UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 16, 2016

Mr. Scott Northard
Acting Site Vice President
Prairie Island Nuclear Generating Plant
Northern States Power Company - Minnesota
1717 Wakonade Drive East
Welch, MN 55089

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: TECHNICAL SPECIFICATIONS TASK FORCE (TSTF) STANDARD TECHNICAL SPECIFICATIONS CHANGE TRAVELER TSTF-523, REVISION 2, "GENERIC LETTER 2008-01, MANAGING GAS ACCUMULATION" (CAC NOS. MF6449 AND MF6450)

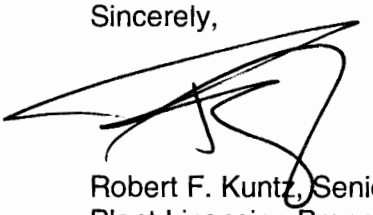
Dear Mr. Davison:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment No. 217 to Renewed Facility Operating License No. DPR-42 and Amendment No. 205 to Renewed Facility Operating License No. DPR-60 for the Prairie Island Nuclear Generating Plant, Units 1 and 2, respectively. The amendments consist of changes to the technical specifications in response to your application dated June 29, 2015, as supplemented by letters dated December 30, 2015, January 25, 2016, March 31, 2016, and April 14, 2016.

The amendments revise surveillance requirements (SRs) related to gas accumulation for the emergency core cooling system and added new SRs related to gas accumulation for the residual heat removal and containment spray systems, consistent with NRC-approved Technical Specifications Task Force (TSTF) Standard Technical Specifications Change Traveler TSTF-523, Revision 2, "Generic Letter 2008-01, Managing Gas Accumulation."

A copy of our related safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,



Robert F. Kuntz, Senior Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-282 and 50-306

Enclosures:
1. Amendment No. 217 to DPR-42
2. Amendment No. 205 to DPR-60
3. Safety Evaluation

cc w/encls: Distribution via ListServ

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

NORTHERN STATES POWER COMPANY - MINNESOTA

DOCKET NO. 50-282

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 217
License No. DPR-42

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Northern States Power Company, a Minnesota Corporation (NSPM, the licensee), dated June 29, 2015, as supplemented by letters dated December 30, 2015, January 25, 2016, March 31, 2016, and April 14, 2016, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-42 is hereby amended to read as follows:

   Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 217, are hereby incorporated in the renewed operating license. NSPM shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION

David J. Wrona, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License and Technical
Specifications

Date of Issuance: June 16, 2016

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

NORTHERN STATES POWER COMPANY

DOCKET NO. 50-306

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 205
License No. DPR-60

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Northern States Power Company, a Minnesota Corporation (NSPM, the licensee), dated June 29, 2015, as supplemented by letters dated December 30, 2015, January 25, 2016, March 31, 2016, and April 14, 2016, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-60 is hereby amended to read as follows:

   Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 205, are hereby incorporated in the renewed operating license. NSPM shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION

David J. Wrona, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License and Technical
Specifications

Date of Issuance: June 16, 2016

ATTACHMENT TO LICENSE AMENDMENT NOS. 217 AND 205

RENEWED FACILITY OPERATING LICENSE NOS. DPR-42 AND DPR-60

DOCKET NOS. 50-282 AND 50-306

Replace the following pages of the Renewed Facility Operating License Nos. DPR-42 and DPR-60 with the attached revised pages. The changed areas are identified by a marginal line.

REMOVE	INSERT
Page 3	Page 3
Page 3	Page 3

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE	INSERT
3.4.6-3	3.4.6-3
3.4.7-4	3.4.7-4
3.4.8-3	3.4.8-3
3.5.2-2	3.5.2-2
3.5.2-3	3.5.2-3
--	3.5.2-4
3.5.3-2	3.5.3-2
3.6.5-3	3.6.5-3
3.6.5-4	3.6.5-4
3.9.5-3	3.9.5-3
3.9.6-3	3.9.6-3

(3) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, NSPM to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, NSPM to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components;

(5) Pursuant to the Act and 10 CFR Parts 30 and 70, NSPM to possess but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility;

(6) Pursuant to the Act and 10 CFR Parts 30 and 70, NSPM to transfer byproduct materials from other job sites owned by NSPM for the purpose of volume reduction and decontamination.

