



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

May 23, 2012

Mr. Mark A. Schimmel  
Site Vice President  
Prairie Island Nuclear Generating Plant  
Northern States Power Company - Minnesota  
1717 Wakonade Drive East  
Welch, MN 55089-9642

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2 -  
REQUEST FOR ADDITIONAL INFORMATION RELATED TO LICENSE  
AMENDMENT REQUEST TO ADD DIESEL FUEL OIL LICENSE BASES AND  
REVISE TECHNICAL SPECIFICATIONS 3.7.8 AND 3.8.3  
(TAC NOS. ME6849 AND ME6850)

Dear Mr. Schimmel:

By letter dated August 11, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML112240140), as supplemented by letter dated February 21, 2012 (ADAMS Accession No. ML12054A057), Northern States Power Company, a Minnesota corporation (NSPM, the licensee), doing business as Xcel Energy, requested approval from the Nuclear Regulatory Commission (NRC) for additional diesel fuel oil license bases and amendments to Technical Specifications 3.7.8, "Cooling Water (CL) System" and 3.8.3, "Diesel Fuel Oil," for the Prairie Island Nuclear Generating Plant, Units 1 and 2.

The NRC staff is reviewing your submittal and has determined that additional information is required to complete the review. The specific information requested is addressed in the enclosure to this letter. During a discussion with your staff on May 17, 2012, it was agreed that you would provide a response to this request within 45 days of the date of this letter.


The NRC staff considers that timely responses to requests for additional information help ensure sufficient time is available for staff review and contribute toward the NRC's goal of efficient and effective use of staff resources.

M. Schimmel

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If circumstances result in the need to revise the requested response date, please contact me at (301) 415-4037.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas J. Wengert". The signature is fluid and cursive, with a large initial "T" and "W".

Thomas J. Wengert, Senior Project Manager  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-282 and 50-306

Enclosure:  
Request for Additional Information

cc w/encl: Distribution via ListServ

## REQUEST FOR ADDITIONAL INFORMATION (RAI)

### PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2

#### DOCKET NOS. 50-282 AND 50-306

By letter dated August 11, 2011, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML112240140), as supplemented by letter dated February 21, 2012 (ADAMS Accession No. ML12054A057), Northern States Power Company, a Minnesota corporation (NSPM, the licensee), doing business as Xcel Energy, requested approval from the Nuclear Regulatory Commission (NRC) for additional diesel fuel oil license bases and amendments to Technical Specifications (TS) 3.7.8, "Cooling Water (CL) System" and 3.8.3, "Diesel Fuel Oil," for the Prairie Island Nuclear Generating Plant (PINGP), Units 1 and 2. The NRC staff has reviewed this request and the supplemental response and has determined that the following information is required to complete its review.

#### Electrical Engineering Branch (EEEB) RAIs (regarding the February 21, 2012 RAI response)

##### **RAI EEEB-7**

In its February 21, 2012, letter, the licensee's response to RAI EEEB-1a delineates the flow paths that are available from each of the storage tanks to the day tank of each diesel engine. Technical Specification (TS) surveillance requirement (SR) 3.8.1.5 requires verification of capability of the fuel oil transfer system to transfer fuel oil from the storage tank to the day tank. Validate that current plant procedures verify operability of each of the paths delineated in the NSPM response to comply with TS requirements.

##### **RAI EEEB-8**

The licensee's response to RAI EEEB-4a states that Section 8.4 of the PINGP Updated Safety Analysis Report (USAR) defines the design-basis worst case accident from the emergency diesel generator (EDG) loading perspective as a large-break loss-of-coolant accident (LBLOCA) concurrent with a loss of offsite power (LOOP). NSPM further states that the basis for EDG load reduction within the first hour of EDG operation during this event is associated with the drain-down of the refueling water storage tank (RWST) and the subsequent transfer to the recirculation mode.

The NRC staff notes that the LOOP/LBLOCA event may result in the 'most severe' short term loading of the EDG and may be used to determine the kilowatt rating of the EDG. However, it may not be the most conservative loading from a fuel oil consumption perspective, when some pumps may operate for longer durations depending on the type of break or event. USAR Table 14.7-4 (Unit 2) provides the time durations for RWST low level alarm actuation for various break sizes. According to this Table, the RWST low level is not reached for a 1.5 inch break size and it takes approximately 5467 seconds to reach the low level alarm point following a 2 inch break.

Validate that the calculation of record for fuel oil consumption evaluated events related to different size breaks for LOCA and steam line breaks inside containment for a bounding case.

**RAI EEB-9**

The licensee's response to RAI EPTB-1a and -1b states that fuel oil consumption rates were determined based on manufacturer's testing and pre-operational testing records. The test records provide the consumption rates (in units of pounds / [brake horsepower \* hours] for the Unit 1 EDGs or (in units of grams / [kilowatt \* hours]) for the Unit 2 EDGs at various loading conditions. Provide details on the power factor values that were used in the testing program and how the EDG fuel oil consumption calculations accounted for the reactive power required by accident-mitigating equipment.

M. Schimmel

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If circumstances result in the need to revise the requested response date, please contact me at (301) 415-4037.

Sincerely,

**/RA/**

Thomas J. Wengert, Senior Project Manager  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-282 and 50-306

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Request for Additional Information

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GMatharu, NRR

ADAMS Accession Number: ML12142A156

\* via memo dated 5/7/12

OFFICE	NRR/LPL3-1/PM	NRR/LPL3-1/LA	NRR/EEEE/BC	LPL3-1/BC (A)	NRR/LPL3-1/PM
NAME	TWengert	BTully	JAndersen*	IFrankl	TWengert
DATE	05/23/12	05/22/12	05/07/12	05/23/12	05/23/12

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