



Prairie Island Nuclear Generating Plant
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L-PI-16-020
10 CFR 50.90

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

Prairie Island Nuclear Generating Plant Unit 1
Docket 50-282
Renewed License No. DPR-42

License Amendment Request Regarding One-Time Extension for Technical Specification
Surveillance Requirement 3.8.4.3, "DC Sources – Operating"

Pursuant to 10 CFR 50.90, Northern States Power Company, a Minnesota corporation, d/b/a Xcel Energy (hereafter "NSPM"), hereby requests an amendment to the Technical Specifications (TS) for the Prairie Island Nuclear Generating Plant (PINGP) Unit 1. The proposed change would revise a TS Surveillance Requirement (SR) to allow for a one-time extension of the TS SR frequency to account for the effects of rescheduling the next refueling outage (1R30). The proposed TS SR frequency extension is for one month.

The Enclosure provides NSPM's evaluation of the proposed change. Marked up and clean (retyped) copies of the applicable TS SR are provided in the attachments to the Enclosure.

NSPM evaluated the change proposed in this License Amendment Request (LAR) in accordance with 10 CFR 50.92 and concluded it involves no significant hazards. In accordance with 10 CFR 50.91(b)(1), a copy of this application, with the enclosure, is being provided to the designated Minnesota Official.

Due to the impending expiration of TS SR 3.8.4.3 on October 14, 2016, NSPM requests approval of the proposed amendment by October 4, 2016, with an implementation period of seven days.

If there are any questions, please contact Mr. Lenny Sueper at (612) 330-6917.

Summary of Commitments

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

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

Executed on April 7, 2016

A handwritten signature in cursive script, appearing to read "Scott Northard".

Scott Northard
Acting Site Vice President – Prairie Island Nuclear Generating Plant
Northern States Power Company – Minnesota

Enclosure

cc: Administrator, USNRC, Region III
USNRC NRR Project Manager, PINGP
USNRC Senior Resident Inspector, PINGP
State of Minnesota

ENCLOSURE

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT 1

Evaluation of the Proposed Change

License Amendment Request Regarding One-Time Extension for Technical Specification
Surveillance Requirement 3.8.4.3, "DC Sources – Operating"

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- 2. Technical Specification Pages (Retyped)

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1.0 SUMMARY DESCRIPTION

Pursuant to 10 CFR 50.90, Northern States Power Company, a Minnesota corporation, d/b/a Xcel Energy (hereafter "NSPM"), hereby requests an amendment to the Technical Specifications (TS) for the Prairie Island Nuclear Generating Plant (PINGP) Unit 1. The proposed change would revise a TS Surveillance Requirement (SR) to allow for a one-time extension of the TS SR frequency to account for the effects of rescheduling the next refueling outage (1R30). The proposed TS SR frequency extension is for one month.

The proposed change requests a one-time extension for one Technical Specification (TS) Surveillance Requirement (SR) with a 24-month surveillance. The surveillance frequency extension would be one month (30 days) or to 25 months. This one-time extension is for the current operating cycle (Unit 1 cycle 29) only. The affected surveillance is TS SR 3.8.4.3, which verifies battery capacity is adequate. Specifically, the extension will be applied to the Unit 1, 11 Battery capacity test.

An extension to the TS SR 3.8.4.3 frequency is necessary due to the rescheduling of the 1R30 refueling outage. Rescheduling of 1R30 was based on plant shutdowns that occurred during the current operating cycle and the desire to optimize fuel burnup. The decision to request the extension for TS SR 3.8.4.3 was made because the surveillance cannot be performed online and will expire before the plant is in a mode appropriate for testing following the 1R30 shutdown.

2.0 DETAILED DESCRIPTION

2.1 Proposed Change

A brief description of the associated proposed SR change is provided below. The specific wording changes to the TS are provided in Attachments 1 and 2 to this Enclosure.

TS 3.8.4, "DC Sources – Operating", SR 3.8.4.3. The current TS SR has a frequency of 24 months and currently states:

"Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test."

The proposed change will add an asterisk to the 24 month frequency and add a footnote to modify the frequency of SR 3.8.4.3. The footnote states that, for Unit 1 Cycle 29 only, the surveillance frequency will be 25 months.

2.2 Reason for Proposed Change

SR 3.8.4.3 is fulfilled by performing tests on the Unit 1, 11 and 12 Batteries. Surveillance testing was last completed for the 11 Battery on October 14, 2014. The expiration date for this SR for

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the 11 Battery is October 14, 2016. Testing of the 12 Battery was completed November 7, 2014. Therefore, the expiration date for this SR for the 12 Battery is November 7, 2016. The plant configuration for performing the 11 and 12 battery capacity tests is Mode 5 due to the duration of the test relative to the Required Action with one battery inoperable in Modes 1, 2, 3 and 4.

