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NMSS26

NMSS

Prairie Island Nuclear Generating Plant
ISFSI TECHNICAL SPECIFICATIONS
UPDATING INSTRUCTIONS
Amendment 10

ISFSI TECHNICAL SPECIFICATIONS

REMOVE			INSERT	
Page	**Amendment**	**Document Type**	**Page**	**Amendment**
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ML-2	Renewed License	**Materials License**	ML-2	10
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RoR-1	3/8/2016	**Record of Revisionss**	RoR-1*	4/5/2018
A	3/8/2016	**Current Page List**	A	4/5/2018

In accordance with Change Request 6DAR01552861, the issuance dates for amendments 5 and 9 were corrected in this revision to this page. No changes were made to the TS pages related to these amendments; only the RoR was updated.

NRC FORM 588
(10-2000)
10 CFR 72

U. S. NUCLEAR REGULATORY COMMISSION

LICENSE FOR INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, *Code of Federal Regulations*, Chapter 1, Part 72, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, and possess the power reactor spent fuel and other radioactive materials associated with spent fuel storage designated below; to use such material for the purpose(s) and at the place(s) designated below; and to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified herein.

Licensee		
1. Northern States Power Company, a Minnesota corporation (NSPM) [1]	3. License No.	Renewed License SNM-2506
	Amendment No.	10
2. 414 Nicollet Mall Minneapolis, Minnesota, 55401-1927	4. Expiration Date	October 31, 2053
	5. Docket or Reference No.	72-10

6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical or Physical Form	8. Maximum Amount That Licensee May Possess at Any One Time Under This License
A. Spent fuel assemblies from Prairie Island Nuclear Generating Plant (PINGP), using natural water for cooling and enriched not greater than 3.85 (TN-40) and not greater than 5.00 (TN-40HT) percent U-235, and associated radioactive materials related to receipt, storage and transfer of the fuel assemblies	A. As UO_2 clad with zirconium or zirconium alloys	A. 715.29 TeU of spent fuel assemblies
B. Irradiated fuel assembly inserts from the PINGP. An insert may be a burnable poison rod assembly (BPRA) or a thimble plug device (TPD).	B SS 304 structure, Inconel 718 spring, and borated pyrex glass.	B. One BPRA or TPD per spent fuel assembly.

[1] Northern States Power Company was incorporated in Minnesota as a wholly owned subsidiary of Xcel Energy Inc., effective August 18, 2000. This license reflects the Commission's consent per 10 CFR Part 72, Section 72.50, to the license transfer approved by Order dated May 12, 2000.

9. Authorized Use: For use in accordance with the conditions in this license and the Technical Specifications contained in Appendix A. The basis for this license was submitted in the Safety Analysis Report dated August 31, 1990, and supplements dated October 29, 1990; April 2, June 5, October 9

and 31, November 15, December 11, 20, and 23, 1991; January 17, February 6, 10, and 12, March 2 and 5, April 3, 22, and 23, July 10, August 12, 13, and 14, 1992; October 2, 1995; August 31, October 29 and November 24, 1999; and February 2, March 14, October 16, 2000; and February 12, 2001; March 28, June 26, and August 29, 2008; June 26, and September 28, 2009; January 18, May 4, and July 27, 2010; October 20, 2011; July 17, and December 5, 2013; May 23, and September 3, 2014; and October 12, 2015 and as further supplemented and amended in accordance with 10 CFR 72.70 and 10 CFR 72.48.

The material identified in 6 and 7 above is authorized for receipt, possession, storage, and transfer.

10. Authorized Place of Use: The licensed material is to be received, possessed, transferred, and stored at the Prairie Island ISFSI located on the PINGP site in Goodhue County, Minnesota.

11. This site is described in Chapter 2 of the Technical Specifications and safety analysis report (TS/SAR) for the Prairie Island ISFSI.

