

April 3, 2009

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

Before the Atomic Safety and Licensing Board

In the Matter of)	
)	Docket Nos. 50-282-LR
Northern States Power Co.)	50-306-LR
)	
(Prairie Island Nuclear Generating Plant,)	ASLBP No. 08-871-01-LR
Units 1 and 2))	

**JOINT MOTION FOR APPROVAL OF SETTLEMENT
AND DISMISSAL OF PIIC CONTENTIONS 1, 6, AND 11**

Pursuant to 10 C.F.R. § 2.338(i), Northern States Power Company, a Minnesota corporation (“NSPM”) and the Prairie Island Indian Community (“PIIC”) (collectively, the “Parties”) hereby move this Atomic Safety and Licensing Board (the “Board”) to approve a settlement of Contention 1, Contention 6, and Contention 11. Based on this settlement, the Parties seek dismissal of these three Contentions. The NRC Staff has reviewed, supports, and consents to this Joint Motion and settlement.

On December 5, 2008, the Board admitted seven contentions submitted by the PIIC, including Contentions 1, 6, and 11. Contention 1 related to the discussion of historic and archaeological resources in the Environmental Report (“ER”). Contention 6 alleged that the License Renewal Application (“LRA”) failed to include a plan to manage aging of containment coatings. Contention 11 alleged that the LRA did not provide sufficient details of the aging management program for flow accelerated corrosion.

On March 4, 2009, NSPM filed an amendment to its ER, which augments the ER's discussion of the archaeological, historical, and cultural resources within and around the Prairie Island Nuclear Generating Plant site and provides additional information about the NSPM actions to identify and protect such resources. A copy of this ER amendment is attached hereto as Exhibit A.

On March 12, 2009, NSPM filed a supplement to its LRA, which (i) adds an aging management program for containment coatings and (ii) expands the description of the flow accelerated corrosion program to address all ten aging management program elements and make explicit the program's consistency with the Generic Aging Lessons Learned ("GALL") Report.¹ A copy of this LRA supplement is attached hereto as Exhibit B.

Following these additions to the ER and LRA, PIIC agreed to withdraw Contentions 1, 6, and 11, provided that both Parties comply with the terms to which they have agreed. A settlement agreement, attached hereto as Exhibit C in accordance with 10 C.F.R. § 2.338(g), sets forth this understanding.

Accordingly, the Parties request that the Board approve this settlement and dismiss Contention 1, Contention 6, and Contention 11. Dismissal of these Contentions is in the public interest because NSPM has taken actions to address the PIIC's concerns, and because the Commission encourages settlement of contested issues in licensing proceedings. 10 C.F.R. § 2.338. As required by 10 C.F.R. § 2.338(g), a proposed consent order is provided as Exhibit D.

¹ NUREG-1801, Generic Aging Lessons Learned Report, Rev. 1 (Sept. 2005).

PIIC's counsel has authorized NSPM to file this Joint Motion on its behalf. As required by 10 C.F.R. § 2.323(b), counsel for NSPM certifies that he has consulted with the other parties before filing this motion, and does so with the support of all parties.

Respectfully Submitted,

/Signed electronically by David R. Lewis/

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Counsel for Northern States Power Co.

Dated: April 3, 2009

Exhibit A



March 4, 2009

L-PI-09-029
10 CFR 51
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

Revisions to Environmental Report 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. This application contained the Applicant's Environmental Report - Operating License Renewal Stage (ER) to assess the environmental impacts of license renewal. This letter provides several changes to the ER.

The ER changes fall into three categories. First, a change is made to reflect the transfer of the operating license from Nuclear Management Company to NSPM. Second, the original Environmental Report's discussion of the archaeological, historical and cultural resources within and around the PINGP property is augmented to provide additional insight into NSPM actions that will further define and protect these resources. Third, updates are provided for PINGP permits and authorizations which have expired or closed since the NRC site visit in August 2008.

Enclosure 1 provides the changes to the ER. Enclosure 2 provides the complete list of Preliminary License Renewal Commitments, updated to reflect the new commitments contained in this letter.

If there are any questions or if additional information is needed, please contact Mr. James Holthaus, Environmental Project Manager.

Summary of Commitments

This letter contains four new Preliminary License Renewal Commitments. These commitments will be implemented prior to entry of the first PINGP Unit into the Period of Extended Operation.

New Preliminary Commitment Number 37 is as follows:

NSPM will revise procedures for excavation and trenching controls and archaeological, cultural and historic resource protection to identify sensitive areas and provide guidance for ground-disturbing activities. The procedures will be revised to include drawings and illustrations to assist users in identifying culturally sensitive areas, and pictures of artifacts that are prevalent in the area of the Plant site. The revised procedures will also require training of the Site Environmental Coordinator and other personnel responsible for proper execution of excavation or other ground-disturbing activities.

New Preliminary Commitment Number 38 is as follows:

NSPM will conduct a Phase I Reconnaissance Field Survey of the disturbed areas within the Plant's boundaries. In addition, NSPM will conduct Phase I field surveys of areas of known archaeological sites to precisely determine their boundaries. NSPM will use the results of these surveys to designate areas for archaeological protection.

New Preliminary Commitment Number 39 is as follows:

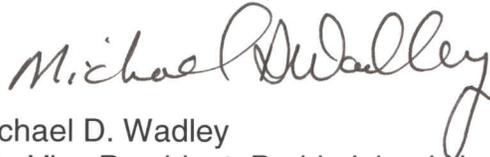
NSPM will prepare, maintain and implement a Cultural Resources Management Plan (CRMP) to protect significant historical, archaeological, and cultural resources that may currently exist on the Plant site. In connection with the preparation of the CRMP, NSPM will conduct botanical surveys to identify culturally and medicinally important species on the Plant site, and incorporate provisions to protect such plants into the CRMP.

New Preliminary Commitment Number 40 is as follows:

NSPM will consult with a qualified archaeologist prior to conducting any ground-disturbing activity in any area designated as undisturbed and in any disturbed area that is described as potentially containing archaeological resources (as determined by the Phase I Reconnaissance Field Survey discussed in New Preliminary Commitment Number 38).

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

Executed on March 4, 2009.



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

Enclosures (2)

cc:

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

Enclosure 1
Changes to Applicant's Environmental Report - Operating License Renewal Stage

Change 1 - Reflect Transfer of Operating Licenses to NSPM

In ER Section 1.1, Introduction and Background, on Page 1-1, a new introductory paragraph is hereby added to read as follows:

On September 22, 2008, the operating license for the Prairie Island Nuclear Generating Plant was transferred from Nuclear Management Company, LLC (NMC) to Northern States Power Company – Minnesota (NSPM). All references to NMC in this Environmental Report should be recognized as NSPM.

The remainder of the section is unchanged.

Change 2 - Augmented Discussion of NSPM Actions to Define and Protect Cultural Resources

ER Sections 4.16.1 and 4.16.2 (excluding the boxed summaries of NRC guidance) are hereby revised in their entirety to read as follows:

4.16.1 Historic and Archaeological Resources – Refurbishment

The NRC has designated the impacts of license renewal (refurbishment) to historic and archaeological resources a Category 2 issue, because determinations of impacts to historic and archaeological resources are site-specific in nature, and the National Historic Preservation Act mandates that impacts must be determined through consultation with the State Historic Preservation Officer (NRC 1996).

As discussed in Section 2.10, the AEC consulted with the State Archaeologist in the course of reviewing the NSP application for a construction permit for PINGP. The AEC did so because previous archaeological surveys in the Mississippi River valley near Red Wing demonstrated that a large number of prehistoric sites were present, and that undisturbed portions of Prairie Island, in particular, contained “many undisturbed burial mounds and a large village habitation by late prehistoric (Mississippian) peoples” (AEC 1973, p. II-28). The State Archaeologist subsequently uncovered parts of this village on the Prairie Island site. This village, later named the Bartron Site, was added to the National Register of Historic Places in 1970 (NPS 2006). In addition to the Bartron Site, surveys in the 1960s and 1980s identified six other archaeological sites at the Prairie Island site.

As a federally licensed facility, PINGP is subject to several federal laws and their enacting regulations designed to identify and protect cultural resources. The most important of these is the National Historic Preservation Act of 1966, as amended. Section 106 of this law requires a cultural resources review of any undertakings sponsored or licensed by the federal government. PINGP follows the 106 review process by reviewing any undertaking that may affect cultural resources, conducting studies as indicated, and consulting with the Minnesota State Historic Preservation Office and other interested parties. The following paragraphs detail PINGP’s efforts to implement the Section 106 process.