C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

NSPM is authorized to operate the facility at steady state reactor core power levels not in excess of 1677 megawatts thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 217, are hereby incorporated in the renewed operating license. NSPM shall operate the facility in accordance with the Technical Specifications.

(3) Physical Protection

NSPM shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains

(3) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, NSPM to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, NSPM to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components;

(5) Pursuant to the Act and 10 CFR Parts 30 and 70, NSPM to possess but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility;

(6) Pursuant to the Act and 10 CFR Parts 30 and 70, NSPM to transfer byproduct materials from other job sites owned by NSPM for the purposes of volume reduction and decontamination.

C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

NSPM is authorized to operate the facility at steady state reactor core power levels not in excess of 1677 megawatts thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 205, are hereby incorporated in the renewed operating license. NSPM shall operate the facility in accordance with the Technical Specifications.

(3) Physical Protection

NSPM shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.6.1	Verify required RHR or RCS loop is in operation.	12 hours
SR 3.4.6.2	Verify required SG capable of removing decay heat.	12 hours
SR 3.4.6.3	----------NOTE---------- Not required to be performed until 24 hours after a required pump is not in operation. ----------	
	Verify correct breaker alignment and indicated power are available to each required pump.	7 days
SR 3.4.6.4	----------NOTE---------- Not required to be performed until 12 hours after entering MODE 4. ----------	
	Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water.	31 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.7.1	Verify required RHR loop is in operation.	12 hours
SR 3.4.7.2	Verify required SG capable of removing decay heat.	12 hours
SR 3.4.7.3	----------NOTE---------- Not required to be performed until 24 hours after a required pump is not in operation. ----------	
	Verify correct breaker alignment and indicated power are available to each required RHR pump.	7 days
SR 3.4.7.4	Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water.	31 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.8.1	Verify required RHR loop is in operation.	12 hours
SR 3.4.8.2	----------NOTE---------- Not required to be performed until 24 hours after a required pump is not in operation. ----------	
	Verify correct breaker alignment and indicated power are available to each required RHR pump.	7 days
SR 3.4.8.3	Verify RHR loop locations susceptible to gas accumulation are sufficiently filled with water.	31 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE				FREQUENCY
SR 3.5.2.1	Verify the following valves are in the listed position.			12 hours
Unit 1 Valve Number	Westinghouse Valve Number	Position	Function	
32070	8801A	OPEN	SI Injection to RCS Cold Leg A	
32068	8801B	OPEN	SI Injection to RCS Cold Leg B	
32073	8806A	OPEN	SI Cold Leg Injection Line	
32206	8816A	CLOSED	SI Pump Suction from RHR	
32207	8816B	CLOSED	SI Pump Suction from RHR	
Unit 2 Valve Number	Westinghouse Valve Number	Position	Function	
32173	8801A	OPEN	SI Injection to RCS Cold Leg A	
32171	8801B	OPEN	SI Injection to RCS Cold Leg B	
32176	8806A	OPEN	SI Cold Leg Injection Line	
32208	8816A	CLOSED	SI Pump Suction from RHR	
32209	8816B	CLOSED	SI Pump Suction from RHR	
SR 3.5.2.2	----------NOTE---------- Not required to be met for system vent flow paths opened under administrative control. ---------- Verify each ECCS 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

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.3	Verify power to the valve operator has been removed for each valve listed in SR 3.5.2.1.	31 days
SR 3.5.2.4	Verify ECCS accessible locations susceptible to gas accumulation are sufficiently filled with water.	31 days
SR 3.5.2.5	Verify ECCS inaccessible locations susceptible to gas accumulation are sufficiently filled with water.	Prior to entering MODE 3 after exiting shutdown cooling
SR 3.5.2.6	Verify each ECCS pump's developed head at the test flow point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program
SR 3.5.2.7	Verify each ECCS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	24 months

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.8	Verify each ECCS pump starts automatically on an actual or simulated actuation signal.	24 months
SR 3.5.2.9	Verify each ECCS throttle valve listed below is in the correct position. Unit 1 Valve Number / Unit 2 Valve Number SI-15-6 / 2SI-15-6 SI-15-7 / 2SI-15-7 SI-15-8 / 2SI-15-8 SI-15-9 / 2SI-15-9	24 months
SR 3.5.2.10	Verify, by visual inspection, each ECCS train containment sump suction inlet is not restricted by debris and the suction inlet strainers show no evidence of structural distress or abnormal corrosion.	24 months