12. The Technical Specifications contained in Appendix A attached hereto are incorporated into the license. NSPM shall operate the installation in accordance with the Technical Specifications in Appendix A.

13. NSPM shall fully implement and maintain in effect all provisions of the ISFSI physical security, guard training and qualification, and safeguards contingency plans previously approved by the Commission and all amendments made pursuant to the authority of 10 CFR 72.56, 72.44(e), and 72.186. The plans, which contain safeguards information protected under 10 CFR 73.21, are entitled: "Prairie Island Nuclear Generating Plant Independent Spent Fuel Storage Installation Physical Security Plan," Revision 0, submitted by letter dated March 10, 1992; "Prairie Island Nuclear Generating Plant Independent Spent Fuel Storage Installation Security Force Training and Qualification Plan," Revision 0, submitted by letter dated March 10, 1992; and "Prairie Island Nuclear Generating Plant Independent Spent Fuel Storage Installation Safeguards Contingency Plan," Revision 0, submitted by letter dated March 10, 1992.

14. The Technical Specifications for Environmental Protection contained in Appendix A attached hereto are incorporated into the license.

Specifications required pursuant to 10 CFR 72.44(d), stating limits on the release of radioactive materials for compliance with limits of 10 CFR Part 20 and "as low as is reasonably achievable objective" for effluents are not applicable. Spent fuel storage cask external surface contamination within the limits of Technical Specification 3.2.1 ensures that the offsite dose will be inconsequential. In addition, there are no normal or off-normal releases or effluents expected from the double-sealed storage casks of the ISFSI.

Specifications required pursuant to 10 CFR 72.44(d)(1), for operating procedures, for control of effluents, and for the maintenance and use of equipment in radioactive waste treatment systems, to meet the requirements of 10 CFR 72.104 are not applicable. There are, by the design of the sealed storage casks at the ISFSI, no effluent releases. Also, cask loading and unloading operations and waste treatment will occur at the PINGP, under the specifications of its operating licenses.

15. No spent nuclear fuel shall be allowed to be loaded until such time as the following preoperational license conditions are satisfied:

A. A training exercise (Dry Run) of all spent fuel storage cask loading and handling activities shall be held, which shall include, but not be limited to, those listed, and which need not be performed in the order listed:

a. Moving cask in and out of spent fuel pool area

b. Loading fuel assembly (using dummy assembly)

c. Cask drying, sealing, and cover gas backfilling operations

d. Moving cask to, and placing it on, the storage pad

e. Returning the cask to the auxiliary building

f. Unloading the cask

g. Decontaminating the cask

h. All dry-run activities shall be done using written procedures

i. The activities listed above shall be performed or modified and performed to show that each activity can be successfully executed before actual fuel loading.

B. The PINGP Emergency Plan shall be reviewed and modified, as required, to include the ISFSI.

C. A training module shall be developed for the PINGP Training Program, establishing an ISFSI Training and Certification Program that will include the following:

a. Cask Design (overview)

b. ISFSI Facility Design (overview)

c. ISFSI Safety Analysis (overview)

d. Fuel loading and cask handling procedures and off-normal procedures

e. ISFSI License (overview).

D. The PINGP Radiation Protection Procedures shall be reviewed and modified, as required, to include the ISFSI.

E. The PINGP Administrative Procedures shall be reviewed and modified, as required, to include the ISFSI.

F. A procedure shall be developed and implemented for the documentation of the characterizations performed to select spent fuel to be stored in the casks. Such procedure shall include independent verification of fuel assembly selection by an individual other than the original individual making the selection.

G. A procedure shall be developed and implemented for two independent determinations (two samples analyzed by different individuals) of the boron concentration in the water used to fill the cask cavity for fuel loading and unloading activities.

H. Written procedures shall be implemented to describe actions to be taken during operation, off-normal, and emergency conditions.

16. The design, construction, and operation of the ISFSI shall be accomplished in accordance with the U.S. Nuclear Regulatory Commission Regulations specified in Title 10 of the U.S. Code of Federal Regulations. All commitments to the applicable NRC regulatory guides and to engineering and construction codes shall be carried out.

