



NOV 13 2007

L-PI-07-085  
10 CFR 50.90

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

Supplement to License Amendment Request (LAR) to Revise Technical Specifications (TS) in Support of Containment Sump Resolution (TAC Nos. MD3811 and MD3812)

Reference 1) License Amendment Request (LAR) to Revise Technical Specifications (TS) in Support of Containment Sump Resolution for the Prairie Island Nuclear Generating Plant, dated December 14, 2006, Accession Number ML063480462.

In Reference 1, Nuclear Management Company, LLC (NMC) submitted an LAR to revise the TS for the Prairie Island Nuclear Generating Plant (PINGP) Units 1 and 2 to revise the reference to "trash racks and screens" in TS 3.5.2, "ECCS [Emergency Core Cooling System] – Operating", Surveillance Requirement (SR) 3.5.2.8 and revise the required Refueling Water Storage Tank (RWST) level in TS 3.5.4, "Refueling Water Storage Tank (RWST)". NMC submits this supplement in accordance with the provisions of 10 CFR 50.90.

The enclosure to this letter contains the licensee's response to NRC requests for additional information on the changes proposed in Reference 1.

The supplemental information provided in this letter does not impact the conclusions of the Determination of No Significant Hazards Consideration and Environmental Assessment presented in the December 14, 2006 submittal.

In accordance with 10 CFR 50.91, NMC is notifying the State of Minnesota of this LAR by transmitting a copy of this letter and enclosure to the designated State Official.

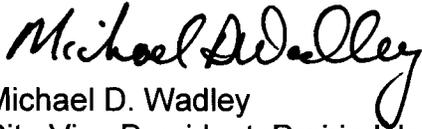
Please address any comments or questions regarding this LAR supplement to Mr. Dale Vincent, P.E., at 651-388-1121.

Summary of Commitments

This letter contains no new commitments and no revisions to existing commitments.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on **NOV 13 2007**



Michael D. Wadley  
Site Vice President, Prairie Island Nuclear Generating Plant Units 1 and 2  
Nuclear Management Company, LLC

Enclosures (1)

cc: Administrator, Region III, USNRC  
Project Manager, Prairie Island, USNRC  
Resident Inspector, Prairie Island, USNRC  
State of Minnesota

## Enclosure

### **NRC Requests for Additional Information:**

**1. A definition of the current licensing basis (e. g., required NPSH satisfied with 50 percent of strainer area obstructed) and confirmation that the current sump configuration, with newly installed strainers conforms to the current licensing basis.**

Nuclear Management Company (NMC) response:

Prior to installation of the containment sump (Sump B) strainers in response to Generic Letter (GL) 2004-02, the Prairie Island Nuclear Generating Plant (PINGP) licensing basis for the sump configuration was defined in the Updated Safety Analysis Report (USAR) statement:

The recirculation sump is completely covered by standard floor grating with  $\frac{3}{4}$  x 3-11/16 inch openings. The size of opening was based on precluding entrance of any large pieces into the sump. Gravity - separation of any entering debris is facilitated by the use of elevated side-wall outlets from the recirculation sump to the residual heat removal pumps. Minimization of screen-clogging debris is accomplished by the use of metallic reflective insulation, specially qualified fiberglass blankets, and protective coatings conforming to ANSI Standard N101.5 (October, 1970) inside the primary containment.

The screens were sized to preclude the entry of large material from entering the downstream Emergency Core Cooling System (ECCS). Due to the hole size, head loss through the screen was not a concern. The original screens were replaced with Sure-Flow ® Strainer assemblies engineered and manufactured by Performance Contracting, Inc. (PCI). The containment sump strainers installed for resolution of GL-2004-02 issues meet the licensing basis criteria of precluding large debris from passing. The new strainers are a much improved design and also preclude most smaller debris from passing through the perforation opening size.

The two trains of strainer modules are connected to a common Sump B pit cover plate that is designed to form a suction chamber in the existing sump pit. Since debris is prevented from entering the sump pit by the cover and strainer design, the sump pit elevated side wall (curb) design feature is met without crediting the side wall.

The PINGP also continues to use metallic reflective insulation and protective coatings conforming to ANSI Standard N101.5 (October, 1970) inside the primary containment which minimizes strainer-clogging debris.

With the original Sump B screens, the Residual Heat Removal (RHR) pumps (the only pumps taking suction from Sump B) were assured an adequate available net positive suction head (NPSH); the NPSH available to the RHR pumps was evaluated for the replacement strainers. The original design basis analysis for the NPSH available to the

Enclosure

RHR pumps was updated to include revisions to the emergency operating procedures when transferring to recirculation. The analysis demonstrated there is positive margin in the NPSH available to the RHR pumps. This margin was used as an input in the Sump B strainer head loss evaluation. These analyses demonstrate that the suction strainers are adequately sized so that the RHR pumps will perform satisfactorily during long term post-loss of coolant accident (LOCA) recirculation. This conclusion is valid for the design bases debris loading case.

This evaluation demonstrates that the new strainer meets the USAR licensing basis for the original sump screens.

### **NRC Requests for Additional Information:**

**2. Address if any pipe reroutes, and pipe support changes or any other modifications are required to accommodate the new strainer assemblies. Provide a summary of these modifications if any and the associated evaluations to establish the structural integrity of the strainer assemblies.**

NMC response:

Installation of the new strainers did not involve rerouting or resupporting any process piping. The modification did involve modification of cable tray supports, capping abandoned piping, and relocation and resupporting of level transmitter standpipes.

Two cable tray supports for Unit 1 and one cable tray support for Unit 2 were modified to accommodate the new strainer installation. The modified cable tray support stresses due to applied cable tray loads were calculated and compared to the allowable stresses per American Institute of Steel Construction (AISC) Allowable Stress Design (ASD) Code, 6<sup>th</sup> and 9<sup>th</sup> Editions and the procedure for Kwik Bolt 3 Concrete Anchor Installation, the applicable Codes. All the support component stresses were less than the Code allowable stresses and found to be acceptable. All structural elements of the modified cable tray supports used to support the existing cable trays, as well as the existing supporting building structure, were acceptable.

An abandoned liquid waste disposal pipe was capped and welded closed inside the sump in each unit. These lines were previously capped on the other end.

Two 6-inch standpipes for the sump level transmitters in both units were relocated to corners of the sump cover plate. In their new location, the standpipes are supported at the sump curb and guided approximately 2.5 feet above the new sump cover plate using new seismic restraints. The instrument stand support stresses due to applied instrument loads were calculated and compared to the allowable stresses per AISC Code and the 2006 Hilti Product Technical Guide Supplement (for Hilti Kwik Bolt 3), the applicable Codes. All support component stresses were less than the Code allowable stresses and found to be acceptable. All structural elements of the instrument supports

Enclosure

and the existing supporting building structure are acceptable. The level transmitter standpipe supports are adequate to withstand the combined effect of dead weight and seismic loads and the level transmitters remain seismically qualified.

**NRC Requests for Additional Information:**

**3. Briefly describe the load combinations that are used in the structural design of the modified sump strainer components and the floor mounted bolted connections.**

NMC response:

The structural design of the sump strainer components and the floor mounted bolted connections is addressed in the PINGP Corrective Actions for Generic Letter 2004-02, Section 5.1 Sump Structural Analysis, issued by the NRC on May 18, 2007 (Accession Number ML071370591).