

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



1717 Wakonade Drive
Welch, MN 55089

April 28, 2022

L-PI-22-001
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 37

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 USAR, 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, 10 CFR 50.46, and editorial changes including deletion of particular information and the basis for that deletion.

Enclosure 2 contains Revision 37 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".

Consistent with the guidance in RIS 2007-16, "Implementation of the Requirements of 10 CFR 54.37(b) for Holders of Renewed Licenses", Enclosure 3 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) was conducted for the review period from October 29, 2019 to October 18, 2021. 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, newly identified SSCs were found.

In accordance with TS 5.5.12, "Technical Specifications (TS) Bases Control Program," Enclosure 4, contains the TS Bases for the Prairie Island Nuclear Generating Plant, Units 1 and 2, that includes the changes to the bases from Revisions 247 through 254 that have been implemented since the previous submittal. The TS Bases is being submitted electronically, in its entirety, on CD-ROM.

A053

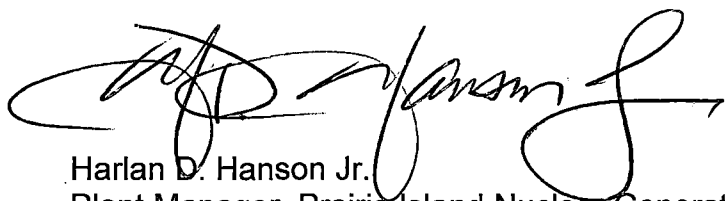
Enclosure 5 contains a brief description and a summary of the safety evaluation for each of those changes, tests, and experiments made under the provisions of 10 CFR 50.59 during the period of April 27, 2020 through present.

If there are any questions, please contact Ms. Pamela Johnson at 651-267-6829.

Summary of Commitments

This letter contains no new commitments and one revision to existing commitments as listed below. The following commitment has been retired:

COMM 01009292 - Added provisions for an extended Completion Time for an inoperable EDG during the submittal of License Amendment Request (LAR) for Extension of Technical Specification (TS) 3.8.1, "AC Sources-Operating," Emergency Diesel Generator Completion Time (ADAMS Accession Number ML053260088). As noted in NSPM's license amendment request to adopt TSTF 505, Risk Informed Completion Time (RICT) (ADAMS Accession Number ML19350C188), this commitment is no longer required.



Harlan D. Hanson Jr.
Plant Manager, Prairie Island Nuclear Generating Plant
Northern States Power Company – Minnesota

Enclosures (5)

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**

3 pages follow

ENCLOSURE 1
INFORMATION REGARDING CHANGES TO THE USAR

Changes made to the Updated Safety Analysis Report (USAR) 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
604000000314	Figure 1.1-3	50.59 Screening 5610 , Rev. 0	Reflects changes made by ECR 601000001465, "PINGP Security Upgrades".
604000000334	10	Alternate Screening Criteria in IP-ENG-001, Attachment 5.	Reflects changes made by ECR 601000001320, "Increase Control Room Chiller Backup Air Supply".
604000000356	9	AD 7723, Rev 0	Editorial change to state that the waste gas high level loop recombiner is not used.
604000000431	7, 12	AD 7075, Rev 0	The changes are related to CAP 50100003743 which noted that the USAR had not been updated following implementation of Alternate Source Term (AST) methodology within ECR 6DOC00013720.
604000000462	1	Editorial/Inconsequential	Goodhue Country changed to Goodhue County.
604000000463	10	AD 7194, Rev 0	An incorrect statement identified by CAP 501000039298 on instrument air compressor operation was corrected.
604000000465	12	50.59 Screening 5689, Rev 0	Reference to an outdated rigging equipment standard was replaced with reference to plant procedure D58 "Control of Heavy Loads".
604000000483	5	AD 7453, Rev 0	Corrected containment leak rate test pressure and allowable leakage rate as documented in License Amendment 206/193.
604000000500	T10.2-7	AD 7473, Rev 0	Changes the amount of 12 wt/% boric acid solution required to meet cold shutdown requirements.

