

## **NRR-PMDAPEm Resource**

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**From:** Kuntz, Robert  
**Sent:** Friday, November 18, 2016 9:20 AM  
**To:** Eckholt, Gene F.  
**Cc:** Hazelhoff, Amy  
**Subject:** DRAFT Request for Information related to Prairie Island NFPA-805 license amendment (CAC No. ME9734 and ME9735)

Mr. Eckholt,

By letter dated September 28, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12278A405), as supplemented by letters dated November 8 and December 18, 2012; May 3 and October 17, 2013; April 30, 2014; May 28, June 19, October 6, and October 22, 2015; January 20, May 24, and August 17, 2016 (ADAMS Accession Nos. ML12314A144, ML12354A464, ML13126A115, ML13291A367, ML14125A106, ML15153A018, ML15174A139, ML15280A044, ML15296A259, ML16020A375, ML16152A046, ML16230A554, respectively); Northern States Power Company, a Minnesota corporation (NSPM, the licensee), doing business as Xcel Energy, submitted a license amendment request (LAR) to transition its fire protection licensing basis at the Prairie Island Nuclear Generating Plant (PINGP), Units 1 and 2, from paragraph 50.48(b) of Title 10 of the Code of Federal Regulations (10 CFR) to 10 CFR 50.48(c), National Fire Protection Association Standard NFPA 805 (NFPA 805). Supplemental information has been requested by the NRC staff and provided NSPM.

A DRAFT requests for additional information (RAI) is provided below. If clarification is requested on the RAI contact me and I will arrange a teleconference with the NRC staff. If no clarification is required, then this DRAFT RAI will become a final RAI and a response will be expected within 30 days of this e-mail.

Robert Kuntz  
Senior Project Manager (Monticello and Prairie Island)  
NRC/NRR/DORL/LPL3-1  
(301)415-3733

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### REQUEST FOR ADDITIONAL INFORMATION

### LICENSE AMENDMENT REQUEST TO ADOPT

### NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 805

### NORTHERN STATES POWER COMPANY – MINNESOTA (NSPM, THE LICENSEE)

### PRAIRIE ISLAND NUCLEAR GENERATING PLANT (PINGP), UNITS 1 AND 2

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

### (TAC NOS. ME9734 AND ME9735)

**Probabilistic Risk Assessment (PRA) Request for Additional Information (RAI) 21  
Very Early Warning Fire Detection System Credit**

Section 2.4.3.3 of National Fire Protection Association (NFPA) Standard 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2001 Edition, states that the probabilistic safety analysis (PSA) (PSA is also referred to as probabilistic risk assessment (PRA)) approach, methods, and data shall be acceptable to the authority having jurisdiction, which is the Nuclear Regulatory Commission (NRC). Section 2.4.4.1 of NFPA 805 further states that the change in public health risk arising from transition from the current fire protection program to an NFPA 805 based program, and all future plant changes to the program, shall be acceptable to the NRC. Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," Revision 2, (RG 1.174) provides quantitative guidelines on core damage frequency (CDF), large early release frequency (LERF), and identifies acceptable changes to these frequencies that result from proposed changes to the plant's licensing basis and describes a general framework to determine the acceptability of risk-informed changes. The NRC staff's review of the information in the license amendment request identified additional information that is required to fully characterize the risk estimates.

New guidance on the credit taken for very early warning fire detection system (VEWFDS) is available in NUREG-2180, "Determining the Effectiveness, Limitations, and Operator Response for Very Early Warning Fire Detection Systems in Nuclear Facilities, (Delores-VEWFIRE)" of which the pre-publication final version is available at Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML16286A000 and ML16286A002 (note that the accession numbers may change when the final version is published). The methodology in NUREG-2180 is acceptable to the NRC because it is currently the best available guidance. The guidance provided in frequently asked question (FAQ) 08-0046, "Closure of National Fire Protection Association 805 Frequently Asked Question 08-0046 Incipient Fire Detection Systems" (ADAMS Accession No. ML093220426), has been retired and alternative approaches for staff evaluation are necessary to complete the safety evaluation.

Explain how credit (e.g., approach, methods, data, and assumptions) taken in the fire PRA (FPRA) for the proposed VEWFDS is consistent with the guidance in NUREG-2180 or bounds the risk results (i.e., CDF, LERF, change in CDF, and change in LERF) that would be obtained had the guidance in NUREG-2180 been applied. If credit taken for VEWFDS in the FPRA is not consistent with or bounded by NUREG-2180, provide:

- a. The risk results (i.e., CDF, LERF, change in CDF, and change in LERF): (1) without credit for VEWFDS, (2) that would be obtained had the guidance in NUREG-2180 been applied, or that would be obtained had an alternative method been used, along with a description and justification for the alternative method. Development and use of an alternative proposal may extend the time required to complete the review. The new risk results can be generated from a sensitivity study type evaluation insofar as formal incorporation of the new method into the PRA model of record is not required.
- b. Explain how the total risk and increases in risk are consistent with the guidelines in RG 1.174.
- c. If additional method and model modifications to the PRA are used and discussed in response to item a. above, explain how they will be incorporated into the PRA model of record that will be used to determine whether the as-built modifications meet the RG 1.174 guidelines and to support the self-approval of post-transition changes.

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**Recipients:**  
"Hazelhoff, Amy" <Amy.Hazelhoff@xenuclear.com>  
Tracking Status: None  
"Eckholt, Gene F." <Eugene.Eckholt@xenuclear.com>  
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