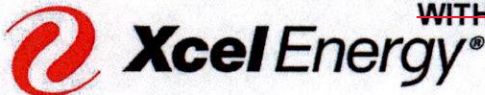


ENCLOSURE 2 CONTAINS SECURITY RELATED INFORMATION
~~WITHHOLD UNDER 10 CFR 2.390~~



1717 Wakonade Drive
Welch, MN 55089

April 30, 2024

L-PI-24-010
10 CFR 50.59(d)(2)
10 CFR 50.71(e)(4)
10 CFR 54.37(b)
T.S 5.5.12(d)

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

Prairie Island Nuclear Generating Plant Units 1 and 2
Docket Nos. 50-282 and 50-306
Renewed Facility Operating License DPR-42 and DPR-60

Updated Safety Analysis Report (USAR) Revision 38

Pursuant to 10CFR 50.71(e)(4) and Nuclear Regulatory Commission (NRC) specific exemption granted May 22, 2006 (ADAMS Accession Number ML061110032), Northern States Power Company, a Minnesota corporation, doing business as Xcel Energy (hereafter "NSPM"), by this letter submits Revision 38 of the USAR, for the Prairie Island Nuclear Generating Plant (PINGP), Units 1 and 2.

Enclosure 1, Information Regarding Changes to the USAR, identifies those changes made based on approved license amendments, changes made under the provisions of 10 CFR 50.59, and editorial changes including deletion of particular information and the basis for that deletion.

Enclosure 2 contains Revision 38 of the PINGP USAR. The USAR is being submitted electronically, in its entirety, on CD-ROM according to the instructions in Regulatory Issues Summary (RIS) 2001-005, "Guidance on Submitting Documents to the NRC by Electronic Information Exchange or on CD-ROM".

Enclosure 3 contains Revision 38 of the public PINGP USAR and contains redacted documents. The USAR is being submitted electronically, in its entirety, on CD-ROM according to the instructions in Regulatory Issues Summary (RIS) 2001-005, "Guidance on Submitting Documents to the NRC by Electronic Information Exchange or on CD-ROM".

Consistent with the guidance in RIS 2007-16, "Implementation of the Requirements of 10 CFR 54.37(b) for Holders of Renewed Licenses", Enclosure 4 contains a review of engineering changes, equipment list changes, USAR changes, changes to SSCs credited to 10 CFR 54.4(a)(3) regulated events, and changes to time limited aging analyses (TLAAs) that was conducted for the review period from October 19, 2021 to November 18, 2023. These changes were reviewed to identify components installed before June 27, 2011 that had not previously been screened or screened incorrectly for being in scope of License Renewal Aging Management. From the review, no newly identified SSCs or TLAAs were found.

A053
NR R

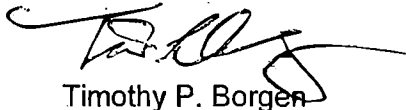
Enclosure 5 contains a brief description and a summary of the safety evaluation for each of those changes, tests, and experiments made under the provisions of 10 CFR 50.59 during the period of April 28, 2022 through present.

In accordance with TS 5.5.12, "Technical Specifications (TS) Bases Control Program," Enclosure 6, contains the TS Bases for the Prairie Island Nuclear Generating Plant, Units 1 and 2, that includes the changes to the bases from Revisions 255 through 264 that have been implemented since the previous submittal. The TS Bases is being submitted electronically in its entirety on CD-ROM.

If there are any questions, please contact Ms. Mary Emanuelson at 651-267-7309.

Summary of Commitments

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



Timothy P. Borgen
Plant Manager, Prairie Island Nuclear Generating Plant
Northern States Power Company – Minnesota

Enclosures (6)

cc: Regional Administrator, USNRC, Region III
Project Manager, PINGP, USNRC, NRC
Resident Inspector, PINGP USNRC
State of Minnesota w/ENCL 1&5 only

**ENCLOSURE 1
INFORMATION REGARDING CHANGES TO THE USAR**

Changes made to the Updated Safety Analysis Report (USAR) are based on approved license amendments, changes made under the provisions of 10 CFR 50.59, and editorial changes including deletion of particular information, and the basis for that deletion. The changes are identified in the following list by their input numbers (with which side-barred changes are denoted). Note that USAR Input Numbers can be searched on the USAR, Enclosure 2, to locate each change.