Enclosure 1

Changes to Applicant's Environmental Report - Operating License Renewal Stage

NSPM has instituted two corporate procedures to protect cultural resources at NSPM nuclear generating plant sites. The excavation and trenching controls procedure requires a review of any planned excavation (greater than 6 inches deep) to ensure the protection of archaeological and historical resources. The Site Environmental Coordinator or designee is responsible for determining if proposed land-disturbing activity will occur in the vicinity of a culturally-significant site, and if so, for consulting with the qualified archaeologist and SHPO to mitigate potential impacts. The qualified archaeologist is responsible for evaluating any cultural artifacts inadvertently discovered during construction to determine if the material discovered has potential archaeological or historic significance and if so, for reporting it to the SHPO. In any case, the discovery of cultural artifacts at NSPM-owned nuclear plants requires employees to stop work until the Site Environmental Coordinator has evaluated the situation with the qualified archaeologist. Work can resume only after the situation has been addressed, disposition of any material or artifacts has been documented, and it has been determined that identified culturally-significant material is not at risk. These controls ensure that known archaeological/historical sites are avoided and newly-discovered archaeological/historical sites are protected.

The archaeological, cultural and historic resources procedure further defines the responsibilities of the Site Environmental Coordinator and serves as a resource whereby plant employees can access information on the rules and regulations protecting cultural resources and the actions to take in the event of accidental discovery of resources.

To further protect and mitigate any potential impacts to archaeological, cultural, and historic resources, NSPM will revise these procedures to identify sensitive areas and provide guidance for ground-disturbing activities. The procedures will be revised to include drawings and illustrations to assist users in identifying culturally sensitive areas, and pictures of artifacts that are prevalent in the area of the PINGP site. The revised procedures will also require training of the Site Environmental Coordinator and other personnel responsible for proper execution of excavation or other ground-disturbing activities. Training topics will include the review of cultural "exclusion areas" on the plant site (identified during the surveys discussed in Section 4.16.2), artifact identification, situations which would require notification of the State Archaeologist or other technical resource, and the stop-work process.

Based on the Unit 1 SGR project, replacement of Unit 2 steam generators has little potential for disturbing, uncovering, or harming cultural artifacts. Steam generators will be barged up the Mississippi River to the PINGP site and transported to the containment building by a large, all-terrain vehicle (transporter). The transporter will move along an existing aggregate service road that extends from the barge landing, 500 feet east of the Environmental Lab, to the Owner-Controlled Area security fence. The area through which the service road travels was extensively altered during plant construction and is surrounded by buildings, transmission towers, and other infrastructure. Most natural vegetation in the area has been removed and replaced with turf grasses that are mowed during the growing season. Given that the area was cleared and graded for construction of the original units, and that

Enclosure 1
Changes to Applicant's Environmental Report - Operating License Renewal Stage

moving the steam generators to the containment building will require no land disturbance, it is anticipated that Unit 2 SGR will likely have no impact on the area's archaeological or historic resources.

Several temporary buildings may be built, including a facility for preparing the steam generators, office space for construction contractors, and a decontamination building. Warehouse(s) are also expected to be built on site and remain after the steam generator replacement outage. Any construction will occur within the existing plant boundaries. There should be no clearing of previously-undisturbed areas. Additional construction personnel and traffic on area roadways associated with the steam generator replacement project are not expected to impact archaeological or historical sites in the area. Therefore, NSPM concludes that refurbishment activities will not impact cultural resources and no mitigation measures will be warranted beyond those prescribed in NSPM's excavation and trenching controls procedure.

The Unit 2 SGR project is currently expected to be contained within the areas shown on Figure 4.16-1, which limits activities to previously disturbed areas. Section 4.16.2 discusses planned surveys to identify areas of archaeological significance at the plant site. If NSPM later identifies any changes in the expected footprint or facilities that would affect either undisturbed areas or areas identified as having archaeological resources potential, NSPM will consult with a qualified archaeologist and perform additional surveys of such areas prior to any ground-disturbing activities. If there are any concerns regarding impacts to cultural resources from refurbishment activities, NSPM may consult with the Minnesota Historical Society, State Historic Preservation Office, Bureau of Indian Affairs, and PIIC.

Enclosure 1
Changes to Applicant's Environmental Report - Operating License Renewal
Stage



Enclosure 1
Changes to Applicant's Environmental Report - Operating License Renewal Stage

4.16.2 Historic and Archaeological Resources – License Renewal Term

NRC has designated the impacts of license renewal (continuing operation) to historic and archaeological resources a Category 2 issue, because determinations of impacts to historic and archaeological resources are site-specific in nature, and the National Historic Preservation Act mandates that impacts must be determined through consultation with the State Historic Preservation Officer (NRC 1996).

NSPM is not aware of any historic or archaeological resources that have been affected to date by PINGP operations, including operation and maintenance of transmission lines. NSPM is aware, however, that the site vicinity and the surrounding environs have significant potential for containing cultural resources. Additionally, NSPM is aware of cultural resources that have already been found within the Plant's boundaries. Because NSPM is aware of the potential for the discovery of cultural resources during land-disturbing activities at its facilities and along its transmission line corridors, it has developed corporate procedures that protect cultural resources at NSPM owned nuclear generating plant sites and has instituted those procedures at Prairie Island. As noted in Section 4.16.1, NSPM is revising those procedures to include further protections for cultural resources within the Plant's boundaries. Given that NSPM has no plans to construct new license renewal related facilities at PINGP during the license renewal term, and that the policies and procedures established in the site procedures should protect any resources that have been previously identified or inadvertently discovered, NSPM concludes that operation of generation and transmission facilities over the license renewal term will not impact cultural resources.

NSPM is implementing additional efforts to identify, define, and protect the cultural resources present at the facility. Primarily, NSPM will conduct a Phase I Reconnaissance Field Survey of the disturbed areas within the Plant's boundaries. In addition, NSPM will conduct Phase I field surveys of areas of known archaeological sites to precisely determine their boundaries. NSPM will use the results of these surveys to designate areas for archaeological protection. The Phase I Reconnaissance Field Survey will consist of a 100 percent pedestrian survey of disturbed areas at close transects (maximum of 5 meters). There will be no shovel testing, although areas will be identified as candidates for shovel testing. Soil probes will be used to identify disturbed or undisturbed soil horizons. Surveys will identify areas and the degree and type of disturbance. Findings from the field surveys will be documented using photographs, written descriptions, and sketch maps, as needed. Site layout drawings will be prepared to aid employees in identifying archaeological "exclusion areas" to be aware of during planning for excavation activities and will be integrated into the revised procedures discussed in Section 4.16.1.

The surveys discussed above will be the primary method by which NSPM will define the resources present at the PINGP facility. Once this information is obtained, NSPM will integrate it into a Cultural Resources Management Plan (CRMP), which is already under development. NSPM will prepare, maintain, and implement the CRMP to ensure the protection of significant historical,

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Changes to Applicant's Environmental Report - Operating License Renewal Stage

archaeological, and cultural resources that may currently exist on the Plant site. In connection with the preparation of the CRMP, NSPM will conduct botanical surveys to identify culturally and medicinally important species on the Plant site, and incorporate provisions to protect such plants into the CRMP. NSPM conducted the first botanical survey in the fall of 2008. NSPM intends to complete the additional surveys, amendments to procedures, and consultations on a schedule that will allow finalization of the CRMP by the end of 2010 and implementation prior to entry of the first PINGP Unit into the Period of Extended Operation.

Finally, NSPM has retained a qualified archaeologist for consultation on an as-needed basis. NSPM will consult with the archaeologist prior to conducting any ground-disturbing activity in any area designated as undisturbed and in any disturbed area that is described as potentially containing archaeological resources (as determined by the Phase I Reconnaissance Field Survey previously discussed).

Enclosure 1
Changes to Applicant's Environmental Report - Operating License Renewal Stage

Change 3 - Updated Listing of Permits and Authorizations Which Have Expired or Closed Since the NRC Site Visit in August 2008

The following information supersedes selected information in ER Table 9.1-1.

