



JUN 03 2016

L-PI-16-049
10 CFR 50.71(e)

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

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

Updated Safety Analysis Report (USAR) Revision 34

Pursuant to 10CFR 50.71(e) 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 page revisions 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, 10 CFR 50.46, and editorial changes including deletion of particular information and the basis for that deletion.

Enclosure 2, Updated Safety Analysis Report, is a CD-ROM containing USAR Revision 34 in its entirety. This revision was made pursuant to 10 CFR 50.71(e), using the guidance of NEI 98-03, Rev. 1, "Guidelines for Updating Final Safety Analysis Reports." NSPM requests that USAR Revision 33 be destroyed or marked superseded.

Enclosure 3, Report Consistent with 10 CFR 54.37(b), contains a report consistent with 10 CFR 54.37(b) which describes how the effects of aging of newly-identified structures, system, or components will be managed, such that the intended functions described in 10 CFR 54.4 will be effectively maintained during the license renewal period of extended operation.

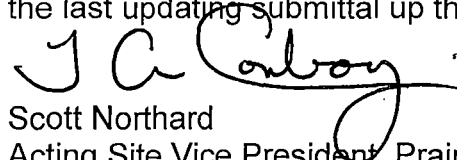
If there are any questions or if additional information is needed, please contact Ms. Pamela Johnson at 651-267-6829

A053
NRR

Summary of Commitments

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

I certify that the information presented herein accurately presents changes made since the last updating submittal up through December 6, 2015.

 Tom Conway
FOR S. NORTHARD

Scott Northard

Acting Site Vice President, Prairie Island Nuclear Generating Plant
Northern States Power Company - Minnesota

Enclosures (3)

cc: Administrator, Region III, USNRC
Project Manager, PINGP, USNRC
Resident Inspector, PINGP, USNRC

ENCLOSURE 1

INFORMATION REGARDING CHANGES TO THE USAR

Changes were made to the Updated Safety Analysis Report (USAR) which 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 CD-ROM, Enclosure 2, to locate each change.

USAR Input No.	Revised Section	Basis	Description
01376266	12	Editorial	Clarifies Screenhouse Design Classification.
01395778	8	50.59 Screening 4307, Revision 2	Updates USAR for upgrades made to the substation relay control systems by EC 20494.
01400506	10	50.59 Screening 4334, Revision 0, and Editorial	EC 22493 replaced the RMU Degasifier Transfer Pump and valves to reduce the potential for oxygen ingress. In addition, this change removes excessive detail.
01404331	Table 5.2-1	50.59 Screening 4408, Revision 1	Changed USAR to reflect EC 18840 which installed new containment isolation boundary manual valves in the SI test line to resolve a conflict between GL08-01 and Appendix J requirements.
01404424	4	50.59 Screening 4407, Revision 2	Change USAR section 4 for LTOP per EC 22355
01407637	8	50.59 Screening 4356, Revision 2	Updates the USAR per EC 21580, NFPA 805 Cable Reroute Project, Calculation 91-02-11 Revision 2C and 91-02-21 Revision 2C.
01409299	Figure 7.3-1	50.59 Screening 3548, Revision 3	Update USAR Figure 7.3-1 to reflect OTDT circuit change associated with replacement of Foxboro modules per modification EC15001.
01416450	8	Editorial	Corrects discrepancy in USAR description of degraded voltage.
01420553	2	50.59 Evaluation 3188, Revision 4	Deleted Mode 4 discussion for flooding response.