Enclosure 1 – USAR Changes

USAR Input No.	Revised Section	Basis	Description
60400000510	10	50.59 Screening 5666, Rev 0	Reflects piping flow path installed by ECR 60100002046, "Unit 1 RHR Purification Modification" for use in Modes 5, 6 and defueled.
60400000511	3	50.59 Evaluation 1154, Rev 0	Incorporates the NRC approved methodology PWROG-18034-P for analysis of the lower internals baffle assembly as documented by the NRR final safety evaluation ML20134M168 along with NRC required limitations for use.
60400000517	4	AD 7537, Rev 0	Revises RV Surveillance Capsule withdrawal schedule as approved by the NRC in letter dated 9/30/2020.
60400000522	14	AD 7473, Rev 0	Reflects changes made by ECR 60100002047, "RCCA Ejection Analysis For Unit 1".
60400000531	TABLE 4.1-8	50.59 Screening 5685, Rev 0	Change limit on Baffle Former Bolt Cycles to reflect NRC acceptance of WCAP-17586-P Rev 2, "Determination of Acceptable Baffle-Barrel Bolting for Prairie Island Units 1 and 2".
60400000532	App L	50.59 Screening 5685, Rev 0	Change limit on Baffle Former Bolt Cycles to reflect acceptance of WCAP-17586-P Rev 2.
60400000541	7	50.59 Screening 5590, Rev 0	ECR 60100001267 updated USAR Section 7 with dose assessment results per QIM 501000041890.
60400000561	App L	AD 8040, Rev 0	Include newly identified SSCs in Appendix L. Also includes minor editorial changes.
60400000565	8	50.59 Screening 5236, Rev 6	Changes due to ECR 6MOD00025120, "NFPA 805 - PINGP Station Unit 1, 2".
60400000581	4	50.59 Screening 5685, Rev 0	Changes reflecting NRC acceptance of WCAP-17586-P Rev 2, "Determination of Acceptable Baffle-Barrel Bolting for Prairie Island Units 1 and 2".
60400000586	7	Editorial/Inconsequential	This clarifies which CIVs are monitored on the main control board as requested by QIM 501000051160.

Enclosure 1 – USAR Changes

USAR Input No.	Revised Section	Basis	Description
60400000670	8	AD 8011, Rev 0, 50.59 Screening 5335, Rev 0, 50.59 Screening 5450, Rev 1	Adds discussion on Open Phase Conditions and reflects changes made by ECRs 6MOD00026784, 6MOD00027249, 60600000926.
60400000690	6	AD 8068, Rev 0	Adds details regarding the closeout of IEB 80-24.
60400000751	8	50.59 Screening 5735, Rev 0	Removes operability and availability statements from Section 8.4 in response to quality issue 501000057512.
60400000752	1, 2, 4, 5, 6, 8, 9, 10, 11, App I	Editorial/Inconsequential	This change prepares the USAR for NRC submittal by updating all figures that are controlled drawings and by ensuring SUNSI information is properly labeled.

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

~~CONTAINS SECURITY RELATED INFORMATION
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ENCLOSURE 2

UPDATED SAFETY ANALYSIS REPORT (USAR)

A COMPLETE COPY OF USAR REVISION 37 IS
INCLUDED ON THE ENCLOSED CD-ROM

ENCLOSURE 3

REPORT CONSISTENT WITH 10CFR 54.37(b)

4 pages follow

ENCLOSURE 3

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, and changes to time-limited aging analyses (TLAAs) was conducted for the review period from October 29, 2019 to October 18, 2021. 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. The review process found eight valves in the plant Safeguards Chilled Water System (ZH), one valve in the Radiation Monitoring System (RD), and two valves in the Containment Ventilation System (ZC) added to the plant's equipment database whose component type, material, internal and/or external environments, aging effects, and associated aging management programs were not described in the applicable License Renewal Application (LRA) aging management evaluation tables. The list of the valves' functional locations (FLOCs) is as follows:

