, 2, 3	4 per pump	C	SR 3.3.5.1.2 SR 3.3.5.1.7 SR 3.3.5.1.8	≥ 63.5 inches wc
j. Recirculation Riser Differential Pressure - High (Break Detection)	1, 2, 3	4	C	SR 3.3.5.1.2 SR 3.3.5.1.7 <sup>(c)(d)</sup> SR 3.3.5.1.8	≤ 100.0 inches wc

(a) When associated ECCS subsystem(s) are required to be OPERABLE per LCO 3.5.2.

(c) If the as-found channel setpoint is conservative with respect to the Allowable Value but outside its predefined as-found tolerance, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service.

(d) The instrument channel setpoint shall be reset to a value that is within the as-left tolerance of the nominal trip setpoint; otherwise, the channel shall be declared inoperable. The nominal trip setpoint and the methodology used to determine the as-found tolerance and the as-left tolerance are specified in the TRM.

*Added by  
this letter.*

Table 3.3.5.1-1 (page 4 of 6)  
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI System					
k. Reactor Steam Dome Pressure - Time Delay Relay (Break Detection)	1, 2, 3	2	B	SR 3.3.5.1.7 SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 2.97 seconds
l. Recirculation Pump Differential Pressure - Time Delay Relay (Break Detection)	1, 2, 3	2	C	SR 3.3.5.1.7 SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 0.75 seconds
m. Recirculation Riser Differential Pressure - Time Delay Relay (Break Detection)	1, 2, 3	2	C	SR 3.3.5.1.7 SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 0.75 seconds
3. High Pressure Coolant Injection (HPCI) System					
a. Reactor Vessel Water Level - Low Low	1, 2 <sup>(e)</sup> , 3 <sup>(e)</sup>	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.7 SR 3.3.5.1.8	≥ -48 inches
b. Drywell Pressure - High	1, 2 <sup>(e)</sup> , 3 <sup>(e)</sup>	4	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.8	≤ 2 psig
c. Reactor Vessel Water Level - High	1, 2 <sup>(e)</sup> , 3 <sup>(e)</sup>	2	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.7 SR 3.3.5.1.8	≤ 48 inches
d. Condensate Storage Tank Level - Low	1, 2 <sup>(e)</sup> , 3 <sup>(e)</sup>	2	D	SR 3.3.5.1.7 SR 3.3.5.1.8	≥ 29.3 inches
e. Suppression Pool Water Level - High	1, 2 <sup>(e)</sup> , 3 <sup>(e)</sup>	2	D	SR 3.3.5.1.5 SR 3.3.5.1.6 SR 3.3.5.1.8	≤ 3.0 inches
f. High Pressure Coolant Injection Pump Discharge Flow - Low (Bypass)	1, 2 <sup>(e)</sup> , 3 <sup>(e)</sup>	1	E	SR 3.3.5.1.5 SR 3.3.5.1.6 SR 3.3.5.1.8	≥ 362 gpm and ≤ 849 gpm

(e) With reactor steam dome pressure > 150 psig.

**ENCLOSURE 3**

**MONTICELLO NUCLEAR GENERATING PLANT**

**DRAFT TECHNICAL SPECIFICATION BASES PAGES**

**(FOR INFORMATION)**

(3 pages follow)

BASES

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SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.5.1.2, SR 3.3.5.1.5 and SR 3.3.5.1.9

A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the channel will perform the intended function. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL FUNCTIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions.

Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

The Frequency of 92 days for SR 3.3.5.1.2 is based on the reliability analyses of Reference 3. The Frequency of 12 months for SR 3.3.5.1.5 is based on the known reliability of the equipment and the multichannel redundancy available, and has been shown to be acceptable through operating experience. The Frequency of 24 months for SR 3.3.5.1.9 is based on the known reliability of the equipment and the multichannel redundancy available, and has been shown to be acceptable through operating experience.