Permitting Agency: Minnesota Department of Natural Resources
Expired Permit Name/Number: Fisheries Management Section Special Permit #14658
Renewed Permit Name/Number: Fisheries Management Section Special Permit #15552
New Expiration Date: December 31, 2009

Permitting Agency: Minnesota Department of Natural Resources
Expired Permit Name/Number: Fisheries Management Section Special Permit #14657
Renewed Permit Name/Number: Fisheries Management Section Special Permit #15553
New Expiration Date: December 31, 2009

Permitting Agency: Minnesota Department of Transportation
Expired Permit Name/Number: Hazardous Materials Shipper Certificate of Registration UPR-211635-MN
Renewed Permit Name/Number: Hazardous Materials Shipper Certificate of Registration UPR-211635-MN
New Expiration Date: October 27, 2009

Permitting Agency: South Carolina Department of Health
Expired Permit Name/Number: Radioactive Waste Transport Permit 0051-22-08X
Renewed Permit Name/Number: PERMIT NOT RENEWED
New Expiration Date: Not Applicable

Permitting Agency: Tennessee Department of Environment and Conservation
Expired Permit Name/Number: Radioactive Shipment License T-MN003-L08
Renewed Permit Name/Number: Radioactive Shipment License T-MN003-L09
New Expiration Date: December 31, 2009

Permitting Agency: Wisconsin Department of Natural Resources
Expired Permit Name/Number: Scientific Collector's Permit SCP-WCR-20-C-08
Renewed Permit Name/Number: Scientific Collector's Permit SCP-WCR-20-C-09
New Expiration Date: December 31, 2009

Permitting Agency: US Fish and Wildlife Service
Expired Permit Name/Number: Federal Fish and Wildlife Permit MB074020-0
Renewed Permit Name/Number: Federal Fish and Wildlife Permit MB074020-0
New Expiration Date: March 31, 2012

Enclosure 2

Updated Preliminary License Renewal Commitment List

16 Pages

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, and any updates provided in subsequent correspondence, 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 NSPM, 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
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,	U1 - 8/9/2013	B2.1.6

Preliminary License Renewal Commitments

Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
	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.	U2 - 10/29/2014	
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 periodic inspection of accessible surfaces of components serviced by closed-cycle cooling water when the systems or components are opened during scheduled maintenance or surveillance activities. Inspections are performed to identify the presence of aging effects and to confirm the effectiveness of the chemistry controls. Visual inspection of component internals will be used to detect loss of material and heat transfer degradation. Enhanced visual or volumetric examination techniques will be used to detect cracking. [Revised in letter dated 1/20/2009 in response to RAI 3.3.2-13-01]	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.9
7	The Compressed Air Monitoring Program will be enhanced as follows: <ul style="list-style-type: none"> • Station and Instrument Air System air quality will 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

Preliminary License Renewal Commitments

Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
	<ul style="list-style-type: none"> • The program will incorporate on-line dew point monitoring. <p>[Revised in letter dated 2/6/2009 in response to Region III License Renewal Inspection]</p>		
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	<p>The External Surfaces Monitoring Program will be enhanced as follows:</p> <ul style="list-style-type: none"> • 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 	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.14

Preliminary License Renewal Commitments

Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
	<p>operations and refueling outages will be inspected at 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.</p> <ul style="list-style-type: none"> • The program will apply physical manipulation techniques, in addition to visual inspection, to detect aging effects in elastomers and plastics. • The program will include acceptance criteria (e.g., threshold values for identified aging effects) to ensure that the need for corrective actions will be identified before a loss of intended functions. • The program will ensure that program documentation such as walkdown records, inspection results, and other records of monitoring and trending activities are auditable and retrievable. <p>[Revised in letter dated 2/6/2009 in response to RAI B2.1.14-1 Follow Up question]</p>		
12	<p>The Fire Protection Program will be enhanced to require periodic visual inspection of the fire barrier walls, ceilings, and floors to be performed during walkdowns at least once every refueling cycle.</p> <p>[Revised in letter dated 12/5/2008 in response to RAI B2.1.15-3]</p>	<p>U1 - 8/9/2013 U2 - 10/29/2014</p>	B2.1.15
13	<p>The Fire Water System Program will be enhanced as follows:</p> <ul style="list-style-type: none"> • The program will be expanded to include eight additional yard fire hydrants in the scope of the annual visual 	<p>U1 - 8/9/2013 U2 - 10/29/2014</p>	B2.1.16

Preliminary License Renewal Commitments

Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
	<p>inspection and flushing activities.</p> <ul style="list-style-type: none"> 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. 		
14	<p>The Flux Thimble Tube Inspection Program will be enhanced as follows:</p> <ul style="list-style-type: none"> 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. 	<p>U1 - 8/9/2013 U2 - 10/29/2014</p>	B2.1.18
15	<p>The Fuel Oil Chemistry Program will be enhanced as follows:</p> <ul style="list-style-type: none"> Particulate contamination testing of fuel oil in the eleven fuel oil storage tanks in scope of License Renewal will be 	<p>U1 - 8/9/2013 U2 - 10/29/2014</p>	B2.1.19

Preliminary License Renewal Commitments

Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
	<p>performed, in accordance with ASTM D 6217, on an annual basis.</p> <ul style="list-style-type: none"> One-time ultrasonic thickness measurements will be performed at selected tank bottom and piping locations prior to the period of extended operation. 		
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	<p>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. Inspections for stress corrosion cracking will be performed by visual examination with a magnified resolution as described in 10 CFR 50.55a(b)(2)(xxi)(A) or with ultrasonic methods.</p> <p>[Revised in letter dated 2/6/2009 in response to RAI B2.1.22-1 Follow Up question]</p>	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.22
19	<p>The Inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems Program will be enhanced as follows:</p> <ul style="list-style-type: none"> 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 	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.23

Preliminary License Renewal Commitments

Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
	include the parameters corrosion and wear where omitted.		
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 nickel-alloy components susceptible to primary water stress corrosion cracking: <ul style="list-style-type: none"> • Comply with applicable NRC orders, and • Implement applicable NRC Bulletins, Generic Letters, and staff-accepted industry guidelines. 	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.27
22	The Nickel-Alloy Penetration Nozzles Welded to the Upper Reactor Vessel Closure Heads of Pressurized Water Reactors Program will be enhanced as follows: <ul style="list-style-type: none"> • 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 	U1 - 8/9/2013 U2 - 10/29/2014	B2.1.28

Preliminary License Renewal Commitments

Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
	<p>for NRC review and approval in accordance with the Order, as amended.</p> <ul style="list-style-type: none"> • The program will require that relevant flaw indications detected during the augmented inspections of the upper vessel head penetration nozzles will be evaluated in 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	U1 - 8/9/2011	B2.1.32

Preliminary License Renewal Commitments

Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
	internals components: <ul style="list-style-type: none"> • 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. 	U2 - 10/29/2012	
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
27	The Reactor Vessel Surveillance Program will be enhanced as follows: <ul style="list-style-type: none"> • 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

Preliminary License Renewal Commitments

Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
28	<p>The RG 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants Program will be enhanced as follows:</p> <ul style="list-style-type: none"> • 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 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. 	<p>U1 - 8/9/2013 U2 - 10/29/2014</p>	B2.1.35
29	<p>A Selective Leaching of Materials Program will be completed. Program features will be as described in LRA B2.1.36.</p>	<p>U1 - 8/9/2013 U2 - 10/29/2014</p>	B2.1.36

Preliminary License Renewal Commitments

Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
30	<p>The Structures Monitoring Program will be enhanced as follows:</p> <ul style="list-style-type: none"> • The following structures, components, and component supports will be added to the scope of the inspections: <ul style="list-style-type: none"> ○ Approach Canal ○ Fuel Oil Transfer House ○ Old Administration Building and Administration Building Addition ○ 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 dampers, HVAC ducts, vibration isolation elements for diesel equipment, and miscellaneous electrical and mechanical equipment items ○ 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 ○ Miscellaneous mechanical equipment enclosures including housings for HVAC fans, louvers, and dampers ○ SBO Yard Structures and components including 	<p>U1 - 8/9/2013 U2 - 10/29/2014</p>	B2.1.38

Preliminary License Renewal Commitments

Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
	<p style="text-align: center;">SBO cable vault and bus duct enclosures.</p> <ul style="list-style-type: none"> ○ Fire Protection System hydrant houses ○ Caulking, sealant and elastomer materials ○ Non-safety related masonry walls that support equipment relied upon to perform a function that demonstrates compliance with a regulated event(s). <ul style="list-style-type: none"> ● 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 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	<p>The Water Chemistry Program will be enhanced as follows:</p> <ul style="list-style-type: none"> ● The program will 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

Preliminary License Renewal Commitments

Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
	<ul style="list-style-type: none"> • The program will require Reactor Coolant System dissolved oxygen Action Level limits to be consistent with the limits established in the EPRI PWR Primary Water Chemistry Guidelines." <p>[Revised in letter dated 12/5/2008 in response to RAI B2.1.40-3]</p>		
33	<p>The Metal Fatigue of Reactor Coolant Pressure Boundary Program will be enhanced as follows:</p> <ul style="list-style-type: none"> • 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. The following locations will be monitored: <ul style="list-style-type: none"> ○ Reactor Vessel Inlet and Outlet Nozzles ○ Reactor Pressure Vessel Shell to Lower Head ○ RCS Hot Leg Surge Line Nozzle ○ RCS Cold Leg Charging Nozzle ○ RCS Cold Leg Safety Injection Accumulator Nozzle ○ RHR-to-Accumulator Piping Tee • 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. <p>[Revised in letter dated 1/9/2009 in response to RAI 4.3.1.1-1]</p>	<p>U1 - 8/9/2013 U2 - 10/29/2014</p>	B3.2