- PI:1:_ZH:ZH-26-1 (121 CONT RM CHLR CDSR CV-31769 FREON PRESS ISOL)
- PI:1:_ZH:ZH-26-2 (122 CONT RM CHLR CDSR CV-31785 FREON PRESS ISOL)
- PI:1:_ZH:ZH-26-3 (121 CONT RM CHLR CDSR PRG RTRN ISOL)
- PI:1:_ZH:ZH-26-4 (122 CONT RM CHLR CDSR PRG RTRN ISOL)
- PI:1:_ZH:ZH-26-5 (121 CONT RM CHLR CDSR PRG SPLY ISOL)
- PI:1:_ZH:ZH-26-6 (122 CONT RM CHLR CDSR PRG SPLY ISOL)
- PI:1:_ZH:ZH-26-7 (121 CONT RM EVAP PRESS ISOL)
- PI:1:_ZH:ZH-26-8 (122 CONT RM EVAP PRESS ISOL)
- PI:0:_RD:2RD-9-2, 2R-50 SMPL BLOWER DISCH EMERG B-U SMPL CONN
- PI:1:_ZC:ZC-141-1, 121/122/123/124 CNTMT PRG EXHT FLTR FI 5701301 HI INSTR ISOL
- PI:1:_ZC:ZC-141-2, 121/122/123/124 CNTMT PRG EXHT FLTR FI 5701301 LO INSTR ISOL

ENCLOSURE 3

REPORT CONSISTENT WITH 10 CFR 54.37(b)

Aging Management discussion of ZH System brass valves:

The valve bodies of ZH-26-1 through ZH-26-8 were all found to be made of brass with internal environments of Freon (refrigerant) and external environments of plant indoor air-uncontrolled. While brass valve bodies in plant indoor air-uncontrolled external environments were listed in Table 3.3.2-5 (License Renewal Control Room and Miscellaneous Area Ventilation System), Freon internal environments were not. This makes the valves newly identified SSCs that would have been subject to aging management review or evaluation of time-limited aging analysis in accordance with 10 CFR 54.21.

Appropriate aging management for brass valve bodies in Freon internal environments was determined to be no aging management programs. This was based on brass being a copper alloy and copper alloy piping and fittings with Freon internal environments being assigned no aging management programs in LRA Table 3.3.2-5 (Control Room and Miscellaneous Ventilation System) due to not having aging effects requiring management. As mentioned before, brass valve bodies in plant indoor air-uncontrolled external environments were already found in LRA Table 3.3.2-5. No aging effects requiring aging management was also the evaluation in the table for this material/environment combination.

10 CFR 54.37(b) states that the FSAR update IAW 10 CFR 50.71(e) must describe how the effects of aging will be managed such that the intended function(s) in 10 CFR 54.4(b) will be effectively maintained during the period of extended operation. In the case of ZH valves in Freon internal environments, both their internal and external surfaces would not have any aging effects requiring aging management. Thus, no aging management programs will be assigned to them.

If the actual LRA Table 3.3.2-5 were updated for the new material and environment combination of the ZH valves discussed here, the addition would look like the following table entry below.

Summary of Addition to LRA Table 3.3.2-5

Component Type	Intended Function	Material	Environment	Aging Effects Requiring Management	Aging Management Program
Valve Bodies	Pressure Boundary	Brass	Freon (Internal)	None	None

ENCLOSURE 3

REPORT CONSISTENT WITH 10 CFR 54.37(b)

Aging Management discussion of valve 2RD-9-2:

The body of valve 2RD-9-2 was determined to be cast austenitic stainless steel with an internal environment of plant indoor air-uncontrolled and an external environment also of plant indoor air-uncontrolled. Although stainless steel valve bodies in plant indoor air-uncontrolled (ext) environment are included in LRA Table 3.3.2-15 (Radiation Monitoring System), no cast austenitic stainless steel valve bodies in this environment were found in the table. Therefore, 2RD-9-2 is a newly identified SSC subject to aging management review.

