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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

Supplement to License Amendment Request: Application for Technical Specification Change Regarding Risk-Informed Justification for the Relocation of Specific Surveillance Frequency Requirements to a Licensee Controlled Program (EPID L-2017-LLA-0434)

References:

1) NSPM Letter (L-MT-17-083) to NRC, "License Amendment Request: Application for Technical Specification Change Regarding Risk-Informed Justification for the Relocation of Specific Surveillance Frequency Requirements to a Licensee Controlled Program", dated December 19, 2017 (ADAMS Accession No. ML17353A189)

2) NRC Meeting Summary, "Summary of December 12, 2017, Teleconference with Northern States Power Company, Doing Business As Xcel Energy, On Potential License Amendment Request to Adopt TSTF-425, 'Relocate Surveillance Frequencies to Licensee Control - RITSTF Initiative 5B' (EPID: L-2017-LRM-0065)", dated January 2, 2018 (ADAMS Accession Nos. ML17353A024 with handouts ML17346A084 and ML17346A085)

3) NRC Letter to NSPM, "Monticello Nuclear Generating Plant - Issuance of Amendment Re: Adoption of TSTF-542, Reactor Pressure Vessel Water Inventory Control (EPID: L-2017-LLA-0360)", dated October 29, 2018 (ADAMS Accession No. ML18250A075)

In Reference 1, Northern States Power Company, a Minnesota corporation, doing business as Xcel Energy (hereafter "NSPM"), requested to amend Renewed Facility Operating License DPR-22 for the Monticello Nuclear Generating Plant (MNGP). The proposed amendment would modify the MNGP Technical Specifications (TS) by relocating specific surveillance frequencies to a licensee-controlled program with implementation of Nuclear Energy Institute

(NEI) 04-10, “Risk-Informed Technical Specification Initiative 5b, Risk-Informed Method for Control of Surveillance Frequencies”. Prior to submittal of Reference 1, NSPM and the NRC held a pre-application meeting (Reference 2) in which NSPM identified the future need to supplement the Reference 1 submittal TS pages when the MNGP License Amendment Request (LAR) for Technical Specification Task Force (TSTF) – 542, “Reactor Pressure Vessel Water Inventory Control”, was approved by the NRC. The MNGP LAR for TSTF-542 was submitted prior to the TSTF-425 LAR submittal. Therefore, the MNGP TSTF-425 LAR did not include TS and TS Bases pages for the new and revised Surveillance Requirements (SRs) requested in the TSTF-542 LAR. The NRC has now issued License Amendment 198 for the MNGP TSTF-542 LAR (Reference 3).

The purpose of this letter is to supplement the Reference 1 LAR with updated TS pages based on issuance of License Amendment 198, which approved the adoption of TSTF-542. TSTF-542 created new and revised TS SRs for reactor pressure vessel water level inventory control and allows the use of either specific SR frequencies or the option to control the frequency in accordance with the NRC-approved Surveillance Frequency Control Program (SFCP). Therefore, the additional changes to refer to the SFCP in this supplement are considered administrative in nature.

One additional administrative change to TS page 3.5.2-3 is included in this supplement. The change is the removal of an erroneous, additional line located above the “Actions (continued)” line. The change is the result of an error introduced into the TS page in the Reference 3 approved license amendment.

The updated TS pages have been included in the Enclosure 1 (Markup) and Enclosure 2 (Clean Copy) to this transmittal. TS Bases markup pages for the associated TS pages are provided in Enclosure 3 for information only.

The inclusion of the new and revised TS pages in the TSTF-425 LAR does not impact the evaluations performed in accordance with 10 CFR 50.92 for the original Reference 1 submittal.

Please contact Sara Scott, Licensing Manager, at 612-330-6698, if additional information or clarification is required.

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 November 20, 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

Supplement to License Amendment Request:
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PROPOSED TECHNICAL SPECIFICATION CHANGES (MARKUP)

(4 pages to follow)

INSERT 1

In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Required Action and associated Completion Time of Condition C or D not met.	E.1 Declare associated low pressure ECCS injection/spray subsystem inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

----------NOTE----------
Refer to Table 3.3.5.3-1 to determine which SRs apply for each ECCS Function.