The next refueling outage (1R30) was originally scheduled for mid-September 2016. However, Unit 1 experienced multiple plant shutdowns of varying duration during the current operating cycle and a decision was made to reschedule the outage to mid-October 2016. Moving the 1R30 outage allows the station to optimize the fuel burnup for the current cycle.

Based on the rescheduled outage timeframe, the plant conditions for performing the test on the 11 Battery will not be met until after the surveillance expires. The decision to request the extension for TS SR 3.8.4.3 was made because the surveillance cannot be performed online and will expire before the plant is in a mode appropriate for testing following the 1R30 shutdown. A one month extension is being sought to allow the testing per the current outage work schedule.

2.3 Facility Description

PINGP is a two unit plant located on the right bank of the Mississippi River approximately 6 miles northwest of the city of Red Wing, Minnesota. The facility is owned and operated by NSPM. Each unit at PINGP employs a two-loop pressurized water reactor designed and supplied by Westinghouse Electric Corporation. The initial PINGP application for a Construction Permit and Operating License was submitted to the Atomic Energy Commission (AEC) in April 1967. The Final Safety Analysis Report (FSAR) was submitted for application of an Operating License in January 1971. Unit 1 began commercial operation in December 1973, and Unit 1 began commercial operation in December 1974.

The PINGP was designed and constructed to comply with the licensee's understanding of the intent of the AEC General Design Criteria (GDC) for Nuclear Power Plant Construction Permits, as proposed on July 10, 1967. PINGP was not licensed to NUREG-0800, "Standard Review Plan (SRP)."

3.0 TECHNICAL EVALUATION

3.1 System Description

PINGP, Units 1 and 2, has four safeguards batteries, one per 125 VDC Subsystem. The batteries temporarily assure a continuous source of DC electrical power to the DC System in the event of the loss of AC charging power until the AC power to the chargers is restored. The batteries also assist with supplying DC loads when the associated charger cannot supply the total DC load.

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The batteries are flooded vented lead acid storage batteries. Each battery consists of 58 cells nominally. The batteries have a nominal rated capacity (to 1.75 volts per cell) of 1800 amp-hours at an 8 hour discharge rate.

One battery charger is in service on each battery so that the batteries are always at full charge in anticipation of a loss of AC power. This ensures that adequate DC power is available for starting the Emergency Diesel Generators and for other emergency uses. Once AC power is restored to the battery charger, it will resume powering the DC system loads and charge the battery.

Each battery has been sized to carry expected shutdown loads following a plant trip and a loss of AC battery charging power for a period of 1 hour without battery terminal voltage falling below the required minimum. For each battery system, the minimum terminal voltage is that required to maintain the operability of all components required to operate during a design basis event. Battery sizing determination was also done using the methodology of IEEE-485 as guidance and takes into account minimum expected electrolyte temperature and margin for battery aging.

For Station Blackout Prairie Island is categorized as a four hour plant. However, Prairie Island has demonstrated that Alternate AC can be aligned within 10 minutes. Therefore, no coping assessment is required per NUMARC 87-00 Section 7.1.2. The safeguards 125 VDC battery on the SBO unit will provide DC power to support actions on the SBO unit for aligning the Alternate AC source to the SBO unit during the 10 minute timeframe and will power the one division of safeguards battery chargers. The battery sizing load profile stated in the previous paragraph bounds the battery performance load profile for SBO.

3.1 Basis for Current Requirement

SR 3.8.4.3 and the current 24-month frequency were added as new surveillance requirements during the conversion to the Improved Standard Technical Specifications, NUREG-1431 (ML021060591). The frequency was intended to be consistent with the expected fuel cycle lengths.

3.2 Basis for Proposed Change

The 11 Battery capacity test is performed during each refueling outage under surveillance procedure SP 1098, "11 Battery Refueling Outage Discharge Test." The purpose of this SP is to isolate, test, restore and recharge the 11 Battery. The battery discharge results are evaluated per IEEE Std 450-1995, "IEEE Recommended Practice for Maintenance, Testing and Replacement of Vented Lead-Acid Batteries for Stationary Applications."

The 11 Battery was replaced in 2012 and successfully completed SR 3.8.4.3 battery capacity testing in 2012 (105.2% rated capacity) and 2014 (99.5% rated capacity). Per SR 3.8.6.6, battery capacity is required to be equal to or greater than 80% of the manufacturer's rating.

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Weekly testing to verify 11 Battery terminal voltage is greater than or equal to the minimum established float voltage (SR 3.8.4.1) shows no degradation or trend of degradation. Since installation 11 battery terminal voltage has remained at or above the weekly testing acceptance criteria of 128 volts.

