April 11, 2008

L-PI-08-024
10 CFR Part 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

Application for Renewed Operating Licenses

Pursuant to U. S. Nuclear Regulatory Commission (NRC) regulations 10 CFR Parts 50, 51 and 54, the Nuclear Management Company, LLC (NMC) hereby applies for renewal of Facility Operating License Number DPR-42 for the Prairie Island Nuclear Generating Plant (PINGP) Unit 1, and Facility Operating License Number DPR-60 for PINGP Unit 2.

The current Facility Operating Licenses for PINGP Unit 1 and Unit 2 expire at midnight, August 9, 2013, and October 29, 2014, respectively. By this application, NMC requests that both PINGP Facility Operating Licenses be extended for 20 years beyond their current expiration dates to midnight, August 9, 2033 for Unit 1 and October 29, 2034 for Unit 2.

The enclosed Application for Renewed Operating Licenses is submitted in accordance with the applicable requirements of 10 CFR Part 54, Sections 54.17, 54.19, 54.21, 54.22 and 54.23. This application meets the timeliness requirements of 10 CFR 2.109(b) and 10 CFR 54.17(c) and provides the administrative, technical, and environmental information sufficient to support the NRC findings required by 10 CFR 54.29. In accordance with the requirements of 10 CFR 54.21, measures are described which provide assurance that the effects of aging will be adequately managed, consistent with the current licensing basis, for the requested period of extended operation. In some cases, new aging management programs or enhancements to existing programs are described.

Accompanying this application, in accordance with 10 CFR 54.23 and 10 CFR 51, is the Applicant's Environmental Report (ER). During the performance of the environmental review, no new and significant information was identified that would either invalidate NRC Category 1 findings in NUREG-1437 or identify any new issues requiring evaluation. A review of the applicable Category 2 issues determined that the impacts of PINGP license renewal will be small.

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Changes to the current licensing basis that are made subsequent to this application, and which have a material effect on the content of this application, will be identified in amendments to this document in accordance with 10 CFR 54.21(b). Such amendments will be submitted annually while the application is under NRC review, and at least three months prior to the scheduled completion of the NRC review.

By separate correspondence NMC plans to request NRC approval of the transfer of operating authority for the Prairie Island Units 1 and 2 from NMC to the owner of the plant, Northern States Power Company (NSP). If approved, that transfer of operating authority will not have any material effect on the attached License Renewal Application. Because NSP is currently the owner-licensee, corporate information on NSP, including its directors and principal officers, is already included in Section 1 of the License Renewal Application.

Enclosure 1 provides a Compact Disc (CD) containing the LRA and ER as Adobe® PDF files, formatted in a manner that is consistent with "Guidance for Electronic Submissions to the Commission," Revision 3. This CD contains files suitable for entry into the NRC's record retrieval system, ADAMS.

Enclosure 2 provides the list of preliminary regulatory commitments made in this application. As discussed in Enclosure 2, these commitments reflect the contents of the LRA as submitted, but are considered preliminary in that the specific wording of some commitments may change, and additional commitments may be added, during the NRC review. Any other actions discussed in the LRA should be considered intended or planned actions. These other actions are included for informational purposes but are not considered regulatory commitments.

If there are any questions or if additional information is needed, please contact Mr. Eugene Eckholt, License Renewal Project Manager, at 651-388-1121, extension 4137.

Summary of Commitments

This letter includes 35 preliminary commitments. The final commitments, as confirmed by the NRC in the Safety Evaluation Report for the renewed operating licenses, will become effective upon NRC issuance of the renewed operating licenses.

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

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

Enclosures:

1. One (1) Compact Disc of the PINGP License Renewal Application, including the Environmental Report, containing the following files:

   001 Prairie Island LRA.pdf (19,946,342 bytes, publicly available)
   002 Prairie Island ER (TOC-2).pdf (34,205,057 bytes, publicly available)
   003 Prairie Island ER (Chap 3-9).pdf (12,594,926 bytes, publicly available)
   004 Prairie Island ER (Attach A-F).pdf (29,395,523 bytes, publicly available)

2. Preliminary License Renewal Commitments

cc: Mayor, City of Red Wing
President of the Prairie Island Indian Community Tribal Council
Minnesota Department of Commerce
Administrator, Region III, USNRC
License Renewal Project Manager, Prairie Island, USNRC
Operating Reactor Licensing Project Manager, Prairie Island, USNRC
Resident Inspector, Prairie Island, USNRC

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L-PI-08-024

Enclosure 1

Prairie Island Nuclear Generating Plant
License Renewal Application Compact Disk

Enclosure 2
Preliminary License Renewal Commitments

The following table provides the list of preliminary commitments included in the Application for Renewed Operating Licenses (LRA) for Prairie Island Nuclear Generating Plant (PINGP) Units 1 and 2. These commitments reflect the contents of the LRA as submitted, but are considered preliminary in that the specific wording of some commitments may change, and additional commitments may be made, during the NRC review of the LRA.