SURVEILLANCE		FREQUENCY
SR 3.3.5.3.1	Perform CHANNEL CHECK.	~~12 hours~~ [Insert 1]
SR 3.3.5.3.2	Perform CHANNEL FUNCTIONAL TEST.	~~92 days~~ [Insert 1]

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	D.3 Initiate action to isolate each secondary containment penetration flow path or verify it can be manually isolated from the control room. AND D.4 Initiate action to verify one standby gas treatment subsystem is capable of being placed in operation.	Immediately Immediately
E. Required Action and associated Completion Time of Condition C or D not met. OR DRAIN TIME < 1 hour.	E.1 Initiate action to restore DRAIN TIME to ≥ 36 hours.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.2.1	Verify, for the required ECCS injection/spray subsystem, the: a. Suppression pool water level is ≥ -3 ft; or b. Condensate storage tank(s) water level is ≥ 7 ft for one tank operation and ≥ 4 ft for two tank operation.	~~12 hours~~ [Insert 1]

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.5.2.2	Verify, for the required ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water.	~~31 days~~ [Insert 1]
SR 3.5.2.3	----------NOTE---------- Not required to be met for system vent flow paths opened under administrative control. ----------	
	Verify, for the required ECCS injection/spray subsystem, each manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	~~31 days~~ [Insert 1]
SR 3.5.2.4	Operate the required ECCS injection/spray subsystem for ≥ 10 minutes.	~~92 days~~ [Insert 1]
SR 3.5.2.5	----------NOTE---------- Vessel injection/spray may be excluded. ----------	
	Verify the required ECCS injection/spray subsystem can be manually operated.	~~24 months~~ [Insert 1]
SR 3.5.2.6	Verify each valve credited for automatically isolating a penetration flow path actuates to the isolation position on an actual or simulated isolation signal.	~~24 months~~ [Insert 1]
SR 3.5.2.7	Verify DRAIN TIME ≥ 36 hours.	~~12 hours~~ [Insert 1]

ENCLOSURE 2

MONTICELLO NUCLEAR GENERATING PLANT

Supplement to License Amendment Request:
Application for Technical Specification Change Regarding Risk-Informed Justification for the Relocation of Specific Surveillance Frequency Requirements to a Licensee Controlled Program

PROPOSED TECHNICAL SPECIFICATION CHANGES (CLEAN COPY)

(4 pages to follow)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Required Action and associated Completion Time of Condition C or D not met.	E.1 Declare associated low pressure ECCS injection/spray subsystem inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

----------NOTE----------
Refer to Table 3.3.5.3-1 to determine which SRs apply for each ECCS Function.

SURVEILLANCE		FREQUENCY
SR 3.3.5.3.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.3.2	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	D.3 Initiate action to isolate each secondary containment penetration flow path or verify it can be manually isolated from the control room. AND	Immediately
	D.4 Initiate action to verify one standby gas treatment subsystem is capable of being placed in operation.	Immediately
E. Required Action and associated Completion Time of Condition C or D not met. OR DRAIN TIME < 1 hour.	E.1 Initiate action to restore DRAIN TIME to ≥ 36 hours.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.2.1	Verify, for the required ECCS injection/spray subsystem, the: a. Suppression pool water level is ≥ -3 ft; or b. Condensate storage tank(s) water level is ≥ 7 ft for one tank operation and ≥ 4 ft for two tank operation.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.5.2.2	Verify, for the required ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.3	----------NOTE---------- Not required to be met for system vent flow paths opened under administrative control. ----------	
	Verify, for the required ECCS injection/spray subsystem, each manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.4	Operate the required ECCS injection/spray subsystem for ≥ 10 minutes.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.5	----------NOTE---------- Vessel injection/spray may be excluded. ----------	
	Verify the required ECCS injection/spray subsystem can be manually operated.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.6	Verify each valve credited for automatically isolating a penetration flow path actuates to the isolation position on an actual or simulated isolation signal.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SR 3.5.2.7	Verify DRAIN TIME ≥ 36 hours.	In accordance with the Surveillance Frequency Control Program

ENCLOSURE 3

MONTICELLO NUCLEAR GENERATING PLANT

Supplement to License Amendment Request:
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PROPOSED TECHNICAL SPECIFICATION BASES CHANGES (MARKUP)

FOR INFORMATION ONLY

(7 pages to follow)

INSERT 1

The Surveillance Frequencies are controlled under the Surveillance Frequency Control Program.

INSERT 2

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

BASES

SURVEILLANCE REQUIREMENTS

As noted in the beginning of the SRs, the SRs for each RPV Water Inventory Control instrumentation Function are found in the SRs column of Table 3.3.5.3-1.

SR 3.3.5.3.1

Performance of the CHANNEL CHECK ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the instrument channels could be an indication of excessive instrument drift in one of the channels or something even more serious. A CHANNEL CHECK guarantees that undetected outright channel failure is limited; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL FUNCTIONAL TEST.

Agreement criteria are determined by the plant staff, based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the instrument has drifted outside its limit.

~~The Frequency of 12 hours is based upon operating experience that demonstrates channel failure is rare.~~ [Insert 2]

The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the channels required by the LCO.

