November 4, 2008

Mr. Michael D. Wadley
Site Vice President
Prairie Island Nuclear Generating Plants Units 1 and 2
Northern States Power Company, Minnesota
1717 Wakonade Drive East
Welch, MN 55089

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE PRAIRIE ISLAND NUCLEAR GENERATING PLANT UNITS 1 & 2, LICENSE RENEWAL APPLICATION (TAC NOS. MD8513 and MD8514)

Dear Mr. Wadley:

By letter dated April 11, 2008, Nuclear Management Company, LLC (NMC) now known as Northern States Power Company, Minnesota (NSPM) submitted an application pursuant to Title 10 of the *Code of Federal Regulations* Part 54 (10 CFR Part 54) to renew the operating license for Prairie Island Nuclear Generating Plants Units 1 and 2 for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). The staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review. Further requests for additional information may be issued in the future.

Items in the enclosure were discussed with Gene Eckholt, of your staff, and a mutually agreeable date for the response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-1427 or e-mail Richard.Plasse@nrc.gov.

Sincerely,

/**RA**/

Richard Plasse, Project Manager
Projects Branch 2
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-282 and 50-306

Enclosure:
As stated

cc w/encl.: See next page

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Prairie Island Nuclear Generating Plants Units 1 and 2
Northern States Power Company, Minnesota
1717 Wakonade Drive East
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Projects Branch 2
Division of License Renewal
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cc w/encl.: See next page
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ADAMs Accession Number: **ML082970818**

OFFICE	LA:DLR	BC:RPB2:DLR	PM:RPB2:DLR
NAME	SFigueroa	DWrona	RPlasse
DATE	10/24 /08	11/4 /08	11/04 /08

OFFICIAL RECORD COPY

Letter to M. Wadley from R. Plasse, dated November 4, 2008

DISTRIBUTION:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE PRAIRIE ISLAND NUCLEAR GENERATING PLANT UNITS 1 & 2, LICENSE RENEWAL APPLICATION (TAC NOS. MD8513 and MD8514)

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Prairie Island Nuclear Generating Plant,
Units 1 and 2

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REQUEST FOR ADDITIONAL INFORMATION ON
REACTOR VESSEL SURVEILLANCE PROGRAM PRAIRIE ISLAND NUCLEAR GENERATING PLANT UNITS 1 AND 2 LICENSE RENEWAL APPLICATION
DOCKET NOS. 50-282, 50-306

RAI-B.2.1.34

(A) Section 6.0 in aging management program XI.31, "Reactor Vessel Surveillance," in NUREG-1801, "Generic Aging Lessons Learned (GALL) Report," Volume 2, Revision 1 states that if an applicant has a surveillance program that consists of capsules with a projected fluence of less than the projected 60 year fluence at the end of 40 years, at least one capsule is to remain in the reactor vessel and tested during the extended period of operation.

Prairie Island Nuclear Generating Plant (PINGP), Units 1 and 2 have tested four of the six surveillance capsules in each unit to date, and the latest capsules of Units 1 and 2 were tested at projected fluence values which are less than 60 year fluence. To ensure that the applicant is in compliance with the aforementioned GALL Report requirement, one of the two remaining capsules in each unit should be tested during the extended period of operation and the following relevant information regarding the testing of the capsules should be provided to the staff.

(1) Applicant's plan to test an additional surveillance capsule from each unit
(2) The projected refueling outages of withdrawal for each unit
(3) Projected neutron fluence value for each capsule at the time of withdrawal

(B) The staff requests that the applicant confirm that the withdrawal schedule of the capsules to be used for future tests during the extended period of operation is consistent with the requirements, specifically the limitations on lead factor, specified in paragraph 7.6.2 of the American Society of Testing Materials (ASTM) E 185, "Conducting Surveillance Tests for Light-Water Cooled Nuclear Power Reactor Vessels."

(C) The staff requests that the applicant confirm that untested surveillance capsules (standby capsules) will be stored for future use at PINGP, Units 1 and 2.

ENCLOSURE

RAI: 4.2.2

Based on the beltline material "Circumferential Weld – Nozzle Shell Forging B to Intermediate Shell Forging C", the staff assumes that there is a small line nozzle penetration in the beltline region of the RPV. The staff requests the applicant to confirm this detail.

RAI: 4.2.3

In Table 4.2-5 of the PINGP license renewal application (LRA), the $RT_{NDT(u)}$ for beltline material "Lower Shell Forging D (22642)" is listed as -4 ºF. However, the value of $RT_{NDT(u)}$ for this beltline material is listed as 2 ºF in the PINGP reactor vessel integrity database (RVID). Provide information which documents where the value of -4 ºF comes from and demonstrate that is applicable to this forging.

RAI: 4.2.4

Per the requirements of Title 10 of the *Code of Federal Regulations*, Section 54.21(c)(1)(i) and the staff guidance in NUREG 1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," the projected neutron fluence and subsequent adjusted reference temperature (ART) values at the end of the extended period of operation are reviewed to verify that they are bound by the embrittlement assumed in the existing P-T limit analysis. Therefore, the staff requests the applicant to provide current ¼ T and ¾ T ART values for all the beltline materials.

RAI: 4.7.2

In Section 4.7.2 of the PINGP LRA, the applicant states that the number of design cycles and transients assumed in topical report WCAP-15338, "A Review of Cracking with Weld Deposited Cladding in Operating PWR Plants," analyses bound the number of design cycles and transients projected for 60 years of operation as presented in Table 4.3-1 of the PINGP LRA. However, the WCAP-15338 report does not explicitly state the number of design cycles and transients used in the analyses of crack growth for 60 years of operation of the reactor pressure vessel. The staff requests the applicant to provide the bounding number of design cycles and transients that were used in the WCAP-15338 report analyses.