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REQUESTS FOR ADDITIONAL INFORMATION

Prairie Island Nuclear Generating Plant, Units 1 and 2

License Amendment Request (LAR) dated December 28, 2009 for

Measurement Uncertainty Recapture Power Uprate

Docket Nos. 50-282 and 50-306

TAC Nos. ME3015 and ME3016

Office of Nuclear Reactor Regulation
Division of Component Integrity
Vessels & Internals Integrity Branch

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1.0 INTRODUCTION

By letter dated December 28, 2009 (Agencywide Document Access and Management System Accession No. ML093650061), Northern States Power Company (Xcel Entergy), the licensee, submitted for staff review and approval a license amendment request for a measurement uncertainty recapture (MUR) power uprate for Prairie Island Nuclear Power Generating Plant (PINGP), Units 1 and 2. The proposed amendment consists of an approximate 1.64 percent increase in the rated thermal power from 1650 megawatts thermal (MWt) to 1677 MWt. Staff has reviewed the proposed request in accordance with Regulatory Information Summary (RIS) 2002-03, "Guidance on the Content of Measurement Uncertainty Recapture Power Uprate Applications" with respect to the integrity of the reactor pressure vessel (RPV), and reactor internal and core support structures.

The staff has reviewed the information submitted by the licensee, and based on this review, determined the following information is required to complete the evaluation.

2. REQUESTS FOR ADDITIONAL INFORMATION

a. It was noted that the licensee's RPV surveillance capsules withdraw schedule is based on American Society for Testing and Materials (ASTM) E-185-82.

   Please provide the actual schedule as to when the licensee plans to withdraw any capsules in the future for PINGP, Units 1 and 2.

b. Has the licensee pulled any surveillance capsules for either PINGP, Units 1 and 2, since Capsules S and P were pulled and evaluated? If so, what were the capsules and the analysis report results?

c. For RPV internals of PWR-designed light-water reactors may be susceptible to the following aging effects. Discuss how each is affected by the MUR:

1. Cracking induced by stress corrosion cracking (SCC), or irradiation assisted stress corrosion cracking (IASCC);

2. Loss of fracture toughness properties induced by radiation exposure for all stainless steel grades, or the synergistic effects of radiation exposure and thermal aging for cast austenitic stainless steel (CASS) grades;

3. Stress relaxation in bolted, fastened, keyed or pinned RPV internal components induced by irradiation exposure and/or exposure to elevated temperatures; and

4. Void swelling (induced by radiation exposure).

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