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time of Condition B not met.	C.1 Be in MODE 5.	24 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.3.1	The following SRs are applicable for all equipment required to be OPERABLE: SR 3.5.2.1 SR 3.5.2.3 SR 3.5.2.4 SR 3.5.2.5 SR 3.5.2.6 SR 3.5.2.9 SR 3.5.2.10	In accordance with applicable SRs

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.5.1	----------NOTE---------- Not required to be met for system vent flow paths opened under administrative control. ---------- Verify each containment spray 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
SR 3.6.5.2	Operate each containment fan coil unit on low motor speed for $\geq$ 15 minutes.	31 days
SR 3.6.5.3	Verify containment spray locations susceptible to gas accumulation are sufficiently filled with water.	31 days
SR 3.6.5.4	Verify cooling water flow rate to each containment fan coil unit is $\geq$ 900 gpm.	24 months
SR 3.6.5.5	Verify each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.5.6	Verify each automatic containment spray valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	24 months
SR 3.6.5.7	Verify each containment spray pump starts automatically on an actual or simulated actuation signal.	24 months
SR 3.6.5.8	Verify each containment cooling train starts automatically on an actual or simulated actuation signal.	24 months
SR 3.6.5.9	Verify each spray nozzle is unobstructed.	Following maintenance which could result in nozzle blockage

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.5.1	Verify one RHR loop is in operation.	12 hours
SR 3.9.5.2	Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water.	31 days

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.5.1 Close each penetration providing direct access from the containment atmosphere to the outside atmosphere with a manual or automatic isolation valve, or blind flange. OR	4 hours
	B.5.2 Verify each penetration is capable of being closed by an OPERABLE Containment Ventilation Isolation System.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.6.1	Verify one RHR loop is in operation.	12 hours
SR 3.9.6.2	Verify correct breaker alignment and indicated power available to the required RHR pump that is not in operation.	7 days
SR 3.9.6.3	Verify RHR loop locations susceptible to gas accumulation are sufficiently filled with water.	31 days

UNITED STATES
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 217 TO RENEWED FACILITY

OPERATING LICENSE NO. DPR-42

AND AMENDMENT NO. 205 TO RENEWED FACILITY

OPERATING LICENSE NO. DPR-60

NORTHERN STATES POWER COMPANY

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2

DOCKET NOS. 50-282 AND 50-306

1.0 INTRODUCTION

By application dated June 29, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15187A259), as supplemented by letters dated December 30, 2015 (ADAMS Accession No. ML15364A466), January 25, 2016 (ADAMS Accession No. ML16025A162), March 31, 2016 (ADAMS Accession No. ML16091A405), and April 14, 2016 (ADAMS Accession No. ML16109A169), Northern States Power Company, a Minnesota Corporation (the licensee), requested changes to the technical specifications (TSs) for Prairie Island Nuclear Generating Plant, Units 1 and 2 (PINGP). The supplemental letters provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on October 13, 2015 (80 FR 61484).

The proposed changes would adopt U.S. Nuclear Regulatory Commission (NRC)-approved Technical Specifications Task Force (TSTF) Standard Technical Specifications (STS) Change Traveler TSTF-523, Revision 2, "Generic Letter 2008-01, Managing Gas Accumulation," dated February 21, 2013 (ADAMS Accession No. ML13053A075). The availability of this TS improvement was announced in the *Federal Register* on January 15, 2014 (79 FR 2700), as part of the consolidated line item improvement process (CLIIP).

The proposed change would revise surveillance requirements (SRs) related to gas accumulation for the emergency core cooling system (ECCS). The proposed change would also add new SRs related to gas accumulation for the residual heat removal (RHR) and containment spray (CS) systems.

The licensee stated that it has reviewed the information contained in the model safety evaluation dated December 23, 2013 (ADAMS Accession No. ML13255A169), and TSTF-523. The licensee stated the model safety evaluation and TSTF-523 are applicable to PINGP and justify the proposed amendment to incorporate TSTF-523 changes to the PINGP TS.

