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L-MT-18-032
10 CFR 50.90

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

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

Response to Request for Additional Information Regarding Application to Revise Technical Specifications to Adopt TSTF-542, "Reactor Pressure Vessel Water Inventory Control," and Supplement (EPID: L-2017-LLA-0360)

- References:
- 1) Letter from NSPM to NRC, "Application to Revise Technical Specifications to Adopt TSTF-542, "Reactor Pressure Vessel Water Inventory Control," dated October 20, 2017 (ADAMS Accession ML17293A280)
 - 2) Electronic mail from NRC to NSPM, "Request for Information RE: Monticello TSTF-542 license amendment request," dated May 9, 2018, EPID: L-2017-LLA-0360 (ADAMS Accession ML18130A747)

By letter dated October 20, 2017, (Reference 1) Northern States Power Company, a Minnesota Corporation, doing business as Xcel Energy (NSPM), submitted a license amendment request to adopt TSTF-542, "Reactor Pressure Vessel Water Inventory Control" for the Monticello Nuclear Generating Plant (MNGP).

The NRC staff reviewed the information provided and identified the need for additional information in order to complete their evaluation. The request for additional information (RAI) was sent from the NRC to NSPM by electronic mail on May 9, 2018 (Reference 2). The NRC requested a response by June 9, 2018.

Enclosure 1 to this letter provides a restatement of the RAI question followed by NSPM's response. In addition, minor errors and opportunities for clarification were identified subsequent to the initial submittal that do not affect the applicability of TSTF-542 to MNGP. Enclosure 2 provides a description of the changes identified. Corrected TS markup pages are included in Enclosure 3.

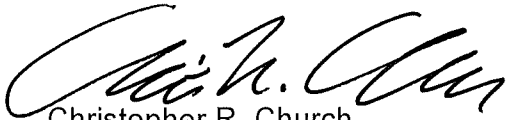
L-MT-18-032
Enclosure 2

Summary of Commitments

This letter makes no new commitments and no revisions to existing commitments.

I declare under penalty of perjury, that the foregoing is true and correct.

Executed on 1 June 2018.



Christopher R. Church
Site Vice President, Monticello Nuclear Generating Plant
Northern States Power Company – Minnesota

Enclosures (3)

cc: Administrator, Region III, USNRC
Project Manager, Monticello, USNRC
Resident Inspector, Monticello, USNRC

ENCLOSURE 1

MONTICELLO NUCLEAR GENERATING PLANT

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION APPLICATION TO REVISE
TECHNICAL SPECIFICATIONS TO ADOPT TSTF-542, "REACTOR PRESSURE VESSEL
WATER INVENTORY CONTROL"**

2 pages follow

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

REQUEST FOR INFORMATION RE: MONTICELLO TSTF-542 LICENSE AMENDMENT REQUEST

On October 20, 2017, Northern States Power Company, a Minnesota Corporation (NSPM), doing business as Xcel Energy, submitted a license amendment request to adopt TSTF-542, "Reactor Pressure Vessel Water Inventory Control" for the Monticello Nuclear Generating Plant (MNGP). By email dated May 9, 2018, the NRC requested the following additional information. The response to this request for additional information (RAI) is provided below.

RAI:

Attachment 1 of the LAR proposes the following variation:

f. NUREG-1433 Table 3.3.5.1-1, Function 1.d, Core Spray Pump Discharge Flow – Low (Bypass), is not included in the MNGP TSs. As a result, this function is not being included in TS 3.3.5.3, Reactor Pressure Vessel (RPV) Water Inventory Control, Table 3.3.5.3-1.

TSTF-542 moves the CS bypass requirements from standard technical specifications (STS) Table 3.3.5.1-1, "Emergency Core Cooling System Instrumentation," to new STS Table 3.3.5.2-1, "RPV Water Inventory Control Instrumentation." In particular, Section 3.3.4.2 of the TSTF-542 technical evaluation describes the purpose of this TS as:

The minimum flow instruments are provided to protect the associated low pressure ECCS pump from overheating when the pump is operating and the associated injection valve is not fully open. The minimum flow line valve is opened when low flow is sensed, and the valve is automatically closed when the flow rate is adequate to protect the pump.

As per the discussion contained in TSTF-542, successful RPV water inventory control is based, in part, on the capability of an operable ECCS pump to inject water as needed to make up the inventory. Sections 6.2.2.2.3 and 6.2.3.2.1 of the MNGP Updated Safety Analysis Report describe this protective function of the MNGP minimum flow rate instruments to signal automatically opening or closing the valves in the minimum flow bypass lines for the CS pumps. Furthermore, the presence or absence of a requirement in a current TS is not in and of itself justification for the proposed TS.

Request:

Since the proposed TSs have omitted the equivalent of the TSTF-542 instrumentation requirements for CS Pump Discharge Flow-Low (Bypass), describe how there is reasonable assurance that a required MNGP ECCS pump will operate as expected (e.g., the bypass line will not lessen expected discharge flow, and said pump will not overheat when the associated injection valve is not fully open).