Enclosure 1 – USAR Changes

USAR Input No.	Revised Section	Basis	Description
01422040	7	50.59 Evaluation 1112, Revision 0 and Screening 4588, Revision 3	Update USAR Section 7 per EC 17584, which added redundant air operated valves to the Spent Fuel Pool Heat Exchanger inlet piping and redundant check valves on the same outlet piping to isolate the safety related portion from the non-safety related portion of the component cooling water system during a postulated tornado missile strike.
01422041	10	50.59 Evaluation 1112, Revision 0 and Screening 4588, Revision 3	Update USAR Section 7 per EC 17584, which added redundant air operated valves to the Spent Fuel Pool Heat Exchanger inlet piping and redundant check valves on the same outlet piping to isolate the safety related portion from the non-safety related portion of the component cooling water system during a postulated tornado missile strike.
01423445	8	50.59 Screening 4668, Revision 0	Incorporates changes from EC 23767 which determined the minimum air pressure of two starting air receivers after performing five cold cranking cycles of one of the Unit 2 Emergency Diesel Generators D5 or D6.
01424465	10	50.59 Screening 4671, Revision 6	Change USAR Sec 10 per EC 22499 Instrument Air Compressor Replacement.
01425577	12	50.59 Screening 4604, Revision 4	Change USAR to describe tornado missile barriers installed by EC 23405 for the D1 emergency diesel generator.
01427085	11	Editorial	Clarifies connection of AFW pumps to the condensate storage tanks.
01429750	11	Editorial	Revise USAR to refer to the once per shift basis for monitoring the AFW pump discharge lines for check valve leak by.
01431472	8	50.59 Screening 4858, Revision 3	Update USAR Section 8 After 1R29 Installation of EC 23491 which installed bonnet vents on MOVs MV32077 and MV32078 to eliminate the possibility of pressure in the bonnets.

USAR Input No.	Revised Section	Basis	Description
01435153	4	50.59 Evaluations: 1021, Revision 0, 1027, Revision 0, 50.59 Screenings: 2970, Revision 0, 4099, Revision 0, 4102, Revision 0	Corrects a discrepancy in Leak Before Break discussion.
01435305	10	50.59 Screening 4730, Revision 0	Revise USAR for EC 23664, D5/D6 and Screenhouse Room Heatup Calculations.
01435911	Appendix K	50.59 Evaluation 1107, Revision 0	Update USAR App K to be consistent with the current containment LOCA analysis of record.
01435983	6	50.59 Screening 4488, Revision 0	Update for EC 20576, U2 main generator replacement
01436159	12	50.59 Screening 4780, Revision 0	Update to reflect EC 21221 change to seal between the auxiliary building floor and shield building wall.
01436316	Appendix G	Editorial	Fix typographical error in equation G.3-11 for pressure balance from the Annulus to the atmosphere.
01441917	2	AD 1860	Change to reflect updated evacuation time estimate study population numbers.
01442271	Appendix D	Editorial	Change to Table D.7-1 to reflect MUR (Measurement Uncertainty Recovery).
01442855	Table 5.2-1	50.59 Screening 4821, Revision 0	Changes Section 5 as per EC 24377 which added a vent valve to containment penetration 10 for GL 08-01.
01444254	4	50.59 Screening 4910, Revision 0	Updates Pressure Isolation Valve listings per EC 23049 - PIV evaluation.
01445284	7	50.59 Screening 4836, Revision 0	Changes Section 7 to reflect upgrade to Victoreen preamps/detectors made under EC 24300.

USAR Input No.	Revised Section	Basis	Description
01447915	7	50.59 Screening 4793, Revision 0	Changes Section 7 to reflect EC 24079 - ERCS computer replacement.
01448551	14	NRC SER dated August 26, 2015	USAR Sec 14 change to implement WGDT rupture analysis License Amendment.
01448624	4	Editorial	Removes Section 3.3.4.1, Control Rod Activity Worth Measurement, and References 52 and 53.
01450457	4, 6, 10	50.59 Screening 4454, Revision 1, and 4980, Revision 1	Changes due to ECs 21790 & 25405 - U1 RCP Seals
01450952	10	Editorial	Fix USAR Typo In Section 10.6, Reference 81
01451120	Appendix K	Editorial	Corrects previous errors in Table K-28 made by USAR 01435911.
01451781	4	50.59 Screening 4305, Revision 0	Change reflects the extended effective date of the PINGP Pressure and Temperature Limits Report (PTLR) from 35 Effective Full Power Years (EFPY) to 54 EFPY made by EC 23383.
01452175	8	Editorial	Revises Section 8.3.3 to reference Section 10.3.1 Safe Shutdown Analysis F5 Appendix E.
01453043	6	50.59 Screening 4866, Revision 0	Revision to Section 6.1.2.9 to reflect new GL 2008-01 void transport and water hammer analyses performed under EC 22242.
01454730	3, 14	50.59 Evaluation 1116, Rev 0	Change USAR for New U1 cladding corrosion model. Also update Chapter 14 for the new LBLOCA analysis number for U1.
01457655	10	50.59 Screenings: 4855, Revision 0, 4946, Revision 0	Update USAR Section 10 with new Emergency Intake Line capacity (EC 22682).
01459998	Table 6.2-7	Editorial	Correct USAR Section 6 Discrepancy for Allowable ESF Leakage implemented under EC 13720.
01461260	6	50.59 Screening 4946, Revision 0	Change USAR Section 6 to reference ENG-ME-541 and not ENG-ME-526 (EC 22682)