2.0 REGULATORY EVALUATION

2.1 Background

Gas accumulation in reactor systems can result in water hammer, pump cavitation, and pumping of non-condensable gas into the reactor vessel. These effects may result in the subject system being unable to perform its specified safety function. The NRC issued Generic Letter (GL) 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems," in January 2008 to address the issue of gas accumulation in ECCS, RHR, and CS systems (ADAMS Accession No. ML072910759). The industry and NRC staff agreed that a change to the STS and plant-specific TS would be necessary to address some issues discussed in GL 2008-01. TSTF-523 contains changes to the TS SRs and TS Bases to address some of the concerns in GL 2008-01. The licensee proposed amending the PINGP TS using a plant-specific adoption of the TSTF-523 changes.

2.2 TS Changes

Changes were proposed for SRs 3.5.2.2, 3.5.3.1, and 3.6.5.1, as well as the addition of new SRs 3.4.6.4, 3.4.7.4, 3.4.8.3, 3.5.2.4, 3.5.2.5, 3.6.5.3, 3.9.5.2, and 3.9.6.3 to TS 3.4.6, "RCS Loops - MODE 4," TS 3.4.7, "RCS Loops - MODE 5, Loops Filled," TS 3.4.8, "RCS Loops - MODE 5, Loops Not Filled," TS 3.5.2, "ECCS – Operating," TS 3.5.3, "ECCS – Shutdown," TS 3.6.5, "Containment Spray and Cooling Systems," TS 3.9.5, "Residual Heat Removal (RHR) and Coolant Circulation – High Water Level," and TS 3.9.6, "Residual Heat Removal (RHR) and Coolant Circulation – Low Water Level," respectively.

2.3 Regulatory Review

The regulations in Appendix A, "General Design Criteria for Nuclear Power Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 or similar plant-specific principal design criteria provide design requirements. Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, the TSs, and the licensee's quality assurance programs provide operating requirements. The regulatory requirements of 10 CFR Part 50, Appendix A, that are applicable to gas management in the subject systems include: General Design Criteria (GDC) 1, 34, 35, 36, 37, 38, 39, and 40. GDC 1 requires that the subject systems be designed, fabricated, erected, and tested to quality standards. GDC 34 requires an RHR system designed to maintain specified acceptable fuel design limits and to meet design conditions that are not exceeded if a single failure occurs and specified electrical power systems fail. GDC 35, 36, and 37 require an ECCS design that meets performance, inspection, and testing requirements. Additionally, the regulations in 10 CFR 50.46 provide specified ECCS performance criteria. GDC 38, 39, and 40 require a containment heat removal system design that meets performance, inspection, and testing requirements.

PINGP Units 1 and 2 were not licensed to the 10 CFR 50, Appendix A, GDC. The PINGP design criteria that are equivalent to the referenced GDC are discussed in the Updated Safety Analysis Report (USAR) Section 1.2, Principal Design Criteria. The PINGP design criterion that equates to 10 CFR 50 Appendix A, GDC 1 is addressed in USAR Section 1.2.1, "Overall Plant Requirements (GDC 1 - GDC 5)," and the design criteria that equate to 10 CFR 50 Appendix A, GDC 34 through GDC 40 are addressed in USAR Sections 1.2.6, "Reactor Coolant Pressure Boundary (GDC 33 - GDC 36)," and 1.2.7, "Engineered Safety Features (GDC 37 - GDC 65)." The NRC staff determined that for the purposes of TSTF-523 adoption, the PINGP design criteria that are equivalent to the referenced GDC meet the intent of the GDC.

Quality assurance criteria provided in 10 CFR Part 50, Appendix B, that apply to gas management in the subject systems include: Criteria III, V, XI, XVI, and XVII. Criteria III and V require measures to ensure that applicable regulatory requirements and the design basis, as defined in 10 CFR 50.2, "Definitions," and as specified in the license application, are correctly translated into controlled specifications, drawings, procedures, and instructions. Criterion XI requires a test program to ensure that the subject systems will perform satisfactorily in service and requires that test results shall be documented and evaluated to ensure that test requirements have been satisfied. Criterion XVI requires measures to ensure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances, are promptly identified and corrected, and that significant conditions adverse to quality are documented and reported to management. Criterion XVII requires maintenance of records of activities affecting quality.

