



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

June 25, 2018

Mr. Scott M. Sharp  
Vice President  
Northern States Power Company - Minnesota  
Prairie Island Nuclear Generating Plant  
1717 Wakonade Drive East  
Welch, MN 55089-9642

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2 –  
SUPPLEMENTAL INFORMATION NEEDED FOR ACCEPTANCE OF  
REQUESTED LICENSING ACTION RE: AMENDMENT TO MODIFY  
RENEWED FACILITY OPERATING LICENSE PARAGRAPH 2.C(4)(c)  
(EPID L-2018-LLA-0147)

Dear Mr. Sharp:

By letter dated May 18, 2018, Northern States Power Company (NSPM) submitted a license amendment request (LAR) for Prairie Island Nuclear Generating Plant, Units 1 and 2 (PINGP). The proposed amendment would modify Paragraph 2.C(4)(c) of the PINGP Renewed Facility Operating Licenses which requires the implementation of modifications to PINGP as described in Attachment S, Table S-2, of the PINGP LAR dated December 14, 2016, to adopt the National Fire Protection Association Standard (NFPA) 805. The purpose of this letter is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's acceptance review of this amendment request. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), an amendment to the license (including the technical specifications) must fully describe the changes requested, and following as far as applicable, the form prescribed for original applications. Section 50.34 of 10 CFR addresses the content of technical information required. This section stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

The NRC staff has reviewed your application and concluded that the information delineated in the enclosure to this letter is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed amendment in terms of regulatory requirements and the protection of public health and safety and the environment.

In order to make the application complete, the NRC staff requests that NSPM supplement the application to address the information requested in the enclosure by July 10, 2018. This will enable the NRC staff to begin its detailed technical review. If the information responsive to the NRC staff's request is not received by the above date, the application will not be accepted for

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review pursuant to 10 CFR 2.101, and the NRC will cease its review activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

The information requested and associated time frame in this letter were discussed with Shane Jurek of your staff on June 20, 2018.

If you have any questions, please contact me at 301-415-3733.

Sincerely,

A handwritten signature in black ink, appearing to be 'R. Kuntz', written in a cursive style.

Robert F. Kuntz, Senior Project Manager  
Plant Licensing Branch III  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-282 and 50-306

Enclosure:  
As stated

cc: Listserv

SUPPLEMENTAL INFORMATION NEEDED

AMENDMENT REQUEST

NORTHERN STATES POWER COMPANY

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2

DOCKET NOS. 50-282 AND 50-306

By letter dated May 18, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18138A402), Northern States Power Company – Minnesota, (NSPM, the licensee), submitted a license amendment request (LAR) regarding the Prairie Island Nuclear Generating Plant (PINGP). Specifically, the licensee requested to delete several modifications which are required as part of PINGP's implementation of its risk-informed, performance-based fire protection program (RI/PB FPP) in accordance with paragraph 50.48(c) of Title 10 of the *Code of Federal Regulations* (10 CFR) (National Fire Protection Association Standard 805 (NFPA 805)). Enclosure 6, Attachment W, Section W.2.4, "Review of Negative Delta-Risk," says that the change was primarily due to the compliant plant not failing a component with a 1.0 failure probability which generates multiple cutsets with a 0.4 circuit failure mode likelihood analysis (CFMLA) probability where these cutsets add up to more than 1.0 in the compliant case and yield a larger core damage frequency (CDF) in the compliant case.

The U.S. Nuclear Regulatory Commission (NRC) staff understands that a delta-risk based upon cutsets adding up to more than 1.0 in the compliant case could be problematic, but that this condition could be caused by an invalid application of the rare event approximation. Based on the information provided in the LAR, the NRC staff could not identify the basis for the cutsets adding to more than 1.0; thus, yielding a larger CDF in the compliant case. As a result, the NRC staff requests the following information.

- 1) Are the cutsets generated from the logic models using a basic event with a failure probability of 0.4 the same cutsets used when the basic event failure probability is assigned 1.0?
- 2) Describe the circumstance leading to the removal of the 1.0 failure probability to construct the compliant plant model that leads to the condition of multiple cutsets being produced which sum to more than 1.0. For example, is the 1.0 failure probability removed in order to remove the effects of a variance from deterministic requirement to represent the compliant plant model?
- 3) Describe why these multiple cutsets with a CFMLA probability are created when the 1.0 failure probability for the component is removed. For example, as a part of this discussion, if the compliant plant model supports the removal of the fire-induced failure of 1.0 for the component, describe why the component continues to experience fire damage. Describe whether non-minimal cutsets are removed from the compliant plant's cutsets.
- 4) Describe why this condition only affects those fire areas with a negative delta-risk. Describe whether this condition could affect other fire areas yet not produce a negative delta-risk.

- 5) Describe the impact of requantifying the delta-risk and the additional risk due to recovery actions, including a comparison of the results with the Regulatory Guide (RG) 1.174, Revision 2, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," (ADAMS Accession No. ML100910006), and RG 1.205, Revision 1, "Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants," (ADAMS Accession No. ML092730314), risk guidelines, and whether or not the risk guidelines are met.

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 (EPID L-2018-LLA-0147) DATED JUNE 25, 2018**

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**ADAMS Accession No. ML18169A420**

**via email**

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