Preliminary License Renewal Commitments

Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
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	NSPM will perform an ASME Section III fatigue evaluation of the lower head of the pressurizer to account for effects of insurge/outsurge transients. The evaluation will determine the cumulative fatigue usage of limiting pressurizer component(s) through the period of extended operation. The analyses will account for periods of both "Water Solid" and "Standard Steam Bubble" operating strategies. Analysis results will be incorporated, as applicable, into the Metal Fatigue of Reactor Coolant Pressure Boundary Program. [Revised in letter dated 1/9/2009 in response to RAI 4.3.1.1-1]	U1 - 8/9/2013 U2 - 10/29/2014	4.3.1.3
36	NSPM will complete fatigue calculations for the pressurizer surge line hot leg nozzle and the charging nozzle using the methodology of the ASME Code (Subsection NB) and will report the revised CUFs and CUFs adjusted for environmental effects at these locations as an amendment to the PINGP LRA. Conforming changes to LRA Section 4.3.3, "PINGP EAF Results," will also be included in that amendment to reflect analysis results and remove references to stress-based fatigue monitoring. [Added in letter dated 1/9/2009 in response to RAI 4.3.1.1-1]	April 30, 2009	4.3.3
37	NSPM will revise procedures for excavation and trenching controls and archaeological, cultural and historic resource protection to identify sensitive areas and provide guidance for ground-disturbing activities. The procedures will be revised to	8/9/2013	ER 4.16.1

Preliminary License Renewal Commitments

Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
	<p>include drawings and illustrations to assist users in identifying culturally sensitive areas, and pictures of artifacts that are prevalent in the area of the Plant site. The revised procedures will also require training of the Site Environmental Coordinator and other personnel responsible for proper execution of excavation or other ground-disturbing activities.</p> <p>[Added in ER revision submitted in letter dated 3/4/2009]</p>		
38	<p>NSPM will conduct a Phase I Reconnaissance Field Survey of the disturbed areas within the Plant's boundaries. In addition, NSPM will conduct Phase I field surveys of areas of known archaeological sites to precisely determine their boundaries. NSPM will use the results of these surveys to designate areas for archaeological protection.</p> <p>[Added in ER revision submitted in letter dated 3/4/2009]</p>	8/9/2013	ER 4.16.2
39	<p>NSPM will prepare, maintain and implement a Cultural Resources Management Plan (CRMP) to protect significant historical, archaeological, and cultural resources that may currently exist on the Plant site. In connection with the preparation of the CRMP, NSPM will conduct botanical surveys to identify culturally and medicinally important species on the Plant site, and incorporate provisions to protect such plants into the CRMP.</p> <p>[Added in ER revision submitted in letter dated 3/4/2009]</p>	8/9/2013	ER 4.16.2
40	<p>NSPM will consult with a qualified archaeologist prior to conducting any ground-disturbing activity in any area designated as undisturbed and in any disturbed area that is described as potentially containing archaeological resources (as</p>	8/9/2013	ER 4.16.2

Preliminary License Renewal Commitments

Commitment Number	Commitment	Implementation Schedule	Related LRA Section Number
	determined by the Phase I Reconnaissance Field Survey discussed in Commitment Number 38). [Added in ER revision submitted in letter dated 3/4/2009]		

Exhibit B



March 12, 2009

L-PI-09-036
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

Supplemental Information 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. This letter amends the LRA to provide supplemental information addressing certain issues that have been raised as contentions in this License Renewal proceeding.

Enclosure 1 contains an updated LRA Section B1.1 which better defines the meaning of the term "Consistent with NUREG-1801" as it relates to the descriptions of Aging Management Programs.

Enclosure 2 contains new LRA Sections A2.41 and B2.1.41, and revisions to Sections 2.1.1.4.3, B1.5 and B2.0, which incorporate a Protective Coating Monitoring and Maintenance Program.

Enclosure 3 contains updated LRA Sections B2.0 and B2.1.17 to reflect adoption of the latest EPRI guidance in the Flow-Accelerated Corrosion Program and provide additional detail in the LRA. Conforming changes to LRA Section 3 are also provided.

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 March 12, 2009.



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

Enclosures (3)

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
Revision to LRA Section B1.1 Regarding Consistency with NUREG-1801

LRA Section B1.1 is hereby revised to define NUREG-1801 Consistency as it relates to the descriptions of Aging Management Programs in Appendix B of the LRA.

LRA Section B1.1 on Page B-1 is revised in its entirety to read as follows:

B1.1 Overview

License Renewal Aging Management Program (AMP) descriptions are provided in this appendix for each program credited for managing aging effects based upon the aging management review results provided in Sections 3.1 through 3.6 of this application. One additional program, the Protective Coating Monitoring and Maintenance Program, has been included because of its importance to debris control following a postulated LOCA, even though the coatings themselves are not relied upon to protect coated carbon steel components.

Two of the programs consist of commitments that conform to the program descriptions provided in NUREG-1801, Sections XI.M11 and XI.M16, and the discussions in the corresponding aging management review line items of NUREG-1801 Chapter IV.

The remaining programs are described in terms of their consistency with NUREG-1801 (GALL Report). The ten generic program elements defined in Appendix A.1, Section A.1.2.3 of NUREG-1800 have been addressed for each AMP. Each of the new or existing AMPs described in this appendix has been evaluated for consistency with the ten program-specific element discussions in the applicable program description in NUREG-1801, Chapter X or XI. This appendix summarizes the evaluation results for each program and indicates whether the program elements are consistent with, consistent with enhancements, or consistent with exceptions, to the corresponding program described in NUREG-1801.

Where the discussion states that a plant program is (or will be) consistent with the recommendations of NUREG-1801, takes no exceptions to NUREG-1801, and identifies no enhancements, such statements constitute certification that (1) the plant program corresponds to and contains all of the elements of the referenced GALL Report program; (2) the conditions at the plant are bounded by the conditions for which the GALL Report program was evaluated to the extent such conditions are specified in the GALL program description; and (3) verifications have been completed and are documented on site in an auditable form. Therefore, based on this certification, the Aging Management Program identified in the GALL Report is being used.

Where the discussion of an Aging Management Program states that the plant program will be consistent with the recommendations of NUREG-1801, takes no exceptions to NUREG-1801, but identifies enhancements, such statements constitute certification that (1) with those enhancements, the plant program corresponds to and contains all of the elements of the referenced GALL Report program; (2) the conditions at the plant are bounded by the conditions for which the

Enclosure 1
Revision to LRA Section B1.1 Regarding Consistency with NUREG-1801

GALL Report program was evaluated to the extent such conditions are specified in the GALL program description; and (3) verifications have been completed and are documented on site in an auditable form. Therefore, based on this certification, the Aging Management Program identified in the GALL Report is being used.

Where the discussion of an Aging Management Program states that the plant program is (or will be) consistent with the recommendations of NUREG-1801 with exception(s), with or without enhancements, such statements constitute certification that (1) with the exclusion of the specific matters identified in each exception, the plant program corresponds to and contains all of the elements of the referenced GALL Report program; (2) the conditions at the plant are bounded by the conditions for which the GALL Report program was evaluated to the extent such conditions are specified in the GALL program description; and (3) verifications have been completed and are documented on site in an auditable form. Therefore, based on this certification, the Aging Management Program identified in the GALL Report is being used, as modified by the exceptions. A justification for each identified exception is provided.

Enclosure 2
Revisions to LRA Sections 2.1.1.4.3, A2.41, B1.5, B2.0 and B2.1.41
to Incorporate a Protective Coating Monitoring and Maintenance Program

The LRA is hereby revised to incorporate a Protective Coating Monitoring and Maintenance Program. The specific LRA changes are as follows:

In LRA Section 2.1.1.4.3 on Page 2.1-8, the last paragraph is revised to read as follows:

The contribution of coatings to containment debris is event driven and is not a result of aging. The applicable coatings are not relied upon to protect coated carbon steel components from corrosion. In addition, the issue is not related to the 40-year term of the current operating license; and therefore, is not a TLAA. However, because the management of containment coatings is important for controlling the amount of debris available to be deposited on containment sump strainers following a LOCA, PINGP has chosen to include a Protective Coating Monitoring and Maintenance Program in LRA Section B2.1.41. PINGP does not credit the Protective Coating Monitoring and Maintenance Program for the prevention of corrosion of carbon steel components. The purpose of the Protective Coating Monitoring and Maintenance Program is to ensure that the amount of coatings that could fail during a LOCA and become debris load on the containment sump B strainers does not exceed the strainers' design limits.