NSPM Response:

Each MNGP Core Spray subsystem is equipped with a minimum flow bypass line that contains a restricting orifice and locked open manual isolation valve to ensure the pump will not overheat when the associated injection valve is not fully open. The minimum flow line contains no instrumentation or active components and continuously diverts a portion of the core spray pump discharge back to the drywell suppression pool regardless of reactor system pressure or position of the injection valve.

ENCLOSURE 2

MONTICELLO NUCLEAR GENERATING PLANT

DESCRIPTION OF CHANGES

1 page follows

The following minor errors/variations were identified subsequent to NSPM's submittal to adopt TSTF-542 (ADAMS Accession ML17293A280). The changes described below do not affect the applicability of TSTF-542 to MNGP:

1. Enclosure 1, page 5, deviation "h." refers to NUREG-1433 Table 3.3.5.1-1 "Function 2.d, Low Pressure Coolant Injection Pump Discharge Flow– Low (Bypass)"; however, the correct function identifier is 2.g.
2. Footnote "a" on Table 3.3.5.3-1 refers to "...LCO 3.5.2, 'RPV Water Inventory Control'." It should read, "...LCO 3.5.2,'Reactor Pressure Vessel (RPV) Water Inventory Control.'" A revised markup of page 3.3.5.3-3 is provided in Enclosure 3.
3. Footnote "a" is missing from Table 3.3.5.3-1 Applicable Modes column for Function 1.a, Core Spray System Reactor Steam Dome Pressure – Low (Injection Permissive) and Function 2.a, LPCI Reactor Steam Dome Pressure - Low (Injection Permissive). These functions had been relocated from Table 3.3.5.1 where a similar footnote had been included. Without the footnote all channels supporting these functions would be required to be operable regardless of whether the associated subsystem was being credited to meet TS 3.5.2. The revised markup of page 3.3.5.3-3 provided in Enclosure 3 adds the footnote to Functions 1.a and 2.a.
4. The title of Table 3.3.5.3-1, Function 3, on page 3.3.5.3-3 reads "RHR System Isolation". However, the associated Function was relocated from Table 3.3.6.1-1 which had the more descriptive title "Shutdown Cooling System Isolation." The revised markup of page 3.3.5.3-3 provided in Enclosure 3 restores the original title.
5. The title for Section 3.5.2 reads "EMERGENCY CORE COOLING SYSTEM (ECCS), RPV WATER INVENTORY CONTROL, AND REACTOR CORE ISOLATION COOLING SYSTEM (RCIC) SYSTEM." The first "SYSTEM" is redundant. A corrected markup of page 3.5.2-1 is provided in Enclosure 3.
6. LCO 3.5.2 Required Action C.3 lacks a period after "DRAIN TIME." A corrected markup of page 3.5.2-3 is provided in Enclosure 3.
7. The NUREG-1433 and 1434 TS 3.6.1.3 Applicability states:

MODES 1, 2, and 3,

When associated instrumentation is required to be OPERABLE per LCO 3.3.6.1, "Primary Containment Isolation Instrumentation."

However, TSTF-542 relocated all of the LCO 3.3.6.1 non-Mode 1, 2, or 3 instrumentation requirements to LCO 3.3.5.3. Therefore, the Applicability statement related to LCO 3.3.6.1 will be deleted. Since there will no longer be any Applicability related to Modes 4 and 5, Condition G (which is only applicable in Modes 4 and 5) is also being deleted. Corrected markups of pages 3.6.1.3-1 and 3.6.1.3-6 are provided in Enclosure 3.

ENCLOSURE 3

MONTICELLO NUCLEAR GENERATING PLANT

CORRECTED TS MARKUP PAGES

5 pages follow

Table 3.3.5.3-1 (page 1 of 1)
RPV Water Inventory Control Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Core Spray System					
a. Reactor Steam Dome Pressure - Low (Injection Permissive)	4, 5 ^(a)	2	C	SR 3.3.5.3.2	≥ 397 psig and ≤ 440 psig
2. Low Pressure Coolant Injection (LPCI) System					
a. Reactor Steam Dome Pressure - Low (Injection Permissive)	4, 5 ^(a)	2	C	SR 3.3.5.3.2	≥ 397 psig and ≤ 440 psig
b. Low Pressure Coolant Injection Pump Discharge Flow - Low (Bypass)	4, 5	1 per pump ^(a)	D	SR 3.3.5.3.2	≥ 360 gpm and ≤ 745 gpm
3. Shutdown Cooling System Isolation					
a. Reactor Vessel Water Level - Low	(b)	2 in one trip system	B	SR 3.3.5.3.1 SR 3.3.5.3.2	≥ 7 inches
4. Reactor Water Cleanup (RWCU) System Isolation					
a. Reactor Vessel Water Level - Low	(b)	2 in one trip system	B	SR 3.3.5.3.1 SR 3.3.5.3.2	≥ -48 inches

(a) Associated with an ECCS subsystem required to be OPERABLE by LCO 3.5.2, "Reactor Pressure Vessel (RPV) Water Inventory Control."