USAR Input No.	Revised Section	Basis	Description
60400000631	13	50.59 Screening 7834, Rev 0	The USAR changes are related to the benefit of the ability to use alternate treatment for low safety significant safety related components. USAR Section 13, is modified to reflect these changes.
60400000634	11	Editorial/Inconsequential	The changes are related to QIM 501000047997 that identified discussion in USAR Section 11.7.4 where a Technical Specifications surveillance frequency is improperly listed.
60400000672	App I	Technical justification for this change is documented within ENG-ME-820 rev 2B. AD 8163, Rev 0	Update USAR Appendix I to reflect changes made per ECR 601000003426 which no longer requires that the CL header be split if three safeguards CL pumps cannot be maintained AVAILABLE for greater than seven days. The discussion in section I.2.4.1 is no longer necessary.
60400000681	10	IP-ENG-001 Attachment 3 Section 1.2.6	This change updates the USAR section 10.2.5.2.1 (Components), due to changing RMU Degasifier Transfer Pumps from magnetic drive positive displacement vane type to centrifugal.

Enclosure 1 – USAR Changes

USAR Input No.	Revised Section	Basis	Description
604000000700	02	50.59 Screening 5709, Rev 0	The changes update the USAR due to changes made under ECR 601000002171, Cooling Water Chemical Treatment Project.
604000000712	04	AD 9508, Rev 0	An incorrect statement during response to a testing failure of PIV 2SI-6-4 per QIM 501000057644 was identified. Pressure Isolation Valves (PIV), as being tested under Tech Spec 3.4.15, RCS PIV Leakage. However, this second group of PIVs listed in the USAR were not included in the list of PIVs in the TS Bases for 3.4.15. The correction is done under section 4 of USAR per this change.
604000000754	04	50.59 Screening 5357, Rev 0	The changes update and incorporate the results from the Unit 1 Capsule N analysis (WCAP-18660-NP Rev in the USAR section 04.
604000000762	App L	AD 9440, Rev 0	The changes update Reactor Vessel Neutron Embrittlement vessel fluence information based on WCAP-18746-NP results.
604000000773	App L	AD 3772, Rev 0	The changes update DBD SYS-20.10 to include clarification note on page 26.

Enclosure 1 – USAR Changes

USAR Input No.	Revised Section	Basis	Description
604000000790	App L	AD 8377, Rev 0	This change replaces License renewal commitment 46, IAW ISG-2016-01 from A one-time inspection of a representative number of tube-to-tube sheet welds in each Unit 1 steam generator will be performed to determine if primary water stress corrosion cracking (PWSCC) is present. The tube-to-tube sheet weld inspections will be performed during the first Unit 1 refueling outage after the Unit 1 steam generators have reached 20 years of service.
604000000816	10	AD 9484, Rev 0	This change refers to USAR Section 10.4.1.2, page 10.4-4 that currently says the CC heat exchanger travel stop valves (TCVs) must have their travel stops backed out within 24 hours following a LOCA. This requirement no longer exists per a review documented in QIM 501000041949 & CE 500000306897.
604000000830	05	Technical justification for this change is documented within ANSI 56.8-2002	This change update sections 5.2.4.1.2.1 to specify ANSI 56.8-2002 (from approved licensed amendment - docket nos. 50-282 and 50-306). Table 5.2-1 is also updated for penetrations 12, 13A, and 13B due to removing the penetrations from the Appendix J program and no longer requiring a type C test as documented by EC 608000000804.
604000000850	07	50.59 Screening 5761, Rev 0	USAR section 7, is revised per ECR 601000003995 (Radiation detector w/preamp obsolete).