The most recent system health report for the Unit 1 DC distribution system shows no items that are degrading the health or capacity of the 11 Battery.

The satisfactory results of prior 11 Battery capacity testing and weekly battery terminal voltage checks, combined with the lack of known items that would degrade the capacity of the 11 battery, support a one month extension of SR 3.8.4.3.

4.0 REGULATORY ANALYSIS

4.1 Applicable Regulatory Requirements/Criteria

Title 10 Code of Federal Regulations (CFR) 50.36(c)(3):

Surveillance requirements 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 limiting conditions for operation will be met.

Conclusion:

10 CFR 50.36 sets the regulatory requirements for the content of the Technical Specifications. As quoted above, 10 CFR 50.36(c)(3) of this regulation requires, in part, that the plant Technical Specifications contain surveillance requirements. The proposed change to SR 3.8.4.3 is for a short duration, one-time extension of its surveillance frequency, which is not specified in the regulation.

General Design Criteria

As stated in Section 2.3 of this enclosure, the PINGP was designed and constructed to comply with NSPM's understanding of the intent of the Atomic Energy Commission (AEC) General Design Criteria (GDC) for Nuclear Power Plant Construction Permits, as proposed on July 10, 1967. Therefore, the PINGP Licensing Basis requires conformance to the AEC GDC, as reflected in the PINGP Updated Safety Analysis Report (USAR) Section 1.2. The following AEC GDCs are applicable to this proposed change:

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CRITERION 24 - EMERGENCY POWER FOR PROTECTION SYSTEMS

In the event of loss of all offsite power, sufficient alternate sources of power shall be provided to permit the required functioning of the protection systems.

CRITERION 39 - EMERGENCY POWER FOR ENGINEERED SAFETY FEATURES

Alternate power systems shall be provided and designed with adequate independency, redundancy, capacity, and testability to permit the functioning required of the engineered safety features. As a minimum, the onsite power system and the offsite power system shall each, independently, provide this capacity assuming a failure of a single active component in each power system.

Conclusion:

The GDCs will continue to be met. The change proposed to the TS SR is for a short duration, one-time extension of the surveillance frequency for TS SR 3.8.4.3 that will not affect the ability of the 11 Battery to perform its required function. The independence, redundancy, capacity and testability of the Unit 1 DC power sources will be maintained during the one month extension.

4.2 Precedent

Several licensees have previously submitted LARs for a one-time extension of a surveillance frequency. Similar to NSPM's request, these proposed changes requested one-time extensions based on the effects of a delayed refueling outage. The specifics of these LARs differ from this LAR for PINGP in that different TS SRs were affected. However, the purpose of the precedent LARs is the same (a one-time extension of surveillance frequency). The NRC approved precedent LARs are listed below:

- Entergy Operations, Inc. "River Bend Station Unit 1 – Issuance of Amendment RE: One-Time Surveillance Interval Extension (TAC No. ME0215)," dated April 1, 2009 (Agencywide Document Access and Management System (ADAMS) Accession No. ML090270163).
- Omaha Public Power District, "Fort Calhoun Station, Unit No. 1 – Issuance of Amendment Re: One-Time Extension of a Limited Number of Technical Specification Surveillance Requirements (TAC No. MF5143)," dated December 29, 2014 (ADAMS Accession No. ML14356A012).
- Next Era Energy, "Turkey Point Nuclear Generating Unit No. 3 – Issuance of Amendment Regarding a One-Time Extension of Technical Specification Surveillance Requirement 4.5.1.1.d for Unit 3 (TAC No. MF1041)," dated September 10, 2013 (ADAMS Accession No. ML13207A095).

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4.3 No Significant Hazards Consideration Determination

In accordance with the requirements of 10 CFR 50.90, Northern States Power Company, a Minnesota corporation, d/b/a Xcel Energy (hereafter "NSPM"), requests an amendment to the Technical Specifications (TS) for the Prairie Island Nuclear Generating Plant (PINGP) Unit 1, Renewed Facility Operating License No. DPR-42. The proposed amendment would extend a Surveillance Requirement (SR) on a one-time basis to account for the effects of delaying the start of the next refueling outage.

NSPM has evaluated the proposed amendment against the standards in 10 CFR 50.92 and has determined that the operation of the PINGP Unit 1 in accordance with the proposed amendment presents no significant hazards. NSPM's evaluation against each of the criteria in 10 CFR 50.92 follows.