The NRC's regulatory requirements related to the content of the TSs are contained in 10 CFR 50.36(c). The regulations at 10 CFR 50.36 require that the TSs include items in the following categories: (1) safety limits, limiting safety systems settings, and limiting control settings; (2) limiting conditions for operation (LCO); (3) SRs; (4) design features; and (5) administrative controls. SRs are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met. Typically, TS Section 5 requires that licensees establish, implement, and maintain written procedures covering the applicable procedures recommended in Appendix A to NRC Regulatory Guide (RG) 1.33, Revision 2, "Quality Assurance Program Requirements (Operation)," dated February 1978 (ADAMS Accession No. ML003739995). Appendix A to RG 1.33, Revision 2, identifies instructions for filling and venting the ECCS and decay heat removal (DHR) system, as well as for draining and refilling heat exchangers. Standard TSs and most licensee TSs include SRs to verify that at least some of the subject systems piping is filled with water.

The NRC's guidance for the format and content of licensee TSs can be found in NUREG-1431, Revision 4, "Standard Technical Specifications, Westinghouse Plants" (STS), dated April 2012 (ADAMS Accession No. ML12100A222).

Regulatory guidance for the NRC staff's review of containment heat removal systems, ECCS, and RHR systems is provided in the following revisions and sections of the SRP.

- Revision 5 of SRP, Section 6.2.2, "Containment Heat Removal Systems," dated March 2007 (ADAMS Accession No. ML070160661), provides the procedures

concerning the review of containment heat removal under post-accident conditions to help ensure compliance with GDC 38, 39, and 40.

- Revision 3 of SRP, Section 6.3, "Emergency Core Cooling System," dated March 2007 (ADAMS Accession No. ML070550068), provides the procedures concerning the review of the ECCS to help ensure compliance with GDC 35, 36, and 37.

- Revision 5 of SRP, Section 5.4.7, "Residual Heat Removal (RHR) System," dated May 2010 (ADAMS Accession No. ML100680577), provides the procedures concerning the review of the RHR system as it is used to cool the reactor coolant system (RCS) during and following shutdown to help ensure compliance with GDC 34.

3.0 TECHNICAL EVALUATION

The proposed change adopted the TS format and content, to the extent practicable, contained in the changes made to the STS by TSTF-523.

The NRC staff compared the proposed changes to the existing SRs, as well as the regulatory requirements of 10 CFR 50.36(c). The licensee proposed the following TS changes:

(1) Add SR 3.4.6.4, which states, "Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water," with a note that states "Not required to be performed until 12 hours after entering MODE 4," and a frequency of 31 days.

(2) Add SR 3.4.7.4, which states, "Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water," with a frequency of 31 days.

(3) Add SR 3.4.8.3, which states, "Verify RHR loop locations susceptible to gas accumulation are sufficiently filled with water," with a frequency of 31 days.

(4) Add a note to SR 3.5.2.2, which states, "Not required to be met for system vent flow paths opened under administrative control."

(5) Add SR 3.5.2.4, which states, "Verify ECCS accessible locations susceptible to gas accumulation are sufficiently filled with water," with a frequency of 31 days.

(6) Add SR 3.5.2.5, which states, "Verify ECCS inaccessible locations susceptible to gas accumulation are sufficiently filled with water," with a frequency of "Prior to entering MODE 3 after exiting shutdown cooling." The specified frequency is prior to entering MODE 3 after exiting shutdown cooling. This extended frequency is inconsistent with the 31-day frequency provided in the model safety evaluation.

There are four inaccessible locations. Two are located in each unit and are located adjacent to the RCS pressure isolation check valves that are directly

exposed to RCS pressure. Each location consists of a vertically oriented 6" check valve that connects to the RCS loop piping with RCS pressure on the downstream side of the disc. These locations are high points that could allow gas to accumulate on the upstream side of the disc. The valves are inaccessible during normal power operation due to close proximity to the RCS loop piping with accompanying dose and temperature concerns. The locations are examined at the piping adjacent to the check valve due to the valve configuration and examination limitations.

The licensee addressed various valve leakage scenarios. The NRC staff's review focused on the following: (1) if only one valve was leaking, the second (non-leaking) valve would be the RCS pressure boundary and there would be no location where long-term leakage could occur that resulted in significant void formation and (2) any combination of valve conditions that results in both valves leaking will result in a difference between RCS pressure and pressure upstream of the second valve and this pressure reduction will result in outgassing. Differences in pressure decreases across the valves when both valves are leaking will only affect the potential void accumulation location.