The final commitments as submitted by NMC, and accepted by NRC, are expected to be confirmed in the NRC's Safety Evaluation Report (SER) for the renewed operating licenses. The final commitments, as confirmed in the SER, will become effective upon NRC issuance of the renewed operating licenses. In addition, as stated in the LRA, the final commitments will be incorporated into the Updated Safety Analysis Report (USAR).

Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
1	Each year, following the submittal of the PINGP License Renewal Application and at least three months before the scheduled completion of the NRC review, NMC will submit amendments to the PINGP application pursuant to 10 CFR 54.21(b). These revisions will identify any changes to the Current Licensing Basis that materially affect the contents of the License Renewal Application, including the USAR supplements.	12 months after LRA submittal date and at least 3 months before completion of NRC review	1.4
2	Following the issuance of the renewed operating license, the summary descriptions of aging management programs and TLAAs provided in Appendix A, and the final list of License Renewal commitments, will be incorporated into the PINGP USAR as part of a periodic USAR update in accordance with 10 CFR 50.71(e). Other changes to specific sections of the PINGP USAR necessary to reflect a renewed operating license will also be addressed at that time.	First USAR update in accordance with 10 CFR 50.71(e) following issuance of renewed operating licenses	A1.0

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Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
3	An Aboveground Steel Tanks Program will be implemented. Program features will be as described in LRA Section B2.1.2.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.2
4	Procedures for the conduct of inspections in the External Surfaces Monitoring Program, Structures Monitoring Program, Buried Piping and Tanks Inspection Program, and the RG 1.127 Inspection of Water-Control Structures Associated with Nuclear Power Plants Program will be enhanced to include guidance for visual inspections of installed bolting.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.6
5	A Buried Piping and Tanks Inspection Program will be implemented. Program features will be as described in LRA Section B2.1.8.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.8
6	The Closed-Cycle Cooling Water System Program will be enhanced to include an internal visual examination of accessible surfaces of components serviced by closed-cycle cooling water when the systems or components are opened during scheduled maintenance or surveillance activities.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.9
7	The Compressed Air Monitoring Program will be enhanced to require that Station and Instrument Air System air quality be monitored and maintained in accordance with the instrument air quality guidance provided in ISA S7.0.01-1996. Particulate testing will be revised to use a particle size methodology as specified in ISA S7.0.01.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.10

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8	An Electrical Cable Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Program will be completed. Program features will be as described in LRA Section B2.1.11.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.11
9	An Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Program will be implemented. Program features will be as described in LRA Section B2.1.12.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.12
10	An Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Used in Instrumentation Circuits Program will be implemented. Program features will be as described in LRA Section B2.1.13.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.13
11	The External Surfaces Monitoring Program will be enhanced as follows: • The scope of the program will be expanded as necessary to include all metallic and non-metallic components within the scope of license renewal that require aging management in accordance with this program. • The program will ensure that surfaces that are inaccessible or not readily visible during plant operations will be inspected during refueling outages. • The program will ensure that surfaces that are inaccessible or not readily visible during both plant operations and refueling outages will be inspected at	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.14

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	intervals that provide reasonable assurance that aging effects are managed such that the applicable components will perform their intended function during the period of extended operation.		
12	The Fire Protection Program will be enhanced as follows: • The program will require functional testing of the halon system smoke detectors in the guardhouse every five years. • The program will require periodic visual inspection of the fire barrier walls, ceilings, and floors to be performed during walkdowns at least once every refueling cycle.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.15
13	The Fire Water System Program will be enhanced as follows: • The program will be expanded to include eight additional yard fire hydrants in the scope of the annual visual inspection and flushing activities. • The program will require that sprinkler heads that have been in place for 50 years will be replaced or a representative sample of sprinkler heads will be tested using the guidance of NFPA 25, "Inspection, Testing and Maintenance of Water-Based Fire Protection Systems" (2002 Edition, Section 5.3.1.1.1). Sample testing, if performed, will continue at a 10-year interval following the initial testing.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.16

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14	The Flux Thimble Tube Inspection Program will be enhanced as follows: • The program will require that the interval between inspections be established such that no flux thimble tube is predicted to incur wear that exceeds the established acceptance criteria before the next inspection. • The program will require that re-baselining of the examination frequency be justified using plant-specific wear rate data unless prior plant-specific NRC acceptance for the re-baselining was received. If design changes are made to use more wear-resistant thimble tube materials, sufficient inspections will be conducted at an adequate inspection frequency for the new materials. • The program will require that flux thimble tubes that cannot be inspected must be removed from service.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.18
15	The Fuel Oil Chemistry Program will be enhanced as follows: • Particulate contamination testing of fuel oil in the eleven fuel oil storage tanks in scope of License Renewal will be performed, in accordance with ASTM D 6217, on an annual basis. • One-time ultrasonic thickness measurements will be performed at selected tank bottom and piping locations prior to the period of extended operation.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.19