(b) When automatic isolation of the associated penetration flow path(s) is credited in calculating DRAIN TIME.

3.5 EMERGENCY CORE COOLING SYSTEM (ECCS), **RPV WATER INVENTORY CONTROL, AND REACTOR CORE ISOLATION COOLING SYSTEM (RCIC) SYSTEM**

3.5.2 Reactor Pressure Vessel (RPV) Water Inventory Control ~~ECCS – Shutdown~~

LCO 3.5.2 **DRAIN TIME** of RPV water inventory to the top of active fuel (TAF) shall be ≥ 36 hours.

AND

~~One Two~~ low pressure ECCS injection/spray subsystems shall be OPERABLE.

-----NOTE-----

A ~~One~~ Low Pressure Coolant Injection (LPCI) subsystem may be considered OPERABLE during alignment and operation for decay heat removal if capable of being manually realigned and not otherwise inoperable.

APPLICABILITY: ~~MODES 4, 5, and 6, except with the spent fuel storage pool gates removed and water level ≥ 21 ft 11 inches over the top of the reactor pressure vessel flange.~~
 MODES 4, 5, and 6, except with the spent fuel storage pool gates removed and water level ≥ 21 ft 11 inches over the top of the reactor pressure vessel flange.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One R required ECCS injection/spray subsystem inoperable.	A.1 Restore required ECCS injection/spray subsystem to OPERABLE status.	4 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action to establish a method of water injection capable of operating without offsite electrical power. Initiate action to suspend operations with a potential for draining the reactor vessel (OPDRVs).	Immediately

~~ACTIONS (continued)~~

CONDITION	REQUIRED ACTION	COMPLETION TIME
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ACTIONS (continued) CONDITION	REQUIRED ACTION	COMPLETION TIME
	<p>C.2 Verify each secondary containment penetration flow path is capable of being isolated in less than the DRAIN TIME.</p> <p><u>AND</u></p> <p>C.3 Verify one standby gas treatment subsystem is capable of being placed in operation in less than the DRAIN TIME.</p>	<p>4 hours</p> <p>4 hours</p>
<p>D. DRAIN TIME < 8 hours. Required Action C.2 and associated Completion Time not met.</p>	<p>D.1 ----- NOTE ----- Required ECSS injection/spray subsystem or additional method of water injection shall be capable of operating without offsite electrical power. -----</p> <p>Initiate action to establish an additional method of water injection with water sources capable of maintaining RPV water level > TAF for ≥ 36 hours.</p> <p><u>AND</u></p> <p>D.24 Initiate action to restore secondary containment boundary to OPERABLE status.</p> <p><u>AND</u></p>	<p>Immediately</p> <p>Immediately</p>

3.6 CONTAINMENT SYSTEMS

3.6.1.3 Primary Containment Isolation Valves (PCIVs)

LCO 3.6.1.3 Each PCIV, except reactor building-to-suppression chamber vacuum breakers, shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3;
~~When associated instrumentation is required to be OPERABLE per LCO 3.3.6.1, "Primary Containment Isolation Instrumentation."~~

ACTIONS

NOTES

1. Penetration flow paths may be unisolated intermittently under administrative controls.
2. Separate Condition entry is allowed for each penetration flow path.
3. Enter applicable Conditions and Required Actions for systems made inoperable by PCIVs.
4. Enter applicable Conditions and Required Actions of LCO 3.6.1.1, "Primary Containment," when PCIV leakage results in exceeding overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. -----NOTE----- Only applicable to penetration flow paths with two PCIVs. -----</p> <p>One or more penetration flow paths with one PCIV inoperable for reasons other than Condition D or E.</p>	<p>A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.</p> <p><u>AND</u></p>	<p>4 hours except for main steam line</p> <p><u>AND</u></p> <p>8 hours for main steam line</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>G. Required Action and associated Completion Time of Condition A or B not met for PCIV(s) required to be OPERABLE during MODE 4 or 5.</p>	<p>G.1 Initiate action to suspend operations with a potential for draining the reactor vessel (OPDRVs).</p> <p>OR</p> <p>G.2 Initiate action to restore valve(s) to OPERABLE status.</p>	<p>Immediately</p> <p>Immediately</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.3.1 -----NOTE-----</p> <p>Not required to be met when the 18 inch primary containment purge and vent valves are open for inerting, de-inerting, pressure control, ALARA or air quality considerations for personnel entry, or Surveillances that require the valves to be open.</p> <p>-----</p> <p>Verify each 18 inch primary containment purge and vent valve is closed.</p>	<p>31 days</p>