Enclosure 1 – USAR Changes

USAR Input No.	Revised Section	Basis	Description
01465889	10	50.59 Screening 4950, Revision 0	Changed the descriptive information in Section 10.3.8 per EC21498 which replaced the existing radio system with a new fully digital radio system.
01466114	5, 14, Appendix G	50.59 Screening 4970, Revision 0	Removes Penetrations 1, 21, 42A, and 50 from Table G.2-2 (Through Line Leakage That Bypass Annulus And Terminates ABSVZ) to Table G.2-3 (Through Line Leakage That Bypasses Both Annulus And ABSVZ). Also changes category of Penetrations 1 and 21 in Table 5.2-1.
01467773	7	50.59 Applicability Determination 1153, Revision 0	Update to reflect that EC 25172 extended the frequency of eddy current testing of the Unit 1 and Unit 2 incore flux thimbles from every refueling outage (1R) to every other refueling outage (2R).
01468418	10	50.59 Screening 4953, Revision 0	Change describes H ₂ O ₂ injection path per recurring temporary modification - EC 25150.
01469415	14	50.59 Screening 4101, Revision 1 and 50.59 Screening 1068, Revision 0	Additional USAR changes due to SG Replacement Project (ECs 13131 and 12713).
01469847	8	Editorial	Corrects a reference number in Sec 8.
01469902	10	50.59 Screening 4834, Revision 1, 50.54q Screen PI-2015-298, Revision 0	Change USAR Sec 10 to delete reference to power fail telephones which were replaced under EC 21667.
01471873	1, 7, 8, 10	50.59 Screening 4960, Revision 0 and 4983, Revision 0.	Remove incorrect Emergency Lighting credited in the USAR for the 125vdc system. This system was superseded by the 8hr battery power Appendix R lighting system.
01472364	4	Editorial	Fixes incorrect TS reference for Pressure Isolation Valves.

Enclosure 1 – USAR Changes

USAR Input No.	Revised Section	Basis	Description
01473445	6	50.59 Screening 4981, Revision 0	Updates Table 6.2-5 with new minimum available NPSH values for the SI and RHR pumps during the injection phase. Calculations were revised under EC 22681.
01477171	11	Editorial	EC 25630 revised a calculation. This change removed the calculation revision number listed in the Section 11 references.
01479693	Appendix L	50.59 Screening 5004, Revision 0	Change USAR Section L.4.2. Metal Fatigue to reference the most limiting Environmentally Assisted Fatigue location and the corrective action to address inspection for fatigue cracks. Also corrects reference to the Baffle Former Bolts transient from 5% per minute loading and unloading to 5% loading and unloading (not per minute). (EC 24538)
01479932	6	Editorial	Correct typo within Section 6.5 page header.
01481873	1	50.59 Evaluation 1012, Revision 1	In response to CAP 01431326, this change adds a discussion of the past and present means of performing equipment classification (SR, NSR, AQ).
01481977	7	NRC SER dated 2015-11-30	Changes due to EC 23905 - U2 Steam Generator Narrow Range RG 1.97 Upgrade.
01482599	6	NRC letter dated 2015-04-10	Change to Section 6 due to close out of GL 2004-02.
01482659	Appendix L	50.59 Screening 5032, Revision 0	Changes Appendix L commitment 24.
01483911	Appendix I	Editorial, 50.59 Evaluation 478-AI-02	Change Appendix I to correct typo in Table I.1.4-1.
01484954	8, 10	Editorial	Provides cross references between discussions of Fire Protection in sections 8 and 10.
01484969	7	Editorial	Change to fix Section 7 typos.
01484978	6	Editorial	Change to fix Section 6 typos.
01487818	4	50.59 Screening 5040, Revision 0	Revises Section 4 related to metal fatigue of RCS branch lines.