SR 3.3.5.3.2

A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the entire 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.

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

~~The Frequency of 92 days is based upon operating experience that demonstrates channel failure is rare.~~ [Insert 2]

BASES

ACTIONS (continued)

draining event to prevent the RPV water inventory from reaching the TAF. Note that Required Actions D.1, D.2, D.3, and D.4 are also applicable when DRAIN TIME is less than 1 hour.

SURVEILLANCE REQUIREMENTS

SR 3.5.2.1

The minimum water level of -3 ft required for the suppression pool is periodically verified to ensure that the suppression pool will provide adequate net positive suction head (NPSH) for the CS subsystem or LPCI subsystem pump, recirculation volume, and vortex prevention. With the suppression pool water level less than the required limit, the required ECCS injection/spray subsystem is inoperable unless it is aligned to an OPERABLE CST.

When suppression pool level is < -3 ft, the CS or LPCI subsystem is considered OPERABLE only if it can take suction from the CST(s), and the CST(s) water level is sufficient to provide the required NPSH and vortex prevention for the CS pump or LPCI pump. Therefore, a verification that either the suppression pool water level is ≥ -3 ft or that the required low pressure ECCS injection/spray subsystem is aligned to take suction from the CST(s) and the CST(s) contain ≥ 58,000 gallons of water, equivalent to 4 ft in both CSTs when they are cross-tied (normal configuration) and 7 ft in one CST when they are not cross-tied, ensures that the required low pressure ECCS injection/spray subsystem can supply at least 50,000 available gallons of makeup water to the RPV. The low pressure ECCS injection/spray suction is uncovered at the 2366 gallon level.

~~The 12 hour Frequency of these SRs was developed considering operating experience related to suppression pool water level and CST water level variations. Furthermore, the 12 hour Frequency is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal suppression pool or CST water level condition.~~ [Insert 2]

SR 3.5.2.2

The ECCS injection/spray subsystem flow path piping and components have the potential to develop voids and pockets of entrained gases. Preventing and managing gas intrusion and accumulation is necessary for proper operation of the required ECCS injection/spray subsystem and may also prevent a water hammer, pump cavitation, and pumping of noncondensible gas into the reactor vessel.

BASES

SURVEILLANCE REQUIREMENTS (continued)

Selection of ECCS injection/spray subsystem locations susceptible to gas accumulation is based on a review of system design information, including piping and instrumentation drawings, isometric drawings, plan and elevation drawings, and calculations. The design review is supplemented by system walk downs to validate the system high points and to confirm the location and orientation of important components that can become sources of gas or could otherwise cause gas to be trapped or difficult to remove during system maintenance or restoration.

Susceptible locations depend on plant and system configuration, such as stand-by versus operating conditions.

The required ECCS injection/spray subsystem is OPERABLE when it is sufficiently filled with water. Acceptance criteria are established for the volume of accumulated gas at susceptible locations. If accumulated gas is discovered that exceeds the acceptance criteria for the susceptible location (or the volume of accumulated gas at one or more susceptible locations exceeds an acceptance criteria for gas volume at the suction or discharge of a pump), the Surveillance is not met. If it is determined by subsequent evaluation that the ECCS injection/spray subsystem is not rendered inoperable by the accumulated gas (i.e., the system is sufficiently filled with water), the Surveillance may be declared met. Accumulated gas should be eliminated or brought within the acceptance criteria limits.

ECCS injection/spray subsystem locations susceptible to gas accumulation are monitored and, if gas is found, the gas volume is compared to the acceptance criteria for the location. Susceptible locations in the same system flow path which are subject to the same gas intrusion mechanisms may be verified by monitoring a representative sub-set of susceptible locations. Monitoring may not be practical for locations that are inaccessible due to radiological or environmental conditions, the plant configuration, or personnel safety. For these locations alternative methods (e.g., operating parameters, remote monitoring) may be used to monitor the susceptible location. Monitoring is not required for susceptible locations where the maximum potential accumulated gas void volume has been evaluated and determined to not challenge system OPERABILITY. The accuracy of the method used for monitoring the susceptible locations and trending of the results should be sufficient to assure system OPERABILITY during the Surveillance interval.

