December 30, 2002

Mr. Mano Nazar
Site Vice President
Prairie Island Nuclear Generating Plant
Nuclear Management Company, LLC
1717 Wakonade Drive East
Welch, MN 55089

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT 2 - OPPORTUNITY FOR COMMENT ON TASK INTERFACE AGREEMENT (TIA) 2001-10, "DESIGN-BASIS ASSUMPTIONS FOR ABILITY OF PRAIRIE ISLAND, UNIT 2, EMERGENCY DIESEL GENERATORS TO MEET SINGLE-FAILURE CRITERIA FOR EXTERNAL EVENTS" (TAC NO. MB2953)

Dear Mr. Nazar:

The Nuclear Regulatory Commission (NRC) staff has completed its review of the subject TIA request dated September 7, 2001, from the NRC's Region III office. This TIA requested the Office of Nuclear Reactor Regulation (NRR) staff's assistance in resolving an issue related to design-basis assumptions for ability of the emergency diesel generators at the Prairie Island Nuclear Generating Plant, Unit 2, to meet single-failure criteria for external events. The purpose of this letter is to provide you with the opportunity to respond to the NRR staff's preliminary conclusions made in the enclosed draft TIA response. In developing the enclosed TIA response, the NRR staff considered your letter dated September 17, 2001, as well as other relevant licensing basis documents.

Our internal procedures encourage the input of licensees or other external stakeholders in order to ensure all relevant information has been considered in responding to a TIA. While you are not required to respond to this letter, your staff has previously indicated a desire to review and comment on the staff's draft TIA response.

If you decide to respond to this letter, we request that your response be provided within 60 days of receipt of this letter. Please feel free to contact me at (301) 415-1446 if you have any questions.

Sincerely,

/RA/

John G. Lamb, Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-306

Enclosure: Response to TIA 2001-10

cc w/encl: See next page

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Units 1 and 2

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OFFICE OF NUCLEAR REACTOR REGULATION STAFF'S RESPONSE

TO TASK INTERFACE AGREEMENT (TIA) 2001-02

"PIPE FAILURE CRITERIA FOR THE COOLING WATER SYSTEM

AT THE PRAIRIE ISLAND NUCLEAR GENERATING STATION"

1.0 BACKGROUND

By memorandum dated September 7, 2001, Region III requested that the Office of Nuclear Reactor Regulation (NRR) resolve an issue related to design-basis assumptions for ability of the Unit 2 emergency diesel generators to meet single-failure criteria for external events. The specific issue involves the Nuclear Management Company's (the licensee's) contention that the original design and licensing basis of the plant does not require mitigation of an external event concurrent with a postulated single failure.

Construction permits for the Prairie Island Nuclear Generating Plant (PINGP), Units 1 and 2, were issued on June 25, 1968. Both units were designed and constructed to comply with the licensee's understanding of the intent of the draft Atomic Energy Commission General Design Criteria as proposed on July 10, 1967. PINGP was originally licensed with only two emergency diesel generators to be shared between both Units 1 and 2. In the early 1990's, as part of the Station Blackout/Electrical Safeguards Upgrade Project, the licensee added two safety-grade emergency diesel generators (designated as D5 and D6) and split the electrical distribution system such that the new diesels served Unit 2 and the existing diesels served Unit 1 (with the ability to cross-tie the diesels to the opposite unit if needed). This modification was done not only to meet the Station Blackout Rule, but also to enhance safety by increasing the redundancy and reliability of the safety-related emergency ac power system.

The TIA 2001-10 requested NRR to address the following question:

From a design and licensing basis perspective for system functional capability, is the Unit 2 emergency [alternating current] ac power system required to meet single-failure criteria for external events such as a flood even though the rest of the plant may not be required to?

2.0 EVALUATION

As indicated in the licensee's "Design Report for the Station Blackout/Electrical Safeguards Upgrade Project, Revision 2" dated September 23, 1993, the subject emergency diesel

generators (D5 and D6) were designed to meet the requirements specified in Title 10 of the Code of Federal Regulations (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," including all Appendices [i.e., Appendix A to Part 50, General Design Criteria (GDC) for Nuclear Power Plants]. GDC 2, "Design bases for protection against natural phenomena," requires that structures, systems, and components important to safety shall be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunami, and seiches without loss of capability to perform their safety functions. GDC 17, "Electric Power system," requires in part that onsite electric power supplies, including the batteries, and the onsite electric distribution system, shall have sufficient independence, redundancy, and testability to perform their safety functions assuming a single-failure.

Therefore, by having independent and redundant trains of a system (i.e., D5 and D6 emergency diesel generators) and qualifying ***both trains*** of the system to withstand the effects of natural phenomena, the system is designed to perform its intended safety functions, coincident with a random single-failure, during a postulated external event. This is consistent with the Nuclear Regulatory Commission (NRC) staff's long-standing position that redundant trains of equipment be protected from external events in order to meet the single-active failure criterion. However, individual exceptions to this requirement may have been accepted under specific conditions and events and these exceptions must be taken on a case-by-case basis.

In its letter dated September 17, 2001, the licensee stated that "it has historically been acceptable to not consider a single-active failure during an external event." The licensee provides the fuel oil transfer pumps for the emergency diesel generators as an example where both pumps (Train A and Train B) are relied upon (one at a time) during a probable maximum flood (with 14-day duration). While the NRC staff recognizes this design limitation for the emergency ac power system to consider a single-active failure during a specific external event (a probable maximum flood), such a long term single-active failure vulnerability cannot be used as a basis for a general exception to the single-active failure considerations during an external event.

3.0 CONCLUSION

Based on the above considerations, the NRC staff concludes that the Unit 2 emergency ac power system should meet the single-failure criterion for external events.