



December 11, 2008

L-PI-08-111  
10 CFR 54

U S Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Prairie Island Nuclear Generating Plant Units 1 and 2  
Dockets 50-282 and 50-306  
License Nos. DPR-42 and DPR-60

Responses to NRC Requests for Additional Information Dated December 1, 2008  
Regarding Application for Renewed Operating Licenses

By letter dated April 11, 2008, Northern States Power Company, a Minnesota Corporation, (NSPM) submitted an Application for Renewed Operating Licenses (LRA) for the Prairie Island Nuclear Generating Plant (PINGP) Units 1 and 2. In a letter dated December 1, 2008, the NRC transmitted Requests for Additional Information (RAIs) regarding that application. This letter provides responses to those RAIs.

Enclosure 1 provides the text of each RAI followed by the NSPM response.

If there are any questions or if additional information is needed, please contact Mr. Eugene Eckholt, License Renewal Project Manager.

Summary of Commitments

This letter contains no new commitments or changes to existing commitments.

I declare under penalty of perjury that the foregoing is true and correct.  
Executed on December 11, 2008.

Michael D. Wadley  
Site Vice President, Prairie Island Nuclear Generating Plant Units 1 and 2  
Northern States Power Company - Minnesota

Enclosure (1)

cc:

Administrator, Region III, USNRC  
License Renewal Project Manager, Prairie Island, USNRC  
Resident Inspector, Prairie Island, USNRC  
Prairie Island Indian Community ATTN: Phil Mahowald  
Minnesota Department of Commerce

**Enclosure 1**  
**NSPM Responses to NRC Requests for Additional Information**  
**Dated December 1, 2008**

**RAI 2.4.1-1**

Due to lack of clarity in the license renewal application (LRA) Tables 2.4.1-1 and 3.5.2-1, please confirm/clarify if the Spent Fuel Pool (SFP) Divider Gates, the SFP leak-chase channels, and the fuel transfer canal upending frame are structural components in the scope of license renewal and subject to an aging management review (AMR). If yes, include their scoping, screening and AMR results, as appropriate, or clarify the location in the LRA where these components are included. If not, please provide justification for exclusion.

**NSPM Response to RAI 2.4.1-1**

Spent Fuel Pool (SFP) Divider Gates are not in scope of license renewal since they perform no intended function. As discussed in USAR Section 10.2.2.3, to protect against complete loss of water in the spent fuel pool, spent fuel pool cooling system piping connections enter the top of the pool. The drain connection from the transfer canal to the CVSC holdup tank recirculation pump is at the canal's bottom. Even if the water in the transfer canal were completely drained with the SFP gate removed, the active portion of the spent fuel would not be uncovered. This is because the bottom of the gate connection in the wall separating the transfer canal from the spent fuel pool is at an elevation that would preclude complete drainage.

SFP leak-chase channels are in scope of license renewal. These components are located in the Auxiliary Building, are fabricated from stainless steel, and are located in an embedded-in-concrete environment. See LRA Table 2.4.1-1 on page 2.4-9 (i.e., stainless steel components), and Table 3.5.2-1 on page 3.5-77 (i.e., stainless steel components (embedded members)).

The fuel transfer canal upender (or tipping device) is in scope of license renewal. The upending frame is part of the fuel transfer tipping device identified in the LRA Section 2.4.3, page 2.4-18. See LRA Table 3.5.2-3 on pages 3.5-115 and 3.5-116 for aging management of the fuel transfer tipping devices.

**RAI 2.4.3-1**

In Updated Final Safety Analysis Report (UFSAR) Section 12.2.6, the applicant states that in order to assure the stability and prevent toppling and over-traveling of the containment polar crane or its components, the features incorporated in its design include: (i) up-kick lugs fastened to each truck; (ii) overturning locks fastened to each truck; and (iii) positive wheel stops. Also, in UFSAR Section 12.2.9, the applicant indicates that the spent fuel pool bridge crane, auxiliary building crane and the turbine building crane are protected against tipping, derailments and uncontrolled movements by features that include: (i) crane bridge and trolley being equipped with fixed, fitted rail yokes; and (ii) positive wheel stops and bumpers. From LRA Section 2.4.3, Table 2.4.3-1 and Table 3.5.2-3, it is not clear if the above noted structural components and fasteners of the cranes are included in-scope of license renewal and subject to an AMR.

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Please confirm if these crane components have been screened in as items requiring an AMR. If yes, indicate where these items have been included in the LRA. If not, provide the technical bases for their exclusion.

**NSPM Response to RAI 2.4.3-1**

Structural components and fasteners for the containment polar crane (up-kick lugs, overturning locks, positive wheel stops), spent fuel pool bridge crane, auxiliary building crane, and the turbine building crane (fixed, fitted rail yokes, and positive wheel stops and bumpers) identified in Sections 12.2.6 and 12.2.9 of the USAR, are in-scope of License Renewal and subject to an AMR. They are included in the LRA description in Section 2.4.3 which characterized them as miscellaneous load carrying components, and in Table 2.4.3-1 under the component heading, "Cranes – Rails" and "Cranes – Structural Girders." These components are further defined in Table 3.5.2-3 as "Cranes - structural girders (load carrying structural members, welded and bolted connections ....)," and "Cranes -rails (rails and associated welded and bolted connections ....)." Bumpers are considered subcomponents of the crane structural assembly and are not explicitly called out.