Enclosure 1 – USAR Changes

USAR Input No.	Revised Section	Basis	Description
60400000890	08	50.59 Screening 5763, Rev 0	Reflects changes made by ECR 601000003681 which reflects installation of cross-tie piping and valves between the D5 safety-related air receivers in order to install new skid-mounted air compressors also selected and installed under this ECR. The cross-tie piping and interchangeability of the new skids will reduce out of service time for the affected diesel.
60400000912	App I	50.59 Screening 5787, Rev 0	This Change revises section I.2.2 to state that welds will be examined "consistent with the current Prairie Island In-service Inspection program for AMSE Section XI Code Class 2 piping welds" as opposed to "in accordance with the ASME Section XI requirements for Code Class 2 piping welds."
60400000951	07	50.59 Screening 5738, Rev 0	Reflects changes made by ECR 601000003681, FCR 3 which updates the maximum temperature of 1R-15 and 2R-15 based on input from the vendor.
604000001003	08	AD 9507, Rev 0	This change refers to the USAR Section 8.3.3 value of 94.8% that is lower than the calculated analytical value of 95.0%, which is obtained from degraded voltage calculation (ENG-EE-171) result of 94.5% plus the Total Loop Error uncertainty calculation (SPC-EA-006) result of 0.4681%. Therefore, the calculation shows that the value in the USAR of 94.8% should be corrected to 95% (see SPC-EA-006, Rev 2).

Enclosure 1 – USAR Changes

USAR Input No.	Revised Section	Basis	Description
604000001005	07	50.59 Screening 5786, Rev 6	This change refers to removal of BEACON Power Distribution Monitoring System (PDMS) Method for control rod position verification as a result of OE 610000001881 from site procedures, the TS Bases and the USAR.
604000001020	13	50.59 Screening 7834, Rev 0	As part of this change, USAR Section 13 is being updated to revise 13.10.2 SSC Categorization table. This ECR will correct the error that resulted by ECR 604000000631.
604000001030	08	Editorial/Inconsequential	This change refers to implementation of ECR 601000004150, which installs cross-tie piping and valves between the D6 safety-related air receivers in order to install new skid-mounted air compressors that are also being selected and installed under this ECR 601000004150. The cross-tie piping and interchangeability of the new skids will reduce out of service time for the affected diesel.
604000001057	04	AD 9412, Rev 0	This ECR revises USAR Section 04 related to revised design characteristics of the Unit 2 replacement steam generators as well as editorial corrections to the USAR section regarding steam generators.

Enclosure 1 – USAR Changes

USAR Input No.	Revised Section	Basis	Description
604000001081	04	AD 8068, Rev 0	Per implementation of Prairie Island Units 1 and 2 License Amendments 242 and 230, respectively, USAR Section 4 will need to be revised. As part of new pressure/temperature limit curves using the methods approved by the amendments, USAR section 4 is revised per this ECR.
604000001093	10	Editorial/Inconsequential	This change refers to 121 and 122 RMU Degas transfer pump replacement. The current pumps are obsolete and have required more maintenance than expected. Current pumps have had a short life and these pumps design/style does not appear to be right for this application. This USAR reflects a change in the pump style from magnetic drive positive displacement vane type to Centrifugal pump type.
604000001082	2, 4, 5, 7, 8, 10, 11, 13 App I, L	Editorial/Inconsequential	This change prepares the USAR for NRC submittal by updating all affected sections of the USAR within the above ECRs.

Summaries of evaluations prepared under the provisions of 10CFR 50.59 are submitted separately.

**ENCLOSURE 2 CONTAINS ~~SECURITY-RELATED INFORMATION WITHHOLD~~
~~UNDER 10 CFR 2.390~~**

ENCLOSURE 2

PRAIRIE ISLAND NUCLEAR GENERATING PLANT UNITS 1 AND 2

USAR REVISION 38

(PROPRIETARY, SENSITIVE INFORMATION, NOT FOR PUBLIC USE)

**ENCLOSURE 2 CONTAINS ~~SECURITY-RELATED INFORMATION WITHHOLD UNDER~~
~~10 CFR 2.390~~**

ENCLOSURE 3

PRAIRIE ISLAND NUCLEAR GENERATING PLANT UNITS 1 AND 2

USAR REVISION 38

(SECTION 1, 12 AND APPENDIX I HAVE BEEN REDACTED)

ENCLOSURE 4

Report Consistent with 10 CFR 54.37(b)

This summary report is in lieu of adding a level of detail to the Prairie Island Nuclear Generating Plant (PINGP) Updated Safety Evaluation Report (USAR) that is greater in the remainder of the USAR, including the License Renewal Supplement in Appendix L. The contents of this report are consistent with the requirements of 10 CFR 54.37(b) and the guidance of Regulatory Issue Summary (RIS) 2007-16, "Implementation of the Requirements of 10 CFR 54.37(b) for Holders of Renewed Licenses" (ADAMS Accession Number ML100250279).