New LRA Section A2.41 is added on Page A-17 to read as follows:

A2.41 Protective Coating Monitoring and Maintenance Program

The Protective Coating Monitoring and Maintenance Program monitors the performance of Service Level I coated surfaces inside containment through periodic coating examinations, condition assessments, and remedial actions including repair or removal. The program provides direction for the procurement of Service Level I coatings and prescribes methods to apply and maintain Service Level I coatings. Records are maintained to ensure that the amount of unqualified or degraded qualified coatings do not exceed the prescribed limits.

PINGP does not credit the Protective Coating Monitoring and Maintenance Program for the prevention of corrosion of carbon steel components. The purpose of the Protective Coating Monitoring and Maintenance Program is to ensure that the amount of coatings that could fail during a LOCA and become debris load on the containment sump B strainers does not exceed the strainers' design limits. The program is implemented as described in the PINGP response to NRC Generic Letter 98-04.

In LRA Section B1.5 on Page B-6, a new item 41 is added to appear as follows:

41. Protective Coating Monitoring and Maintenance Program [Section B2.1.41]

Enclosure 2

Revisions to LRA Sections 2.1.1.4.3, A2.41, B1.5, B2.0 and B2.1.41 to Incorporate a Protective Coating Monitoring and Maintenance Program

In LRA Section B2.0 on Page B-11, line item XI.S8 of the NUREG-1801 program correlation table is revised to appear as follows:

NUREG-1801 ID	NUREG-1801 Program	PINGP Program	NUREG-1801 Comparison
XI.S8	Protective Coating Monitoring and Maintenance Program	Protective Coating Monitoring and Maintenance Program [Section B2.1.41]	Existing Program, Consistent with NUREG-1801

New LRA Section B2.1.41 is added on Page B-82 to read as follows:

B2.1.41 Protective Coating Monitoring and Maintenance Program

Program Description

The Protective Coating Monitoring and Maintenance Program monitors the performance of Service Level I coated surfaces inside containment through periodic coating examinations, condition assessments, and remedial actions including repair or removal. The program provides direction for the procurement of Service Level I coatings and prescribes methods to apply and maintain Service Level I coatings. Service Level I coatings are subject to the requirements of ANSI N101.2-1972, ANSI N101.4-1972, and programmatic controls.

Service Level I protective coatings (identified in Regulatory Guide 1.54 as coatings inside containment) are procured, applied, inspected, and maintained in a manner that is consistent with the licensing basis and regulatory requirements applicable to PINGP as indicated in the plant's response to NRC Generic Letter 98-04. These activities ensure operability of post-accident safety systems which rely on water recycled through the containment sump system. The Protective Coating Monitoring and Maintenance Program implements these activities.

PINGP does not rely upon protective coatings to protect coated carbon steel components from corrosion, and does not credit the Protective Coating Monitoring and Maintenance Program for the prevention of corrosion. The purpose of the Protective Coating Monitoring and Maintenance Program is to ensure that the amount of coatings that could fail during a LOCA and become debris load on the containment sump B strainers does not exceed the strainers' design limits.

NUREG-1801 Consistency

The Prairie Island Nuclear Generating Plant Protective Coating Monitoring and Maintenance Program is an existing program. It is consistent with the recommendations of NUREG-1801, Chapter XI, Program XI.S8, Protective Coating Monitoring and Maintenance Program.

Enclosure 2
Revisions to LRA Sections 2.1.1.4.3, A2.41, B1.5, B2.0 and B2.1.41
to Incorporate a Protective Coating Monitoring and Maintenance Program

Exceptions to NUREG-1801

None

Enhancements

None

Aging Management Program Elements

The elements of the Protective Coating Monitoring and Maintenance Program are described below. The results of an evaluation of each element with respect to the NUREG-1801, Chapter XI Program XI.S8, Protective Coating Monitoring and Maintenance Program, are also provided.

Scope of Program

The Protective Coating Monitoring and Maintenance Program manages the condition of Service Level I coatings inside the Units 1 and 2 reactor containment vessels whose failure could adversely affect the operation of post-accident fluid systems and thereby impair safe shutdown. The scope is consistent with the definition of Service Level I coatings identified in Regulatory Guide 1.54, Revision 1. The condition of coated surfaces inside containment is managed to ensure that post-accident accumulation of failed coating debris on the containment sump B strainers does not exceed the strainers' design limits.

The Protective Coating Monitoring and Maintenance Program monitors the performance of Service Level I coated surfaces inside containment through periodic coating examinations, condition assessments, and remedial actions including repair or removal. The program provides direction on the procurement of Service Level I coatings and prescribes methods to apply and maintain Service Level I coatings. Records are maintained to ensure that the amount of unqualified or degraded qualified coatings do not exceed the prescribed limits. The program was established in accordance with the guidance provided in ASTM D 5163-04a.

This element is consistent with NUREG-1801, Program XI.S8 Element 1, Scope of Program.

Preventive Actions

Although the application of coatings provides a preventive action of corrosion protection, PINGP does not rely upon Service Level I protective coatings inside containment to manage aging of the coated base metal. The program manages the degradation of coatings to ensure that the amount of coatings that could fail

Enclosure 2

Revisions to LRA Sections 2.1.1.4.3, A2.41, B1.5, B2.0 and B2.1.41 to Incorporate a Protective Coating Monitoring and Maintenance Program

during a LOCA and become debris load on the containment sump B strainers does not exceed the strainers' design limits.

This element is consistent with NUREG-1801, Program XI.S8 Element 2, Preventive Actions.

Parameters Monitored/Inspected

In accordance with ASTM D 5163-04a, subparagraph 9.2, the Protective Coating Monitoring and Maintenance Program parameters monitored or inspected include any visible defects, such as blistering, cracking, flaking, peeling, delaminating, rusting, discoloration, and damage, among other indications.

A line by line comparison of ASTM D 5163-05a, subparagraph 10.2, and ASTM D 5163-04a, subparagraph 9.2, indicates that both standards are identical for this discussion. Therefore the use of ASTM D 5163-04a is not considered an exception to NUREG-1801. (Note: NUREG-1801, Program XI.S8 Element 3, Parameters Monitored/Inspected, incorrectly references subparagraph 10.2 in ASTM D 5163-05. This subparagraph does not exist in this revision to the standard. The correct citation would be to ASTM D 5163-05a, subparagraph 10.2.)

This element is consistent with NUREG-1801, Program XI.S8 Element 3, Parameters Monitored/Inspected.

Detection of Aging Effects

A visual inspection is performed inside containment for evidence of degraded qualified coatings during each refueling outage in accordance with the guidance in ASTM D 5163-04a, paragraph 5. Unqualified coatings are all assumed to fail as a result of a LOCA, and their inspection is conducted every other refueling outage to verify the design basis for debris loading of the sump strainers is met.

The qualifications of the individuals who coordinate and perform coating condition assessments or evaluate the inspection results meet or exceed the requirements of ASTM D 5163-04a, paragraph 8.

The development of an inspection plan and the methods of performing the inspection, identified in ASTM D 5163-04a, subparagraph 9.1, are incorporated into the Protective Coating Monitoring and Maintenance Program. The inspection plan provides for visual inspections along with more detailed inspections for certain areas based on their potential to transport debris to the RHR recirculation strainers, potentially plugging the strainers or being ingested into the ECCS. Plant procedures provide requirements for pre-job briefs and post-job critiques. Drawings are used to map out areas inside containment that could be exposed to latent effects from spray or flooding (i.e., Zone of Influence)

Enclosure 2

Revisions to LRA Sections 2.1.1.4.3, A2.41, B1.5, B2.0 and B2.1.41 to Incorporate a Protective Coating Monitoring and Maintenance Program

and areas within a specific distance from postulated breaks where spray would cause destruction of the coatings (i.e., Zone of Destruction). Inspection Data Sheets and photographs are used to record the findings/observations. The program also utilizes ASTM Standards and test methods for evaluating degraded conditions. Instruments and equipment used during the inspection process include flashlight, thickness gages, tape measure, knife, marking pen, binoculars, and camera. A containment coatings assessment report is written to document activities performed to verify that coatings continue to meet the design and licensing basis.

