Wengert, Thomas

From:	Wengert, Thomas
Sent:	Thursday, November 29, 2012 11:42 AM
To:	'Chesnutt, Samuel'
Cc:	Eckholt, Gene F.
Subject:	Prairie Island NGP - Acceptance Review Questions Regarding NFPA 805 License Amendment Request (TAC Nos. ME9734 and ME9735)
Attachments:	Prairie Island NFPA 805 LAR Acceptance Review Questions.pdf

By letter dated September 28, 2012, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12278A405), as supplemented by letter dated November 8, 2012 (ADAMS Accession No. ML12314A144), Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, submitted a license amendment request for Prairie Island Nuclear Generating Plant (PINGP), Units 1 and 2. The proposed amendment would transition the PINGP fire protection program to a new Risk-Informed, Performance-Based alternative in accordance with 10 CFR 50.48(c), which incorporates by reference National Fire Protection Association Standard 805 (NFPA 805).

The Nuclear Regulatory Commission (NRC) staff has completed its initial review of the submittals. In order to make the application complete, the NRC staff requests that NSPM supplement the application to address the information contained in the attachment to this e-mail by December 18, 2012.

The information requested and the associated timeframe identified in this e-mail were discussed with NSPM in a teleconference with NRC staff on November 28, 2012. If you have any questions, please contact me at (301) 415-4037 or at Thomas.Wengert@nrc.gov.

Regards,

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US Nuclear Regulatory Commission
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ACCEPTANCE REVIEW QUESTIONS

LICENSE AMENDMENT REQUEST TO ADOPT

NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 805

PERFORMANCE-BASED STANDARD FOR FIRE PROTECTION FOR LIGHT WATER REACTOR GENERATING PLANTS

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2
(TAC Nos. ME9734 and ME9735)

The following issues have been identified by the Nuclear Regulatory Commission staff during the acceptance review of the September 28, 2012, license amendment request (LAR) for which supplemental information may be necessary in order to complete the acceptance review:

(1) Modifications described in Table S-2, Items 1-4, address separation of Train A and B equipment in Fire Areas 31 and 32, which contain auxiliary feedwater components, remote shutdown panels, and other redundant train equipment. Each of these modifications is described similarly as follows: modify equipment in FA 31 (or 32) to ensure that Train "A" (or "B) equipment is available for fire safe shutdown. It is unclear from these descriptions what specifically the modification will be and, thus, it is unclear if the final plant configuration has been determined. The plant modifications need to be developed to the level of detail that can support an independent review of the efficacy of the proposed plant changes (e.g., re-route cables from specific fire areas, what equipment will be installed, etc.). Furthermore, these modifications are risk-ranked High, and are modeled in the FPRA, and are relied upon to yield an acceptable change in risk. Therefore, these modifications for transition need to be described and, as appropriate, modeled in the PRA to properly estimate the change in risk associated with transition.

Provide a more explicit description of modifications identified in Attachment S of the LAR as Items 1, 2, 3, and 4, and how these modifications are treated in the PRA.

(2) The impact on the PRA results of implementing incipient detection (very early warning fire detection system – VEWFDS) in the Relay Room and Shutdown Reactor Coolant Pump seals is presented as a sensitivity study in Section W.2 of the LAR as a risk reduction of about 2.50E-04/yr (Unit 1) and 2.41E-04/yr (Unit 2) for CDF and 2.35E-05/yr (Unit 1) and 3.10E-05/yr (Unit 2) for LERF, which implies current risk levels at or above these values.

Describe how this risk reduction is calculated. If the results are correctly presented, 1) describe what additional compensatory actions have been implemented to lower the risks to acceptable ranges prior to the installation of the two modifications, and 2) discuss why the risk reduction is greater than the remaining CDF and LERF from all hazards.

(3) Inconsistencies were identified between scenario-specific CDF/LERF results reported in Tables W-1 through W-4 and the fire area CDF/LERF results reported in Tables W-5 and W-6 which are potentially significant: (1) Table W-1, Fire Scenario U1FDS-41GRP, reports a CDF of 6.25E-07, whereas Table W-5 reports a CDF of epsilon for Fire Area 41; (2) Table W-3 provides the CDF for 5 fire scenarios for Fire Area 59 that sum to a total CDF of 5.8E-06, which is greater than the CDF of 1.24E-06 for Fire Area 59 reported in Table W-6; (3) similarly, Table W-4 provides the LERF for 11 fire scenarios for Fire Area 59 that sum to a total LERF of 1.4E-06, which is greater than the LERF of 1.9E-07 for Fire Area 59 reported in Table W-6).

Clarify the discrepancies between the scenario-specific CDF/LERF results provided in Tables W-1 through W-4 and the fire area CDF/LERF results provided in Tables W-5 and W-6. Provide revised tables if necessary.

(4) The resolutions to peer review Findings for SRs CS-B1 (self assessed as CC-I) and CS-C4 (self assessed as "Not Met") in Table V-2 of the LAR describe that these Findings cannot be completely addressed until a breaker coordination study is completed and that the PRA assumes that there are no coordination issues. It is noted that Implementation Item #34 in Table S-3 of the LAR is to complete the breaker fuse coordination study and Modification #20 in Table S-2 of the LAR is to install appropriate fuses and/or breaker to fix issues identified in the study. Engineering analyses needed to support the LAR and fire PRA should be completed prior to LAR submittal since the final results from such studies/analyses could impact the risk results presented in the LAR.

Provide justification for why the LAR is acceptable without a completed breaker fuse coordination study.

(5) The resolution to the peer review Finding for SR PRM-A1-01 in Table V-1 of the LAR concludes, for fire scenarios that damage only the component from which the fire originates, that loss of the component and any resulting plant transient (including a reactor trip) is encompassed by the internal events PRA and are therefore appropriately screened from the fire PRA.

Describe the analysis performed to draw this conclusion. Also discuss whether NUREG/CR-6850 guidance in "Section 8.5.3 Step 3: Verification of Screened Fixed Ignition Sources" was considered.