A review of engineering changes, equipment list changes, USAR changes, changes to SSCs credited for response to 10 CFR 54.4(a)(3) regulated events, corrective actions, and changes to time-limited aging analyses (TLAAs) was conducted for the review period from October 19, 2021, to November 18, 2023. These changes were reviewed to identify SSCs or TLAAs for SSCs installed before June 27, 2011, that had not previously been screened or screened incorrectly for being in scope of License Renewal Aging Management. This resulted in no newly identified SSCs or TLAAs for this period.

ENCLOSURE 5

PRAIRIE ISLAND NUCLEAR GENERATING PLANT REPORT OF CHANGES, TESTS, AND EXPERIMENTS

50.59 Evaluation No. 1157, Rev 0 - Reactor Vessel Fluence Methodology Update (2/23/22)

Activity Description:

This activity incorporates into the licensing basis as described in the UFSAR the NRC approved methodology in topical report (TR) WCAP-18124-NP-A Rev. 0, "Fluence Determination with RAPTOR-M3G and FERRET", along with NRC required limitations for use described in the associated safety evaluation contained within the report. This is an acceptable methodology for analysis of reactor vessel beltline materials and surveillance capsule fluence as documented by the NRR final safety evaluation. Per Tech Spec 5.6.6.b, the application of this methodology is limited to those calculations which do not develop RCS pressure and temperature limits and Cold Overpressure Mitigation System (COMS) setpoints.

This evaluation does not include the incorporation of the results of the calculations which apply this methodology. This change is being made as a precursor to incorporation of the fluence results within the capsule N surveillance capsule reports into the licensing basis. The calculation results, specifically including the calculations associated with the surveillance capsule analysis reports, will be evaluated for inclusion within the licensing basis documents following acceptance of the change to the methodology. The fluence methodology may be subsequently used for upper shelf energy calculations and pressurized thermal shock reference temperature calculations. This evaluation also does not include the incorporation of this methodology into the PTLR or the Technical Specifications.

Summary of 50.59 Evaluation:

This change to the USFAR incorporating the WCAP-18124-NP-A methodology constitutes a change to a method of evaluation. However, the three criteria necessary for an acceptable methodology change are satisfied.

- The methodology is based on sound engineering practice. The methodology in WCAP-18124-NP-A was developed by Westinghouse, and is essentially the same as the methodology employed by previous methodology which was NRC approved in WCAP-14040 Rev. 4. NRC approval of the WCAP-18124-NP-A methodology is documented within the WCAP. The methodology is consistent with the requirements of RG 1.190. Dosimetry measurements have been used to qualify the calculational methodology, to identify biases in the calculations, and to provide reliable estimates of the uncertainties in the exposure projections.
- The methodology is appropriate for its intended application. The new methodology, with NRC SER stated limitations, is appropriate for evaluation of the Prairie Island reactor vessel fluence and the surveillance capsule fluence. The use of this methodology does not currently extend to its use for the

development of the pressure-temperature limits or the COMS (LTOP) setpoints since the methodology would be inconsistent with existing Tech Spec requirements

- The methodology change is within the limitations of the applicable SER. To ensure the limitations of the applicable SER are considered during application of the methodology, the UFSAR change will state that limitations to the use of the WCAP-18124-NP-A methodology, as stated in the associated NRC safety evaluation, are applied.

No additional NRC approval is required prior to incorporating WCAP-18124-NP-A into the USFAR as the methodology for calculation of reactor vessel fluence and surveillance capsule fluence, when applied within the limitations of the NRC SER and existing Tech Specs.

ENCLOSURE 6

PRAIRIE ISLAND NUCLEAR GENERATING PLANT UNITS 1 AND 2

USAR REVISION 38

TECHNICAL SPECIFICATION BASES

791 pages to follow