**RAI 2.4.7-1**

In LRA Section 2.4.7, the system function listing under code RCV-04, "Reactor Containment Vessels and their internal structures provide shielding against high energy line breaks," indicates scoping under 10 CFR 54.4(a)(2), which corresponds to all non-safety related systems, structures and components, whose failure could prevent satisfactory accomplishment of any of the functions identified in 10 CFR 54.4(a)(1). The comment under this item on LRA page 2.4-38 states that: "Reactor Containment Vessels and their internal structures are designed to withstand the effects of high energy line breaks without loss of function. Reinforced concrete walls and steel structures inside each Reactor Containment Vessel shield safety related equipment from the effects of a HELB." The NRC staff finds that the above stated structures and structural components are generally safety-related and are in scope in accordance with 10 CFR 54.4(a)(1). Please address the inconsistency.

**NSPM Response to RAI 2.4.7-1**

Criterion 10 CFR 54.4(a)(2), as it applies to Code RCV-04 on page 2.4-38 of the LRA, is used to describe the HELB protection function applicable to certain non-safety related concrete and steel structures inside each Reactor Containment Vessel including whip restraints and jet impingement shields whose only function is to provide HELB protection for safety related equipment. NEI 95-10, Appendix F, Section 3.4 states that:

"NSR whip restraints, jet impingement shields, blowout panels, etc., that are designed and installed to protect SR equipment from the effects of a HELB, are within the scope of license renewal per 10 CFR 54.4(a)(2)."

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There are also concrete and steel structures inside the reactor containment vessels that perform a HELB function in combination with safety related functions such as missile protection and structural support to safety related components. In an attempt to avoid confusion, the HELB system function was only used to identify non-safety related structures whose only function is to provide HELB protection for safety related equipment. LRA Table 3.5.2-7 provides a list of safety related concrete and steel structures with multiple functions, one of which is HELB protection.

**RAI 2.4.7-2**

Because of lack of clarity in LRA Tables 2.4.2-1, 2.4.7-1, 3.5.2-2, 3.5.2-7 and the corresponding LRA sections, please indicate where in the LRA are the scoping, screening and AMR results of structural supports (vertical and lateral, as appropriate) for steam generators, reactor coolant pumps and the reactor vessel included. If these structural components were inadvertently not included, please provide their scoping, screening and AMR results, otherwise justify the exclusion.

**NSPM Response to RAI 2.4.7-2**

Supports for the reactor vessels, steam generators, and reactor coolant pumps are identified in the PINGP USAR, Section 12.2.4 and Table 12.2-1, as Class 1 structures consistent with Chapter III.B1.1 of NUREG-1801. LRA Table 3.5.2-2 refers to them by the component type, "Support (... Class 1 vessels, exchangers, and pumps ...)." Only the Unit 2 steam generator supports and the Units 1 and 2 reactor coolant pump supports are installed using high strength bolts, and therefore Table 3.5.2-2 specifically identifies these supports for this application.

LRA Section 2.4.2 includes a list of in-scope component supports which includes pressure vessels, heat exchangers, and pumps, and LRA Table 2.4.2-1 combines all in-scope supports under the component heading, "Support."

**RAI 2.4.8-1**

Please confirm if there are any ductbanks and manholes in the yard that are safety-related or important-to-safety or required for regulated events that may be within the scope of license renewal and subject to an AMR. If there are, please provide their scoping, screening and AMR results.

**NSPM Response to RAI 2.4.8-1**

There are no ductbanks in scope of license renewal, and only one manhole is in scope and subject to an AMR. The single manhole, in scope for the SBO regulated event, is located about 100 feet west of the Security Building. It provides access to splices in the 13.8 kV cables that run from the switchyard to the Cooling Tower Equipment House. License Renewal Boundary drawing LR-193817, entitled, "PINGP Site Layout of the

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Owner Controlled Area,” provides its location (Item 57, coordinate D6). LRA Section 2.4.8 provides a description of the manhole structure, and Table 2.4.8-1 identified its components as “Concrete” and “Steel Components.” Table 3.5.2-8 further defines the concrete portion of the structure as “Concrete (... cable vault...),” and its metal components as “Steel components (... miscellaneous structures/equipment items ...).” The aging effects for the manhole structure are managed by the Structures Monitoring Program based on the results of the AMR.

**RAI 2.4.11-1**

Section 1.3.2 of the UFSAR states that the plant screenhouse houses the cooling water pumps, fire pumps, circulating water pumps, trash racks and traveling screens. Due to lack of clarity in LRA Tables 2.4.11-1 and 3.5.2-11, please confirm the inclusion or exclusion of the trash racks and traveling screens as structural components within the scope of license renewal and subject to an AMR. If they were not included as an oversight, please provide a description of their scoping and AMR. If they are included elsewhere in the LRA, please indicate the location. If they are excluded from the scope of license renewal and AMR, please provide the basis for their exclusion.

**NSPM Response to RAI 2.4.11-1**

The trash racks and traveling screen support components are in scope of License Renewal, and the aging effects are managed by the RG 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants Program. See LRA Table 2.4.11-1 which identifies the components as “Steel Components” and see Table 3.5.2-11 which further defines the components as “Steel components (Screenhouse trash racks, safeguards traveling screen frames, safeguards bay gates, fasteners ...).” The traveling screen portion of the screen assembly is active and therefore, does not require an AMR.