~~The 31 day Frequency is based on the gradual nature of void buildup in the ECCS injection/spray subsystem piping, the procedural controls governing system operation, and operating experience.~~ [Insert 2]

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.5.2.3

Verifying the correct alignment for manual, power operated, and automatic valves in the required ECCS subsystem flow path provides assurance that the proper flow paths will be available for ECCS operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these valves were verified to be in the correct position prior to locking, sealing, or securing. A valve that receives an initiation signal is allowed to be in a nonaccident position provided the valve will automatically reposition in the proper stroke time. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of potentially being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves. ~~The 31 day Frequency is appropriate because the valves are operated under procedural control and the probability of their being mispositioned during this time period is low.~~ [Insert 2]

The Surveillance is modified by a Note which exempts system vent flow paths opened under administrative control. The administrative control should be proceduralized and include stationing a dedicated individual at the system vent flow path who is in continuous communication with the operators in the control room. This individual will have a method to rapidly close the system vent flow path if directed (Ref. 2).

SR 3.5.2.4

Verifying that the required ECCS injection/spray subsystem can be manually started and operate for at least 10 minutes demonstrates that the subsystem is available to mitigate a draining event. Testing the ECCS injection/spray subsystem through the recirculation line is necessary to avoid overfilling the refueling cavity. The minimum operating time of 10 minutes was based on engineering judgment. ~~The performance frequency of 92 days is consistent with similar at power testing required by SR 3.5.1.7.~~ [Insert 2]

SR 3.5.2.5

The required ECCS subsystem shall be capable of being manually operated. This Surveillance verifies that the required CS or LPCI subsystem (including the associated pump and valve(s)) can be manually operated to provide additional RPV Water Inventory, if needed.

~~The 24 month Frequency is based on the need to perform the 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 SR when performed at the 24 month Frequency, which is based on the refueling cycle. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.~~ [Insert 2]

This SR is modified by a Note that excludes vessel injection/spray during the Surveillance. Since all active components are testable and full flow can be demonstrated by recirculation through the test line, coolant injection into the RPV is not required during the Surveillance.

SR 3.5.2.6

Verifying that each valve credited for automatically isolating a penetration flow path actuates to the isolation position on an actual or simulated RPV water level isolation signal is required to prevent RPV water inventory from dropping below the TAF should an unexpected draining event occur. ~~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 these components usually pass the Surveillance when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.~~ [Insert 2]

SR 3.5.2.7

This Surveillance verifies that the DRAIN TIME of RPV water inventory to the TAF is ≥ 36 hours. The period of 36 hours is considered reasonable to identify and initiate action to mitigate draining of reactor coolant. Loss of RPV water inventory that would result in the RPV water level reaching the TAF in greater than 36 hours does not represent a significant challenge to Safety Limit 2.1.1.4 and can be managed as part of normal plant operation.

The definition of DRAIN TIME states that realistic cross-sectional areas and drain rates are used in the calculation. A realistic drain rate may be determined using a single, step-wise, or integrated calculation considering the changing RPV water level during a draining event. For a Control Rod RPV penetration flow path with the Control Rod Drive Mechanism removed and not replaced with a blank flange, the realistic cross-sectional area is based on the control rod blade seated in the control rod guide tube. If the control rod blade will be raised from the

SURVEILLANCE REQUIREMENTS (continued)

penetration to adjust or verify seating of the blade, the exposed cross-sectional area of the RPV penetration flow path is used.

The definition of DRAIN TIME excludes from the calculation those penetration flow paths connected to an intact closed system, or isolated by manual or automatic valves that are locked, sealed, or otherwise secured in the closed position, blank flanges, or other devices that prevent flow of reactor coolant through the penetration flow paths. A blank flange or other bolted device must be connected with a sufficient number of bolts to prevent draining in the event of an Operating Basis Earthquake. Normal or expected leakage from closed systems or past isolation devices is permitted. Determination that a system is intact and closed or isolated must consider the status of branch lines and ongoing plant maintenance and testing activities.

The Residual Heat Removal (RHR) Shutdown Cooling System is only considered an intact closed system when misalignment issues (Reference 8) have been precluded by functional valve interlocks or by isolation devices, such that redirection of RPV water out of an RHR subsystem is precluded. Further, RHR Shutdown Cooling System is only considered an intact closed system if its controls have not been transferred to the Alternate Shutdown System, which disables the interlocks and isolation signals.

The exclusion of penetration flow paths from the determination of DRAIN TIME must consider the potential effects of a single operator error or initiating event on items supporting maintenance and testing (rigging, scaffolding, temporary shielding, piping plugs, snubber removal, freeze seals, etc.). If failure of such items could result and would cause a draining event from a closed system or between the RPV and the isolation device, the penetration flow path may not be excluded from the DRAIN TIME calculation.

Surveillance Requirement 3.0.1 requires SRs to be met between performances. Therefore, any changes in plant conditions that would change the DRAIN TIME requires that a new DRAIN TIME be determined.

~~The Frequency of 12 hours is sufficient in view of indications of RPV water level available to the operator.~~ [Insert 2]