17. Fuel and cask movement and handling activities that are to be performed in the PINGP Auxiliary Building will be governed by the requirements of the PINGP Facility Operating Licenses (DRP-42 and -60) and associated Technical Specifications.

18. The TN-40HT confinement boundary base material and associated welds shall be helium leak tested at the fabricator in accordance with ANSI N 14.5 to "leaktight" criteria. The TN-40 confinement boundary base material and associated welds shall be helium leak tested at the fabricator in accordance with ANSI N14.5 to "leaktight" criteria, if fabricated after the date of Amendment No. 7 approval.

19. Within 90 days after issuance of the license, NSPM shall submit an updated SAR to the Commission and continue to update the SAR pursuant to the requirements in 10 CFR 72.70(b) and (c).

The updated SAR shall include Appendix C, Rev. 1, "Safety Analysis Report Supplement and Changes" [Agencywide Document Access and Management System (ADAMS) Accession Number ML14247A316] as documented in the Supplement to the License Renewal Application (hereinafter referred to as Appendix C). The licensee may make changes to the SAR, including changes to Appendix C, Rev. 1, consistent with 10 CFR 72.48(c).

20. NSPM shall create, update, or revise procedures for implementing the activities in the Aging Management Programs (AMPs) summarized in Appendix C within 90 days of the renewed license issuance.

NSPM shall maintain procedures that implement the AMPs throughout the term of this license.

Each procedure for implementing the AMPs shall contain a reference to the specific AMP provision the procedure is intended to implement. The reference shall be maintained if procedures are modified.

Within 240 days of issuance of the renewed license, NSPM shall confirm, in a letter to the NRC (submitted pursuant to 10 CFR 72.4), that: (a) the procedures for implementation of the activities as described in the AMPs summarized in Appendix C, Rev. 1 are in place, (b) the procedures will be maintained for the term of this license, and (c) appropriate references to the AMPs are provided in the procedures.

21. NSPM shall not remove (a) any structure, system or component (SSC) or subcomponent, or (b) any aging mechanism or aging effect, as detailed in Table 9.8-1 in Appendix C [ADAMS Accession Number ML14247A316], from the scope of the AMPs.

22. With respect to the aging management activities for the concrete pads, as described in the "ISFSI Inspection and Monitoring Program" in Appendix A, Rev. 2, in the Supplement to the License Renewal Application [ADAMS Accession Number ML15285A007]:

    (a) The licensee shall perform visual inspections of all accessible concrete pad areas at intervals not to exceed those specified in ACI 349.3R-96.

    (b) The licensee shall evaluate the findings from all visual inspections against the three-tier acceptance criteria defined in ACI 349.3R-96.

    (c) The licensee shall obtain groundwater chemistry samples representative of the ISFSI below-grade pad environment at intervals not to exceed six months. The licensee shall characterize these groundwater chemistry samples to monitor for an aggressive below-grade environment, as defined in ASME Code Section XI Subsection IWL (2013).

23. With respect to the aging management activities for the dry storage (in-service) casks, as described in the "ISFSI Inspection and Monitoring Program" in Appendix A, Rev. 2, in the Supplement to the License Renewal Application [ADAMS Accession Number ML15285A007]:

    (a) The licensee shall perform visual inspections of accessible exterior surfaces of the dry storage (in-service) casks at intervals not to exceed every quarter.

    (b) The licensee shall perform visual inspections of the cask bottom and areas underneath the weather protective cover at intervals not to exceed 20 years, for a minimum of one (1) cask.

    (c) The licensee shall inspect, at a minimum, for signs of corrosion, damage, and debris accumulation on the cask exterior surfaces during all visual inspections identified in License Condition 23.

    (d) The licensee shall initiate a corrective action if any observable indication of corrosion is identified during any of the visual inspections in License Condition 23.