The NRC staff concludes that hydrogen outgassing will occur if both valves are leaking. This conclusion does not substantiate the licensee's rationale that would reduce the likelihood of void formation. However, due to the additional considerations included in its review, the NRC staff has determined that this is not a significant change with respect to the lack of 31-day monitoring of inaccessible locations. The basis for this determination is the licensee's declaration that (1) the inaccessible locations are checked for voids at the earliest possible shutdown condition, (2) the locations will be monitored prior to entering Mode 3 after exiting shutdown cooling during startup, (3) during refueling outages, check valve leakage rates will be validated, and (4) operating experience for these locations has shown no void accumulation due to the intrusion mechanism. Therefore, the proposed frequency is acceptable.

(7) Revise the applicable SRs in SR 3.5.3.1 which states, "The following SRs are applicable for all equipment required to be OPERABLE:

SR 3.5.2.1	SR 3.5.2.6
SR 3.5.2.3	SR 3.5.2.9
SR 3.5.2.4	SR 3.5.2.10
SR 3.5.2.5"	

(8) Add a note to SR 3.6.5.1, which states, "Not required to be met for system vent flow paths opened under administrative control."

(9) Add SR 3.6.5.3, which states, "Verify containment spray locations susceptible to gas accumulation are sufficiently filled with water," with a frequency of 31 days.

(10) Add SR 3.9.5.2, which states, "Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water," with a frequency of 31 days.

(11) Add SR 3.9.6.3, which states, "Verify RHR loop locations susceptible to gas accumulation are sufficiently filled with water," with a frequency of 31 days.

The new language for the SRs was developed using licensee responses to GL 2008-01 and the NRC staff's discussion contained in Task Interface Agreement (TIA) 2008-03, "Emergency Core Cooling System (ECCS) Voiding Relative To Compliance With Surveillance Requirements (SR) 3.5.1.1, 3.5.2.3, and 3.5.3.1," dated October 21, 2008 (ADAMS Accession No. ML082560209). Many of the GL 2008-01 responses stated that licensees have identified system locations susceptible to gas accumulation. In the TIA, the NRC stated that the intent of the TS SRs, which state "full of water," may be met if the licensee can establish, through an Operability Determination, that there is a reasonable expectation that the system in question will perform its specified safety function. Therefore the phrase, "sufficiently filled with water" was recommended for the proposed TS changes. In the TS, "sufficiently filled with water" is understood to mean "sufficiently filled with water to support Operability." The regulation at 10 CFR 50.36(c)(3) states that one of the purposes of the SR is to verify that the LCO is met. Therefore, the new SR language, "Verify the [system name] locations susceptible to gas accumulation are sufficiently filled with water," is acceptable since this language will allow the licensee to make a conclusion as to whether or not a system is operable.

The language for the notes that state that the SR does not have to be performed until 12 hours after entering Mode 4 is acceptable because the note provides a limited time to perform the Surveillance after entering the Applicability of the LCO; however, under the STS usage rules (STS Section 1.4), the requirement to manage gas accumulation is not affected. Licensees must have confidence that the SR can be met or the LCO must be declared not met.

The language for the notes that allow the SRs to not be met for system vent flow paths opened under administrative control is necessary to allow the licensee to credit administratively controlled manual action to close the system vent flow path in order to maintain system Operability during system venting and performance of the proposed gas accumulation SR. Therefore, these notes are acceptable.

The revision to SR 3.5.3.1 adds SR 3.5.2.4 and SR 3.5.2.5 and renumbers subsequent applicable SRs. This revision is consistent with the PINGP TSs and therefore acceptable.

The NRC staff found that the proposed SRs meet the regulatory requirements of 10 CFR 50.36 because they provide assurance that the necessary quality of systems and components will be maintained and that the LCO will be met. Therefore, the NRC staff finds the proposed amendment acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Minnesota State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change the requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or change the surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration (80 FR 61484) and there has been no public comment on such finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: M. Hamm and W. Lyon

Date: June 16, 2016

A copy of our related safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Robert F. Kuntz, Senior Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-282 and 50-306

Enclosures:
1. Amendment No. 217 to DPR-42
2. Amendment No. 205 to DPR-60
3. Safety Evaluation

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