No  
Changes  
for  
Info.  
Only.

SR 3.3.5.1.3

Calibration of trip units provides a check of the actual trip setpoints. The channel must be declared inoperable if the trip setting is discovered to be less conservative than the Allowable Value specified in Table 3.3.5.1-1. If the trip setting is discovered to be less conservative than accounted for in the appropriate setpoint methodology, but is not beyond the Allowable Value, the channel performance is still within the requirements of the plant safety analyses. Under these conditions, the setpoint must be readjusted to be equal to or more conservative than the setting accounted for in the appropriate setpoint methodology.

The Frequency of 92 days is based on the reliability analysis of Reference 3.

SR 3.3.5.1.4, SR 3.3.5.1.6, and SR 3.3.5.1.7

A CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. This test verifies the channel responds to the measured parameter within the necessary range and accuracy. CHANNEL

BASES

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SURVEILLANCE REQUIREMENTS (continued)

CALIBRATION leaves the channel adjusted to account for instrument drifts between successive calibrations consistent with the plant specific setpoint methodology.

The Frequency of SR 3.3.5.1.4 is based upon the assumption of a 92 day calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis. The Frequency of SR 3.3.5.1.6 is based upon the assumption of a 12 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis. The Frequency of SR 3.3.5.1.7 is based upon the assumption of a 24 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis, and for Function 2.j, a revised minimum detectable break area for the LPCI loop select logic (Refs. 5 and 6).

Added by  
this  
letter. ⇒

The SR 3.3.5.1.4 annotation in Table 3.3.5.1-1 for Functions 1.c, 1.d, 2.c, 2.d, 4.c, 4.d, 5.c, and 5.d has been modified by two Notes. The SR 3.3.5.1.7 annotation in Table 3.3.5.1-1 for Function 2.i has also been modified by two Notes. The first Note requires evaluation of channel performance for the condition where the as-found setting for the channel is outside its as-found tolerance but conservative with respect to the Allowable Value. Evaluation of instrument performance will verify that the instrument will continue to behave in accordance with design basis assumptions. The purpose of the assessment is to ensure confidence in the instrument performance prior to returning the instrument to service. These channels will also be identified in the Corrective Action Program. In accordance with procedures, entry into the Corrective Action Program will require review and documentation of the condition of OPERABILITY. The second Note requires the setting for the instrument be returned to within the as-left tolerance of the nominal trip setpoint. This will ensure that sufficient margin to the Safety Limit and /or Analytical Limit is maintained. If the setting for the instrument cannot be returned to within the as-left tolerance of the nominal trip setpoint, then the instrument channel shall be declared inoperable. The second Note also requires that the nominal trip setpoint and the methodology for calculating the as-left and the as-found tolerances be in a document controlled under 10 CFR 50.59 (i.e., Technical Requirements Manual (Ref. 4)).

SR 3.3.5.1.8

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required initiation logic for a specific channel. The system functional testing performed in LCO 3.5.1, LCO 3.5.2, LCO 3.8.1, and LCO 3.8.2 overlaps this Surveillance to provide complete testing of the assumed safety function.

BASES

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SURVEILLANCE REQUIREMENTS (continued)

The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the 24 month Frequency.

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REFERENCES

1. USAR, Section 14.7.2.
  2. USAR, Chapter 14.
  3. NEDC-30936-P-A, "BWR Owners' Group Technical Specification Improvement Analyses for ECCS Actuation Instrumentation, Parts 1 and 2," December 1988.
  4. Technical Requirements Manual.
  5. GE-NE-0000-0052-3113-P-R0, "SAFER/GESTR ECCS-LOCA Analysis – LPCI Loop Selection Detectable Break Area," September 2006.
  6. Amendment No. 161, "Issuance of Amendment Re: Revision to the Allowable Value and Channel Calibration Surveillance Interval for the Recirculation Riser Differential Pressure – High Function," dated April XX, 2009. [Working Title]
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