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16	A Fuse Holders Program will be implemented. Program features will be as described in LRA Section B2.1.20.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.20
17	An Inaccessible Medium Voltage Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Program will be implemented. Program features will be as described in LRA Section B2.1.21	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.21
18	An Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components Program will be implemented. Program features will be as described in LRA section B2.1.22.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.22
19	The Inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems Program will be enhanced as follows: • Program implementing procedures will be revised to ensure the components and structures subject to inspection are clearly identified. • Program inspection procedures will be enhanced to include the parameters corrosion and wear where omitted.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.23
20	A Metal-Enclosed Bus Program will be implemented. Program features will be as described in LRA Section B2.1.26.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.26
21	For the Nickel-Alloy Nozzles and Penetrations Program, PINGP commits to the following activities for managing the aging of	U1 - 8/9/2013	B2.1.27

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	nickel-alloy components susceptible to primary water stress corrosion cracking: • Comply with applicable NRC orders, and • Implement applicable NRC Bulletins, Generic Letters, and staff-accepted industry guidelines.	U2 - 10/29/2014	
22	The Nickel-Alloy Penetration Nozzles Welded to the Upper Reactor Vessel Closure Heads of Pressurized Water Reactors Program will be enhanced as follows: • The program will require that any deviations from implementing the appropriate required inspection methods of the NRC First Revised Order EA-03-009, "Issue of Order Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized Water Reactors," dated February 20, 2004 (Order), as amended, will be submitted for NRC review and approval in accordance with the Order, as amended. • The program will require that any deviations from implementing the required inspection frequencies mandated by the Order, as amended, will be submitted for NRC review and approval in accordance with the Order, as amended. • The program will require that relevant flaw indications detected during the augmented inspections of the upper vessel head penetration nozzles will be evaluated in	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.28

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	accordance with the criteria provided in the letter from Mr. Richard Barrett, NRC, Office of Nuclear Reactor Regulation (NRR), Division of Engineering to Alex Marion, Nuclear Energy Institute (NEI), dated April 11, 2003, or in accordance with NRC-approved Code Cases that incorporate the flaw evaluation procedures and criteria of the NRC's April 11, 2003, letter to NEI. • The program will require that, if leakage or evidence of cracking in the vessel head penetration nozzles (including associated J-groove welds) is detected while ranked in the "Low," "Moderate," or "Replaced" susceptibility category, the nozzles are to be immediately reclassified to the "High" susceptibility category and the required augmented inspections for the "High" susceptibility category are to be implemented during the same outage the leakage or cracking is detected.		
23	A One-Time Inspection Program will be completed. Program features will be as described in LRA Section B2.1.29.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.29
24	A One-Time Inspection of ASME Code Class 1 Small-Bore Piping Program will be completed. Program features will be as described in LRA Section B2.1.30.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.30
25	For the PWR Vessel Internals Program, PINGP commits to the following activities for managing the aging of reactor vessel internals components:	U1 - 8/9/2011 U2 - 10/29/2012	B2.1.32

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	• Participate in the industry programs for investigating and managing aging effects on reactor internals; • Evaluate and implement the results of the industry programs as applicable to the reactor internals; and • Upon completion of these programs, but not less than 24 months before entering the period of extended operation, submit an inspection plan for reactor internals to the NRC for review and approval.		
26	The Reactor Head Closure Studs Program will be enhanced to incorporate controls that ensure that any future procurement of reactor head closure studs will be in accordance with the material and inspection guidance provided in NRC Regulatory Guide 1.65.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.33

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27	The Reactor Vessel Surveillance Program will be enhanced as follows: • A requirement will be added to ensure that all withdrawn and tested surveillance capsules, not discarded as of August 31, 2000, are placed in storage for possible future reconstitution and use. • A requirement will be added to ensure that in the event spare capsules are withdrawn, the untested capsules are placed in storage and maintained for future insertion.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.34
28	The RG 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants Program will be enhanced as follows: • The program will include inspections of concrete and steel components that are below the water line at the Screenhouse and Intake Canal. The scope will also require inspections of the Approach Canal, Intake Canal, Emergency Cooling Water Intake, and Screenhouse immediately following extreme environmental conditions or natural phenomena including an earthquake, flood, tornado, severe thunderstorm, or high winds. • The program parameters to be inspected will include an inspection of water-control concrete components that	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.35