The determination of appropriate aging management for cast austenitic stainless steel valve bodies in plant indoor air-uncontrolled is as follows: For another system, LRA Table 3.2.2-1 (Containment Spray System) lists no aging effects that require management for cast austenitic stainless steel valve bodies in plant indoor air-uncontrolled environments. Since aging effects are the same for the same materials in the same environments, it can safely be concluded that cast austenitic stainless steel valve bodies in the Radiation Monitoring System have no aging effects requiring management either. So, although 2RD-9-2 is a newly identified SSC subject to aging management review, the review determined that neither its internal nor its external surfaces require aging management for license renewal.

If the actual LRA Table 3.3.2-15 were updated for the new material and environment combination of 2RD-9-2 discussed here, the addition would look like the following table entry below.

Summary of Addition to LRA Table 3.3.2-15

Component Type	Intended Function	Material	Environment	Aging Effects Requiring Management	Aging Management Program
Valve Bodies	Pressure Boundary	Cast Austenitic Stainless Steel	Plant Indoor Air - Uncontrolled (Internal)	None	None
			Plant Indoor Air - Uncontrolled (External)	None	None

ENCLOSURE 3

REPORT CONSISTENT WITH 10 CFR 54.37(b)

Aging Management discussion of valves ZC-141-1 and ZC-141-2:

The bodies of valves ZC-141-1 and ZC-141-2 were determined to be bronze with an internal environment of primary containment air and an external environment of plant indoor air-uncontrolled. Bronze or copper alloy valve bodies are not included in LRA Table 3.3.2-14 (Primary Containment Ventilation System). Therefore, ZC-141-1 and ZC-141-2 are newly identified SSCs subject to aging management review.

The determination of appropriate aging management for copper alloy valve bodies in primary containment air (int) and plant indoor air-uncontrolled (ext) is as follows: LRA Table 3.3.2-14 lists no aging effects requiring management for copper alloy piping/fittings in primary containment air (int) and plant indoor air-uncontrolled (ext) environments. Since aging effects are the same for the same materials in the same environments, it can safely be concluded that copper alloy valve bodies in the Primary Containment Ventilation System have no aging effects requiring management either. So, although ZC-141-1 and ZC-141-2 are newly identified SSCs subject to aging management review, the review determined that neither their internal nor their external surfaces require aging management for license renewal.

If the actual LRA Table 3.3.2-14 were updated for the new material and environment combination of ZC-141-1 and ZC-141-2 discussed here, the addition would look like the following table entry below.

Summary of Addition to LRA Table 3.3.2-14

Component Type	Intended Function	Material	Environment	Aging Effects Requiring Management	Aging Management Program
Valve Bodies	Pressure Boundary	Copper Alloy	Primary Containment Air (Internal)	None	None
			Plant Indoor Air - Uncontrolled (External)	None	None

ENCLOSURE 4
TECHNICAL SPECIFICATONS (TS) BASES CONTROL PROGRAM

The TS Bases is being submitted electronically, in its entirety, on CD-ROM.

ENCLOSURE 5

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

50.59 Evaluation No. 1154, Rev 0 - Change to Methodology for Evaluating Baffle-Former-Barrel Bolting Distributions (9/11/20)

Activity Description:

The purpose of this evaluation is to incorporate, into the licensing basis as described in the UFSAR, the NRC approved methodology PWROG-18034-P-A_a, 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 the lower internals baffle assembly as documented by the NRR final safety evaluation. Irradiated bolt material properties and bolt faulted condition stress acceptance criteria are defined by this methodology.

Summary of 50.59 Evaluation:

This activity does not require prior NRC approval as the methodology for evaluating the impact on fuel assembly structural integrity associated with a reduced number (less than 100 percent) of baffle-to-former and barrel-to-former bolts during faulted conditions discussed in PWROG-18034-P-A_a is an extension of the current methodology in WCAP-15029-P-A, is applicable to Prairie Island, and has been previously approved by the NRC for application at 2-loop Pressurized Water Reactors (PWRs) such as Prairie Island Units 1 and 2.