24. With respect to the aging management activities for the polymer-based neutron shields of the dry storage (in-service) casks as described in the "ISFSI Inspection and Monitoring Program" in Appendix A, Rev. 2, in the Supplement to the License Renewal Application [ADAMS Accession Number ML15285A007]:

(a) Within 90 days of the issuance of the renewed license, NSPM shall establish baseline values for dose rate trending analyses to be used in detecting any potential loss of intended function of the neutron shield.

(b) Thereafter, NSPM shall continue to perform dose rate surveys for each loaded cask at an interval not to exceed three months, as is consistent with the aging management program "ISFSI Inspection and Monitoring Program."

(c) NSPM shall compare the measured dose rate data with the established baseline values to detect any increase in neutron dose rates. Upon detecting any unexpected upward trend in the measured neutron dose rates, NSPM shall place the non-compliant cask into their corrective actions program to evaluate the cause for loss of intended function and determine whether a similar problem could occur within other casks.

25. With respect to the aging management activities for the earthen berm, as described in the "ISFSI Inspection and Monitoring Program" in Appendix A, Rev. 2, in the Supplement to the License Renewal Application [ADAMS Accession Number ML15285A007]:

(a) NSPM shall perform visual inspections of all accessible areas of the earthen berm at intervals not to exceed every five years.

(b) NSPM shall inspect, at a minimum, for loss of material, loss of form, and slope instability.

26. NSPM shall submit the evaluations related to high burnup fuel performance specified in the toll gates in the "High Burnup Fuel Aging Management Program" in Appendix A, Rev. 2, of the Supplement to the License Renewal Application (ML15285A007) to serve as confirmation that the high burnup fuel continues to meet the requirements in 10 CFR 72.122(h), "Confinement barriers and systems" and 72.122(l), "Retrievability".

a. The first evaluation shall be provided in a letter to the NRC (submitted pursuant to 10 CFR 72.4) by April 4, 2028 (see Section A3.5 Toll Gate 1).

b. An additional evaluation shall be provided in a letter to the NRC (submitted pursuant to 10 CFR 72.4) by April 4, 2038 (see Section A3.5 Toll Gate 2).

27. This renewed license is effective as of the date of issuance shown below.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

/RA/

John McKirgan, Chief
Spent Fuel Licensing Branch
Division of Spent Fuel Management
Office of Nuclear Material Safety
and Safeguards
Washington, DC 20555

Date of Issuance: December 09, 2015
Amendment No. 10 Dated: 3/6/18
Attachment: Technical Specifications

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
INDEPENDENT SPENT FUEL STORAGE INSTALLATION
RECORD OF REVISIONS
TECHNICAL SPECIFICATION CHANGES AND LICENSE AMENDMENTS

NSP Revision (REV) No.	Date of Issue	License Amendment No.	Remarks
ORIGINAL	10/19/93	-	License Issued
1	3/17/94	1	Correction to Page 1 of License
2	2/1/96	2	Change to p. 6-1
3	8/7/00	3	Change to p. 6-1
4	8/18/00	4	License reissue only
5	2/12/01	5	Change to Sec. 3/4
5*	2/7/2008	Correction to Amendment 5	Correction to page 1 of License, per NRC letter dated February 7, 2008
6	9/22/08	6	Transfer of operating authority
7	8/20/10	7	Reformatted and Inclusion of TN-40HT design
8	3/10/14	8	Revised absorber and aluminum plate minimum allowed thermal conductance
9	4/10/2015	9	Revise surveillance requirements in TS 3.1.2
RENEWED	12/9/15	Renewed License	Added License Conditions 19-26, no material changes to Technical Specifications
10	3/6/2018	10	Reissued the Renewed License to correct an error in License Condition 22

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
INDEPENDENT SPENT FUEL STORAGE INSTALLATION
TECHNICAL SPECIFICATION CURRENT PAGE LIST

LICENSE SNM-2506

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