A line by line comparison of ASTM D 5163-05a, subparagraphs 6, 9, 10.1 and 10.5, and ASTM D 5163-04a, subparagraphs 5, 8, 9.1 and 9.5, indicates that both standards are identical for these discussions. Therefore the use of ASTM D 5163-04a is not considered an exception to NUREG-1801. (Note: NUREG-1801, Program XI.S8 Element 4, Detection of Aging Effects, incorrectly references subparagraphs in ASTM D 5163-05 that either do not exist or do not contain the desired content. The correct citation would be to ASTM D 5163-05a, subparagraphs 6, 9, 10.1, and 10.5.)

This element is consistent with NUREG-1801, Program XI.S8 Element 4, Detection of Aging Effects.

Monitoring and Trending

To assist in predicting the degradation process of coatings, the last two previous Containment Coatings Assessment Reports are reviewed prior to each containment coating inspection in order to identify trends. Trending helps to ensure corrective or mitigative actions are taken in a timely manner. This trending process meets the criteria in subparagraph 6.2 of ASTM D 5163-04a.

Inspection results are reviewed and corrective action is taken, including repair, removal, or evaluation for any identified degradation. Degradation that is not repaired or removed is evaluated in accordance with the plant's corrective action process, and degraded coating that is left in place in an area which could add to the volume of failed coatings is added to the Unqualified and Degraded (Qualified) Coatings Log and evaluated. The log compares the current inspection results against the established acceptance criteria and previous assessment results to ensure that the total volume of postulated failed coatings is less than the design limits. This evaluation ensures that the recirculation strainers will not clog from coating debris following a LOCA, and will function as designed satisfying the criteria of subparagraph 10.1.2 of ASTM D 5163-04a.

A line by line comparison of ASTM D 5163-05a, subparagraphs 7.2 and 11.1.2, and ASTM D 5163-04a, subparagraphs 6.2 and 10.1.2, indicates that both standards are essentially identical (except for minor editorial differences) for these discussions. Therefore the use of ASTM D 5163-04a is not considered an

Enclosure 2

Revisions to LRA Sections 2.1.1.4.3, A2.41, B1.5, B2.0 and B2.1.41 to Incorporate a Protective Coating Monitoring and Maintenance Program

exception to NUREG-1801. (Note: NUREG-1801, Program XI.S8 Element 5, Monitoring and Trending, incorrectly references subparagraphs 7.2 and 11.1.2 in ASTM D 5163-05 that either do not exist or do not contain the desired content. The correct citation would be to ASTM D 5163-05a, subparagraphs 7.2 and 11.1.2.)

This element is consistent with NUREG-1801, Program XI.S8 Element 5, Monitoring and Trending.

Acceptance Criteria

The Protective Coating Monitoring and Maintenance Program characterizes, documents, and tests defective or deficient coatings in accordance with subparagraphs 9.2.1 through 9.2.6, 9.3, and 9.4 of ASTM D 5163-04a. These items are summarized as follows.

- **Characterization:** Defective or deficient coated surfaces are characterized as exhibiting blisters, cracking, flaking/peeling/delamination, rusting, and discoloration. If these conditions are identified they are documented per the following instructions.
 - **Blisters**
Measure the area of the blistering and the thickness of the coating in that area. Using ASTM D714 categorize the degree of blistering. Record the information on the Inspection Data Sheet.
 - **Cracking**
Measure the length of the crack or if extensive cracking has occurred, measure the size of the area affected. Determine if the cracking is isolated or is part of a pattern. Record measurements and describe crack depth and pattern on the Inspection Data Sheet. Photograph the area affected.
 - **Flaking/Peeling/Delaminating**
Measure the approximate size of the peels and note the pattern formed. Carefully test to see if lifting can easily be achieved beyond the obvious peeled area. Note observations on the Inspection Data Sheet and photograph the affected area.
 - **Rusting**
Compare with the pictorial standards of ASTM D610/SSPC VIS 2 to determine the degree of rusting. Try to determine the source of rusting (i.e., is it staining from rusting elsewhere or is it a failure of the coating allowing the substrate to rust). Measure the area and thickness of coating in the affected area. Note observations on the Inspection Data Sheet and photograph the area.

Enclosure 2
Revisions to LRA Sections 2.1.1.4.3, A2.41, B1.5, B2.0 and B2.1.41
to Incorporate a Protective Coating Monitoring and Maintenance Program

- Discoloration
Identify areas of discoloration. Measure the area and note observations on the Inspection Data Sheet.

Coating defects are documented in a written report and/or in photographs, and include any applicable measurements of the degraded condition.

- Testing: Additional testing such as ASTM D 4541, Test Method for Pull-off Strength of Coatings Using Portable Adhesion Testers, and ASTM D 6677, Standard Test Method for Evaluation by Knife, are employed for areas where the qualification is in question.

The assessment report includes a summary of the inspected areas and inspections performed. The assessment report also summarizes the amount of unqualified and degraded qualified coatings being left in containment and remedial actions taken; identifies new findings; compares current results against established acceptance criteria and previous assessment results; and includes evaluations of coatings not remediated and failure analysis of degraded coatings. The program requires corrective action (i.e., repair or removal of coating) or an evaluation if the degraded qualified coating is left in place and could add to the volume of failed coatings. The coatings evaluation personnel are knowledgeable and experienced in nuclear coatings work. Coatings evaluation personnel evaluate the Inspection Data Sheets, initiate corrective actions, review trends, and summarize findings of observed conditions and actions taken to correct the conditions.

A line by line comparison of ASTM D 5163-05a, subparagraphs 10.2.1 through 10.2.6, 10.3, 10.4, and 12, and ASTM D 5163-04a, subparagraphs 9.2.1 through 9.2.6, 9.3, 9.4, and 11, indicates that both standards are essentially identical (except for minor editorial differences) for these discussions. Therefore the use of ASTM D 5163-04a is not considered an exception to NUREG-1801. (Note: NUREG-1801, Program XI.S8 Element 6, Acceptance Criteria, incorrectly references subparagraphs in ASTM D 5163-05 that either do not exist or do not contain the desired content. The correct citation would be to ASTM D 5163-05a, subparagraphs 10.2.1 through 10.2.6, 10.3, 10.4, and 12.)

This element is consistent with NUREG-1801, Program XI.S8 Element 6, Acceptance Criteria.

Corrective Actions, Confirmation Process, Administrative Controls

These elements are consistent with the corresponding NUREG-1801, Program XI.S8 aging management program elements. See Section B1.3 for further discussion.

Enclosure 2

Revisions to LRA Sections 2.1.1.4.3, A2.41, B1.5, B2.0 and B2.1.41 to Incorporate a Protective Coating Monitoring and Maintenance Program

Operating Experience

The Protective Coating Monitoring and Maintenance Program is an existing program that incorporates both industry and plant specific operating experience to provide added assurance that the condition of coatings inside containment will be managed effectively during the period of extended operation.

A review of operating experience indicates that the Protective Coating Monitoring and Maintenance Program has been effective in monitoring coatings inside containment by identifying degraded conditions, performing evaluations and corrective actions ensuring that the amount of coatings that could fail during a LOCA and become debris load on the containment sump B strainers does not exceed the strainers' design limits.

Examples of degraded coatings identified during the Unit 1 coatings inspections in May 2006 include:

- Flaking and chipping near the drain at the 695' elevation in zone B over an area of 4 sq ft, and a thickness of 0.028 inches, and
- Flaking and chipping inside the Regenerative Heat Exchanger Room at elevation 695' over an area of 5 sq ft, and a thickness of 0.028 inches.

Examples of degraded coatings identified during the Unit 2 coatings inspections in November 2006 include:

- Flaking on grating below RCS piping in the 21 RCP/SG vault lower level over an area of 6 sq ft, and a thickness of 0.007 inches, and
- Delamination/chipping on the ladder to lower 21 RCP/SG vault of an insignificant area, and a thickness of 0.007 inches.

Examples of degraded coatings identified during the Unit 1 coatings inspections in February 2008 include:

- Cracking on the Sump B platform at elevation 695' of zone A over an area of 0.5 sq ft, and a thickness of 0.028 inches, and
- Flaking on a hanger support at elevation 695' of zone B over an area of 1 sq ft, and a thickness of 0.007 inches.

For the above three examples of degraded coatings inspection findings, corrective action was taken to remove the identified degraded coatings, or for those areas where the degraded coatings were not removed, an evaluation was performed to review the amount of unqualified coatings to ensure that the volume of debris left in containment was less than the calculated limit.