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The requested action is a short duration, one-time extension of the performance frequency of a single TS SR. The performance of the surveillance, or the failure to perform the surveillance, is not a precursor to an accident. Performing the surveillance or failing to perform the surveillance does not affect the probability of an accident. Therefore, the proposed delay in performance of the surveillance requirements in this license amendment request (LAR) does not increase the probability of an accident.

A delay in performing the surveillance does not result in a system being unable to perform its required function. Therefore, the systems required to mitigate accidents will remain capable of performing their required functions. No new failure modes have been introduced because of this action and the consequences remain consistent with previously evaluated accidents.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any previously evaluated?

Response: No

The proposed amendment does not involve a physical alteration of any SSC or a change in the way any SSC is operated. The proposed amendment does not involve operation of any SSCs in a manner of configuration different from those previously recognized or

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evaluated. No new failure mechanisms will be introduced by the one-time surveillance extension being requested.

Therefore, the proposed change does not create the possibility of a new or different kind of accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

The proposed amendment is a one-time extension of the surveillance frequency of a single TS SR. Extending the SR frequency does not involve a modification of any TS Limiting Condition for Operation. Extending the surveillance frequency does not involve a change to how accidents are mitigated or a significant increase in the consequences of an accident. Extending the surveillance frequency does not involve a change in any operating procedure or process.

The equipment involved in this request has exhibited reliable operation based on the results of previous battery capacity tests, weekly battery checks and the lack of system health issues that would call into question the performance or capacity of the 11 Battery. Therefore, the limited additional time that the SSCs will be in service before the surveillance is performed does not involve a significant reduction in a margin of safety.

Based on the above evaluation, NSPM concludes that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

4.4 Conclusions

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

5.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact

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statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 REFERENCES

- 6.1 Letter from NRC (C. F. Lyon) to Entergy (Vice President, Operations), "River Bend Station, Unit 1 – Issuance of Amendment Re: One-time Surveillance Interval Extension (TAC No. ME0215)," dated April 1, 2009 (ADAMS Accession No. ML090270163)
- 6.2 Letter from NRC (F. E. Saba) to NextEra Energy (M. Nazar), "Turkey Point Nuclear Generating Unit No. 3 – Issuance of Amendment Regarding a One-Time Extension of Technical Specification Surveillance Requirement 4.5.1.1d for Unit 3 (TAC No. MF1041)," dated September 10, 2013 (ADAMS Accession No. ML13207A095).
- 6.3 Letter from NRC (C. F. Lyon) to Omaha Public Power District (L. Cortopassi), Fort Calhoun, Unit 1 – Issuance of Amendment No. 279, Revise Technical Specification Surveillance Requirements for One-Time Extension from Refueling Frequency of Once per 18 months to Maximum of 28 Months (TAC MF5143), dated December 29, 2014 (ADAMS Accession No. ML14356A012)

ENCLOSURE, ATTACHMENT 1

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT 1

**License Amendment Request Regarding One-Time Extension for Technical Specification
Surveillance Requirement 3.8.4.3, "DC Sources – Operating"**

TECHNICAL SPECIFICATION PAGES (Marked up)

(1 page follows)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.4.1 Verify battery terminal voltage is greater than or equal to the minimum established float voltage.	7 days
SR 3.8.4.2 Verify each battery charger supplies ≥ 250 amps at greater than or equal to the minimum established float voltage for ≥ 4 hours. <u>OR</u> Verify each battery charger can recharge the battery to the fully charged state within 24 hours while supplying the demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	24 months
SR 3.8.4.3 -----NOTES----- 1. The modified performance discharge test in SR 3.8.6.6 may be performed in lieu of SR 3.8.4.3. 2. This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. ----- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.	24 months <input type="checkbox"/> *

*During Unit 1 Cycle 29 only the maximum allowed surveillance test interval shall not exceed 25 months.

ENCLOSURE, ATTACHMENT 2

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT 1

**License Amendment Request Regarding One-Time Extension for Technical Specification
Surveillance Requirement 3.8.4.3, "DC Sources – Operating"**

TECHNICAL SPECIFICATION PAGES (Retyped)

(1page follows)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.4.1 Verify battery terminal voltage is greater than or equal to the minimum established float voltage.	7 days
SR 3.8.4.2 Verify each battery charger supplies ≥ 250 amps at greater than or equal to the minimum established float voltage for ≥ 4 hours. <u>OR</u> Verify each battery charger can recharge the battery to the fully charged state within 24 hours while supplying the demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	24 months
SR 3.8.4.3 -----NOTES----- 1. The modified performance discharge test in SR 3.8.6.6 may be performed in lieu of SR 3.8.4.3. 2. This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. ----- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.	24 months*

*During Unit 1 Cycle 29 only the maximum allowed surveillance test interval shall not exceed 25 months.