Enclosure 1 – USAR Changes

USAR Input No.	Revised Section	Basis	Description
01488343	4	Editorial	Change Section 4 to describe RCGVS alternate letdown function.
01489569	Appendix L	50.59 Evaluation 1125, Revision 0	Change to frequency requirement to perform the manhole and pullbox inspections for Appendix L, Section L2.21.
01490092	4, Appendix L	50.59 Screening 5056, Revision 0	Revises Sec 4, App L - Baffle Former Bolt cycle limit (EC 22377).
01491095	4	Editorial	Change Sec 4 to remove Safety Class statement.
01491637	11	Editorial	Change Sec 11.9 to distinguish historical information.
01491754	12	Editorial	Change Sec 12 to restore missing information.
01493206	7	50.59 Evaluation 1124, Revision 0	This change incorporates the method of evaluation described in WCAP-12472-P-A Addendum 1-A "BEACON™ Core Monitoring and Operations Support System" into Prairie Island's Licensing Bases. This change was required because Prairie Island has been using the methodology outlined in this WCAP addendum, but has not listed it in any licensing bases documents.
01494866	3	Editorial	Update cladding stress criterion in Section 3.4.3.1.4.
01495214	5, 6	50.59 Screening 5030, Revision 1	Revise per EC 25936 - Containment Fan Coil Unit Coil Installation.
01496292	Appendix K	Editorial	Update Table K-24 to correct typo and add clarity.
01497161	4	Editorial	Revise Section 4 to remove mention of recurring temporary modification 04T175 (EC 22355).
01497849	4	50.59 Screening 5099, Revision 0	Update Section 4 to indicate that the 21 RCP seal faces were changed to the Mayer Groove type under EC 26309.
01498299	2	Editorial	Change USAR to conform Section 2.5.5 wording to Appendix E wording.

USAR Input No.	Revised Section	Basis	Description
01500515	10	Editorial	This change is to more accurately describe the current licensing basis with respect to Spent Fuel Pool soluble boron requirements. The text has become misleading after several iterations with license amendments and revised criticality analyses. The corrections are supported by the analysis of record and statements in a 2011 License Amendment Request (L-PI-11-075).
01501405	Table 4.7-3	Editorial	Corrects discrepancies in U2 Rx vessel toughness properties.
01501543	10	50.59 Screening 4950, Revision 0	Updates Section 10.4.3.1.2 for EC 21498 - Replace Plant Radio System.
01501701	Table 5.2-1	Editorial	Adds reference for Table 5.2-1.
01502299	Table 7.5-2	Editorial	Corrects editorial error in Table 7.5-1 Page 1.
01505821	2	50.59 Screening 4899, Revision 1 and 50.59 Evaluation 1115, Revision 0	Update for Nat Gas Supply installation per EC 23319.
01507184	Appendix I	Editorial	Corrects text alignment error.
01509320	7	Editorial	Changes "Reference 76" to "Reference 77" in Section 7.5.3.2.4.
01510078	Appendix L	50.59 Screening 5158, Revision 0	Removes reference to periodic integrity testing of underground storage tanks in Section L.2.19 Fuel Oil Chemistry Program of USAR Section - App L as it is not an effective aging management test for detecting aging effects in tanks and piping before there is a failure.
01513991	12	NRC SER dated 6/6/1983	Clarifies Special Lifting Devices NDE frequency.
01514367	5	Editorial	Section 05 editorial changes.
01514406	12	Editorial	Section 12 editorial corrections.
01514777	4	Editorial	Corrects Section 4 typos for RV properties.

Enclosure 1 – USAR Changes

USAR Input No.	Revised Section	Basis	Description
01516439	1	Editorial	Change Figure 1.1-6 to show correct ABSVZ boundary.
01516979	Various	Process	Updates USAR figures that are controlled drawings.
01517422	7, 14, Appendix I	Editorial	Editorial Changes.
01521968	1, 12, Appendix I	Not a Facility Change	Withhold SUNSI per 10CFR 2.390

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

ENCLOSURE 2

UPDATED SAFETY ANALYSIS REPORT (USAR)

Updating Instructions

A complete copy of USAR Revision 34 is included on the enclosed CD-ROM.

Contact Northern States Power Company, a Minnesota corporation (NSPM), at 651-267-6829 if you require additional assistance.