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	are below the water line for cavitation and erosion degradation. • The program will visually inspect for damage such as cracking, settlement, movement, broken bolted and welded connections, buckling, and other degraded conditions following extreme environmental conditions or natural phenomena.		
29	A Selective Leaching of Materials Program will be completed. Program features will be as described in LRA B2.1.36.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.36
30	The Structures Monitoring Program will be enhanced as follows: • The following structures, components, and component supports will be added to the scope of the inspections: o Approach Canal o Fuel Oil Transfer House o Old Administration Building and Administration Building Addition o Component supports for cable tray, conduit, cable, tubing tray, tubing, non-ASME vessels, exchangers, pumps, valves, piping, mirror insulation, non-ASME valves, cabinets, panels, racks, equipment enclosures, junction boxes, bus ducts, breakers, transformers, instruments, diesel equipment, housings for HVAC fans, louvers, and	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.38

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	dampers, HVAC ducts, vibration isolation elements for diesel equipment, and miscellaneous electrical and mechanical equipment items o Miscellaneous electrical equipment and instrumentation enclosures including cable tray, conduit, wireway, tube tray, cabinets, panels, racks, equipment enclosures, junction boxes, breaker housings, transformer housings, lighting fixtures, and metal bus enclosure assemblies o Miscellaneous mechanical equipment enclosures including housings for HVAC fans, louvers, and dampers o SBO Yard Structures and components including SBO cable vault and bus duct enclosures. o Fire Protection System hydrant houses o Caulking, sealant and elastomer materials o Non-safety related masonry walls that support equipment relied upon to perform a function that demonstrates compliance with a regulated event(s). • The program will be enhanced to include additional inspection parameters. • The program will require an inspection frequency of once every five (5) years for structures and structural components within the scope of the program. The		

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	frequency of inspections can be adjusted, if necessary, to allow for early detection and timely correction of negative trends. • The program will require periodic sampling of groundwater and river water chemistries to ensure they remain non-aggressive.		
31	A Thermal Aging Embrittlement of Cast Austenitic Stainless Steel (CASS) Program will be implemented. Program features will be as described in LRA Section B2.1.39.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.39
32	The Water Chemistry Program will be enhanced to require increased sampling to be performed as needed to confirm the effectiveness of corrective actions taken to address an abnormal chemistry condition.	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.40
33	The Metal Fatigue of Reactor Coolant Pressure Boundary Program will be enhanced as follows: • The program will monitor the six component locations identified in NUREG/CR-6260 for older vintage Westinghouse plants, either by tracking the cumulative number of imposed stress cycles using cycle counting, or by tracking the cumulative fatigue usage, including the effects of coolant environment, using cycle-based or stress-based fatigue usage monitoring. The following locations will be monitored: o Reactor Vessel Inlet and Outlet Nozzles (Cycle	U1 - 8/9/2013 U2 - 10/29/2014	B3.2

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	Counting) o Reactor Pressure Vessel Shell to Lower Head (Cycle Counting) o RCS Hot Leg Surge Line Nozzle (Stress-Based Fatigue Usage Monitoring) o RCS Cold Leg Charging Nozzle (Stress-Based Fatigue Usage Monitoring) o RCS Cold Leg Safety Injection Accumulator Nozzle (Cycle-Based Fatigue Usage Monitoring) o RHR-to-Accumulator Piping Tee (Cycle-Based Fatigue Usage Monitoring) • The program will implement stress-based fatigue usage monitoring for selected locations subject to pressurizer insurge/outsurge transients. The following locations will be monitored: o RCS Hot Leg Surge Line Nozzle (also a NUREG/CR-6260 Location) o Pressurizer Lower Head (Heater Penetrations) o Pressurizer Surge Nozzle o Pressurizer Surge Line Elbow • Program acceptance criteria will be clarified to require corrective action to be taken before a cumulative fatigue usage factor exceeds 1.0 or a design basis transient cycle limit is exceeded.		

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34	Reactor internals baffle bolt fatigue transient limits of 1835 cycles of plant loading at 5% per minute and 1835 cycles of plant unloading at 5% per minute will be incorporated into the Metal Fatigue of Reactor Coolant Pressure Boundary Program and USAR Table 4.1-8.	U1 - 8/9/2013 U2 - 10/29/2014	B3.2
35	PINGP will perform a fatigue evaluation of pressurizer and surge line locations affected by insurge/outsurge transients. This evaluation will determine the cumulative fatigue usage from past operation, accounting for the periods of both "Water Solid" and "Standard Steam Bubble" operating strategies, and will project the cumulative fatigue usage of selected locations for 60 years. Analysis results will be incorporated, as applicable, into the Metal Fatigue of Reactor Coolant Pressure Boundary Program.	U1 - 8/9/2013 U2 - 10/29/2014	4.3.1.3