The basis for the program is industry operating experience as documented in NRC Regulatory Guide 1.54 and several NRC Generic Communications

Enclosure 2

Revisions to LRA Sections 2.1.1.4.3, A2.41, B1.5, B2.0 and B2.1.41 to Incorporate a Protective Coating Monitoring and Maintenance Program

including Information Notice 97-13, Generic Letter 98-04, Bulletin 2003-01 and Generic Letter 2004-02. The industry experience cited in these publications deals principally with debris that could block emergency recirculation during a design basis accident. A few examples of minor coating deterioration are cited. Accumulated experience with coatings in other applications shows that high temperature and fluid jet forces can result in detachment from the substrate and disintegration. Therefore, the Regulatory Guide and the program both address the possibility that all unqualified coatings, qualified coatings in the Zones of Destruction and degraded qualified coatings in the Zones of Influence will be transported to the recirculation sump inlet strainers. Program activities and acceptance criteria are based on the postulate that this will occur.

This element is consistent with NUREG-1801, Program XI.S8 Element 10, Operating Experience.

Conclusion

The PINGP Protective Coating Monitoring and Maintenance Program is an existing program that has successfully monitored the performance of coatings inside the containments. Proper maintenance of protective coatings has ensured that the quantities of unqualified and degraded qualified coatings inside the containments are maintained below the acceptance limits, and that post-accident safety systems that rely on water recycled through the containment sump system remain operable.

Implementation of the Protective Coating Monitoring and Maintenance Program provides reasonable assurance that the performance of coatings inside the containments will be monitored effectively during the period of extended operation. Through periodic visual inspections, the program will continue to detect, evaluate, and correct degraded coatings to assure that the recirculation strainers will not clog from coating debris following a postulated design basis event.

Enclosure 3
Revisions to LRA Sections B2.0 and B2.1.17, and Conforming Changes to Section 3 Regarding the Flow-Accelerated Corrosion Program

The LRA is hereby revised to update the Flow-Accelerated Corrosion Program in the LRA to reflect adoption of the latest EPRI guidance (adds an exception to NUREG-1801) and to provide additional detail. The LRA changes are as follows:

In LRA Table 3.1.1 on Page 3.1-29, the second sentence of the Discussion entry for line item 3.1.1-59 is revised to read, "Exceptions apply to NUREG-1801 recommendations for the Flow-Accelerated Corrosion Program implementation and the Steam Generator Tube Integrity Program implementation."

In LRA Table 3.4.1 on Page 3.4-29, the Discussion entry for line item 3.4.1-29 is revised in its entirety to read, "Consistent with NUREG-1801 with exception. Exceptions apply to NUREG-1801 recommendations for the Flow-Accelerated Corrosion Program implementation. This aging effect is managed with the Flow-Accelerated Corrosion Program."

In the LRA 3.x.2 tables, in all cases where the Flow-Accelerated Corrosion Program is cited as the Aging Management Program, Note A is changed to Note B, and Note C is changed to Note D, as applicable. These changes apply to the following tables:

- Table 3.1.2-5 (Steam Generator System) on Pages 3.1-112, -115, and -123
- Table 3.3.2-11 (Heating System) on Pages 3.3-239, -250, -251 and - 252
- Table 3.4.2-2 (Bleed Steam System) on Pages 3.4-52, -53 and -57
- Table 3.4.2-4 (Condensate System) on Pages 3.4-79 and -86
- Table 3.4.2-5 (Feedwater System) on Pages 3.4-91, -94 and -101
- Table 3.4.2-6 (Main Steam System) on Pages 3.4-104, -107, and -108
- Table 3.4.2-7 (Steam Generator Blowdown System) on Page 3.4-115
- Table 3.4.2-8 (Turbine Generator and Support System) on Pages 3.4-138, -139, -160 and -161

In LRA Section B2.0 on Page B-8, line item XI.M17 of the NUREG-1801 program correlation table is revised to appear as follows:

NUREG-1801 ID	NUREG-1801 Program	PINGP Program	NUREG-1801 Comparison
XI.M17	Flow-Accelerated Corrosion	Flow-Accelerated Corrosion Program [Section B2.1.17]	Existing Program, Consistent with NUREG-1801 with Exception

In LRA Section B2.1.17, Flow-Accelerated Corrosion Program, on Pages B-42 and B-43, the existing section is revised in its entirety to read as follows:

Program Description

The Flow-Accelerated Corrosion (FAC) Program is a condition monitoring program established in accordance with the Electric Power Research Institute (EPRI)

Enclosure 3
**Revisions to LRA Sections B2.0 and B2.1.17, and Conforming Changes to
Section 3 Regarding the Flow-Accelerated Corrosion Program**

guidelines in Nuclear Safety Analysis Center (NSAC)-202L-R3 for carbon steel and bronze components containing high-energy single phase or two phase fluids. The program manages loss of material due to flow-accelerated corrosion in piping and components by (a) conducting an analysis to determine critical locations, (b) performing baseline inspections to determine the extent of thinning at these locations, and (c) performing follow-up inspections to confirm the predictions of the rate of thinning, or repairing or replacing components as necessary. This program complies with PINGP's response to NRC Generic Letter 89-08.

NUREG-1801 Consistency

The Prairie Island Nuclear Generating Plant Flow-Accelerated Corrosion Program is an existing program. It is consistent, with exceptions, to the recommendations of NUREG-1801, Chapter XI, Program XI.M17, Flow-Accelerated Corrosion.

Exceptions to NUREG-1801

Program Elements Affected

- **Scope of Program, Detection of Aging Effects**

PINGP implements the guidance provided in EPRI NSAC-202L-R3, "Recommendations for an Effective Flow-Accelerated Corrosion Program," May 2006, in lieu of the NUREG-1801 recommendation of EPRI NSAC-202L-R2, "Recommendations for an Effective Flow-Accelerated Corrosion Program", April 1999. EPRI NSAC-202L-R3 is the most recent revision of this document, and it provides more prescriptive guidance based on the latest industry operating experience. Use of the current guideline is an acceptable method to maintain the FAC-susceptible systems at PINGP.

Enhancements

None

Aging Management Program Elements

The elements of the Flow-Accelerated Corrosion Program are described below. The results of an evaluation of each element with respect to the NUREG-1801, Chapter XI Program XI.M17, Flow-Accelerated Corrosion, are also provided.

Scope of Program

The scope of the PINGP Flow-Accelerated Corrosion (FAC) Program is in accordance with the EPRI guidelines in NSAC-202L-R3 for carbon steel and bronze components containing high-energy single phase or two phase fluids. The program complies with PINGP's response to NRC GL 89-08 and assures

Enclosure 3
Revisions to LRA Sections B2.0 and B2.1.17, and Conforming Changes to
Section 3 Regarding the Flow-Accelerated Corrosion Program

component structural integrity by using procedures, administrative controls and qualified personnel to predict, detect, and monitor wall thinning (loss of material) due to FAC on the internal surfaces of susceptible piping and other components such as fittings, elbows, reducers, expanders, tees, nozzles, heat exchanger components and valve bodies. The program includes (a) conducting an analysis to determine critical locations, (b) performing limited baseline inspections to determine the extent of thinning at these locations, and (c) performing follow-up inspections to confirm the predictions, or repairing or replacing components as necessary. The program uses CHECWORKS to predict component wall thinning and NSAC-202L-R3 to satisfy criteria specified in 10 CFR Part 50, Appendix B, for development of procedures and control of special processes. Susceptible piping and components that can not be adequately modeled in CHECWORKS are qualitatively evaluated, prioritized and ranked based on susceptibility and consequences of failure.

The use of NSAC-202L-R3 is an exception to the NUREG-1801 recommendation which references the use of NSAC-202L-R2. NSAC-202L-R3 is the most recent revision of this document and it provides more prescriptive guidance based on the latest industry operating experience. This revision incorporates lessons learned and new technology that has become available since the previous revision which was published in April 1999. Use of the current guideline is an acceptable method to maintain the FAC-susceptible systems at PINGP.

This AMP consists of PINGP activities that manage aging effects for components of the following systems and/or structures:

- Bleed Steam (BL) System
- Condensate (CD) System
- Feedwater (FW) System
- Heating (HS) System
- Main Steam (MS) System
- Steam Generator Blowdown (SB) System
- Steam Generator (SG) System
- Turbine Generator and Support (TB) System

This element is consistent, with exception, to NUREG-1801, Program XI.M17 Element 1, Scope of Program.

Preventive Actions

The PINGP FAC Program is a predictive analysis, inspection, and verification program; thus, there are no preventive actions. However, secondary water chemistry is monitored to control pH and dissolved oxygen content in accordance with the Water Chemistry Program; and the FAC program includes guidance for the selection of appropriate piping material, geometry, and hydrodynamic conditions, which are all effective means of reducing FAC.