Revision 34 (CD-ROM)

File name	Size	Disclosure status
(000)– USAR.pdf	591 KB	Non-proprietary
(001) – USAR SECTION 01.pdf	1,761 KB	Non-proprietary
(002) – USAR SECTION 02.pdf	7,838 KB	Non-proprietary
(003) – USAR SECTION 03.pdf	2,101 KB	Non-proprietary
(004) – USAR SECTION 04.pdf	7,826 KB	Non-proprietary
(005) – USAR SECTION 05.pdf	6,799 KB	Non-proprietary
(006) – USAR SECTION 06.pdf	12,307 KB	Non-proprietary
(007) – USAR SECTION 07.pdf	6,573 KB	Non-proprietary
(008) – USAR SECTION 08.pdf	2,640 KB	Non-proprietary
(009) – USAR SECTION 09.pdf	8,874 KB	Non-proprietary
(010) – USAR SECTION 10.pdf	61,900 KB	Non-proprietary
(011) – USAR SECTION 11.pdf	38,326 KB	Non-proprietary
(012) – USAR SECTION 12.pdf	6,179 KB	Non-proprietary
(013) – USAR SECTION 13.pdf	148 KB	Non-proprietary
(014) – USAR SECTION 14.pdf	37,917 KB	Non-proprietary
(015) – USAR SECTION APP D.pdf	284 KB	Non-proprietary

File name	Size	Disclosure status
(016) – USAR SECTION APP E.pdf	16,221 KB	Non-proprietary
(017) – USAR SECTION APP F.pdf	5,846 KB	Non-proprietary
(018) – USAR SECTION APP G.pdf	6,906 KB	Non-proprietary
(019) – USAR SECTION APP H.pdf	1,926 KB	Non-proprietary
(020) – USAR SECTION APP I.pdf	44,910 KB	Non-proprietary
(021) – USAR SECTION APP J.pdf	910 KB	Non-proprietary
(022) – USAR SECTION APP K.pdf	938 KB	Non-proprietary
(023) – USAR SECTION APP L.pdf	458 KB	Non-proprietary
Section 1 redacted files	5,451KB	Withhold under 10CFR 2.390
Section 12 redacted files	3,311KB	Withhold under 10CFR 2.390
Appendix I redacted files	1,947KB	Withhold under 10CFR 2.390

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 equipment credited to 10 CFR 54.4(a)(3) regulated events, and changes to time limited aging analyses (TLAA) was conducted for the review period from January 4, 2014 to December 5, 2015. Changes which occurred during the review period were reviewed to identify components installed before June 27, 2011 that had not previously been screened or screened incorrectly for license renewal applicability. All newly identified components have been assigned to existing Aging Management Programs (AMPs) and appropriate aging management strategies have been invoked to detect and manage the applicable aging effects throughout the period of extended operation.

Two of the "newly identified" components (SA-30-2 and SA-30-3) did not have aging management of their external environment addressed under its associated system (Station and Instrument Air System) Table 3.3.2-17 in the License Renewal Application (LRA). The impacts on existing aging management programs are discussed below. The table provided in the LRA is not actually being revised. However, the table included below indicates the changes that would be required to address these newly identified components in the identified LRA table.

Aging Management discussion of valves SA-30-2 and SA-30-3:

These Station Air System copper alloy valves have a dry/filtered instrument air (internal) environment and an outdoor air – not sheltered (external) environment. For their internal environment, the Station and Instrument Air System copper alloy valve bodies in dry/filtered instrument air environments are already included in LRA Table 3.3.2-17. The table shows there are no aging effects requiring management for this material and environment combination. For their external environment, the Station and Instrument Air System copper alloy valve bodies in outdoor air – not sheltered (external) environment were not included as a material/environment combination in LRA Table 3.3.2-17. From the PINGP aging management review process, this material/environment combination was determined to also have no aging effects requiring management. Thus, the valves will not be age-managed by any License Renewal aging management program. If the actual LRA Table 3.3.2-17 were to be updated for the external environment of these newly identified SSCs, the addition would look like the following table entry below.

Addition to LRA Table 3.3.2-17

Component Type	Intended Function	Material	Environment	Aging Effects Requiring Management	Aging Management Program
Valve Bodies	Pressure Boundary	Copper Alloys	Outdoor Air – Not Sheltered (Ext)	None	None