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Revisions to LRA Sections B2.0 and B2.1.17, and Conforming Changes to
Section 3 Regarding the Flow-Accelerated Corrosion Program

This element is consistent with NUREG-1801, Program XI.M17 Element 2, Preventive Actions.

Parameters Monitored/Inspected

The PINGP FAC Program uses CHECWORKS and qualitative evaluations to predict piping and component wall thinning (loss of material) in susceptible components and uses non-destructive examinations to detect and monitor wall thinning by measuring wall thickness.

This element is consistent with NUREG-1801, Program XI.M17 Element 3, Parameters Monitored/Inspected.

Detection of Aging Effects

The PINGP FAC Program generally uses volumetric ultrasonic examinations to detect and monitor wall thinning (loss of material) in susceptible piping and components. The program also allows for the use of radiography, including the use of radiography for small-bore piping. The program utilizes the guidance of NSAC-202L-R3 and identifies susceptible locations using CHECWORKS as well as qualitative evaluations, industry and plant experience, previous inspection results, operating conditions or special considerations, and engineering judgment. The extent and schedule of the examinations assure detection of wall thinning before the loss of intended function.

The use of NSAC-202L-R3 is an exception to the NUREG-1801 recommendation which references the use of NSAC-202L-R2. EPRI NSAC-202L-R3 is the most recent revision of this document and it provides more prescriptive guidance based on the latest industry operating experience. This revision incorporates lessons learned and new technology that has become available since the previous revision which was published in April 1999. Use of the current guideline is an acceptable method to maintain the FAC-susceptible systems at PINGP.

This element is consistent, with exception, to NUREG-1801, Program XI.M17 Element 4, Detection of Aging Effects.

Monitoring and Trending

The PINGP FAC Program uses CHECWORKS and qualitative evaluations to predict piping and component wall thinning (loss of material) in systems susceptible to FAC using specific plant data, including material, hydrodynamic, and operating conditions. CHECWORKS and the qualitative evaluations provide a bounding predictive analysis for FAC. The inspection schedule is based on the predictive analysis and provides reasonable assurance that structural integrity will be maintained between inspections. The inspection results are evaluated to

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Revisions to LRA Sections B2.0 and B2.1.17, and Conforming Changes to
Section 3 Regarding the Flow-Accelerated Corrosion Program

determine if additional inspections are needed to determine the extent of wall thinning, assure that the intended function of the component will not be lost, and identify any corrective actions that may be required.

This element is consistent with NUREG-1801, Program XI.M17 Element 5, Monitoring and Trending.

Acceptance Criteria

PINGP inspection results are input into CHECWORKS to calculate the number of refueling outages remaining before the component reaches the minimum allowable wall thickness. If calculations indicate that an area will reach the minimum allowable wall thickness before the next scheduled outage, the component is repaired, replaced, or reevaluated.

This element is consistent with NUREG-1801, Program XI.M17 Element 6, Acceptance Criteria.

Corrective Actions

Components which do not satisfy the PINGP wall thickness acceptance criteria are repaired, replaced, or reevaluated prior to service. Long-term corrective actions include adjusting operating parameters, selecting materials resistant to FAC or improving piping design and configuration. See Section B1.3 for further discussion.

This element is consistent with NUREG-1801, Program XI.M17 Element 7, Corrective Actions.

Confirmation Process, Administrative Controls

These elements are consistent with the corresponding NUREG-1801, Program XI.M17 aging management program elements. See Section B1.3 for further discussion.

Operating Experience

A review of operating experience for the PINGP FAC Program identified no adverse trends or issues with program performance. Wall thinning has been identified, and the associated components replaced, prior to causing any significant impact to safe operation or loss of intended functions. Recent examples of the identification of wall thinning which did not meet acceptance criteria include locations in Heater Drain System line 2 1/2 -2HD-83 elbow and piping in 2005 and Condenser 2A Drain Header at Penetration #75 in 2006. The affected components were replaced. The review of operating experience indicates the PINGP FAC Program is effective in monitoring and detecting

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Section 3 Regarding the Flow-Accelerated Corrosion Program

degradation and taking effective corrective actions as needed when acceptance criteria are not met.

This element is consistent with NUREG-1801, Program XI.M17 Element 10, Operating Experience.

Conclusion

The Flow-Accelerated Corrosion Program is an existing program for carbon steel and bronze components containing high-energy single phase or two phase fluids. The program has been effective in predicting, detecting, and monitoring components for FAC; and no adverse trends or significant conditions related to these components have been identified.

Implementation of the Flow-Accelerated Corrosion Program provides reasonable assurance that aging effects will be managed such that structures, systems, and components within the scope of this program will continue to perform their intended function(s) during the period of extended operation.

Exhibit C

**SETTLEMENT AGREEMENT AMONG THE PRAIRIE ISLAND INDIAN
COMMUNITY AND NORTHERN STATES POWER CO.
REGARDING CONTENTIONS 1, 6 AND 11**

This Settlement Agreement is made and entered into as of April 1, 2009, by and among the Prairie Island Indian Community ("PIIC") and Northern States Power Co., a Minnesota corporation ("NSPM"), hereinafter referred to collectively as "Parties."

WHEREAS, Nuclear Management Company, LLC, now NSPM, submitted a License Renewal Application, dated April 11, 2008, to the U.S. Nuclear Regulatory Commission ("NRC"), seeking renewal of its license to operate Prairie Island Nuclear Generating Plant, Units 1 and 2 ("the Plant");

WHEREAS, on August 18, 2008, the PIIC petitioned to intervene as a party in the NRC proceeding to renew the operating license of the Plant, and raised a contention relating to the sufficiency of the analysis of historical and archaeological resources contained in the Environmental Report ("PIIC Contention 1"), a contention relating to the sufficiency of the plan described in the License Renewal Application to manage the effects of aging for containment coatings ("PIIC Contention 6"), and a contention relating to the adequacy of the aging management program for flow accelerated corrosion in the License Renewal Application ("PIIC Contention 11");

WHEREAS, by Memorandum and Order dated December 5, 2008, the Atomic Safety and Licensing Board (the "Board") admitted PIIC as a party to the license renewal proceeding and admitted, as limited and reworded by the Board, PIIC Contention 1, PIIC Contention 6, and PIIC Contention 11;

WHEREAS, there was disturbance of certain historic and archaeological resources during the construction of the Plant but, as stated in the Environmental Report, NSPM is not aware of any historic or archaeological resources that have been significantly affected by Plant operations, including operation and maintenance of transmission lines;

WHEREAS, NSPM and the PIIC have continued to discuss NSPM's efforts and the PIIC's concerns related to the protection of cultural, historical and archaeological resources, and NSPM has presented additional information responsive to issues raised in PIIC Contention 1;

WHEREAS, on March 4, 2009, in order to address the PIIC's concerns, NSPM filed with the NRC an amendment to the Environmental Report which included additional discussion of the archaeological, historical, and cultural resources within and around the Plant site and of NSPM's actions to further define and protect such resources;

WHEREAS, PIIC and NSPM both desire to work cooperatively and amicably to protect and preserve cultural, historical and archaeological resources on the Plant site and now desire to resolve and settle PIIC Contention 1;

WHEREAS, on March 12, 2009, NSPM filed with the NRC a supplement to the License Renewal Application describing the aging management program for containment coatings and the aging management program for flow accelerated corrosion;

WHEREAS, PIIC and NSPM further desire to resolve and settle PIIC Contention 6 and PIIC Contention 11;

NOW, THEREFORE, in consideration of the premises and mutual promises herein, PIIC and NSPM agree as follows:

1. As described in the March 4, 2009, amendment to the Environmental Report, NSPM agrees to conduct a Phase I Reconnaissance Field Survey of the disturbed areas within the Plant's boundaries. In addition, NSPM agrees to conduct Phase I field surveys of areas of known archaeological sites, using a GIS or GPS format, to precisely determine their boundaries. The Phase 1 Reconnaissance Field Survey will consist of a 100% pedestrian survey of disturbed areas at close transects (maximum 5 meters). There will be no shovel testing, although areas will be identified as candidates for shovel testing. Soil probes during field surveys will be used to identify disturbed or undisturbed soil horizons. The surveys will identify areas and the degree and type of disturbance. Findings from the field surveys will be documented using photographs, written description, and sketch maps as needed. NSPM will use the results of these surveys to designate areas for archaeological protection. Site layout drawings using the GIS or GPS format will be prepared and maintained to identify archaeological exclusion areas and areas requiring additional archaeological investigation. The Phase I Reconnaissance Field Survey will be completed before the end of 2010. Prior to conducting the Phase I Reconnaissance Field Survey, NSPM will provide the PIIC with a reasonable opportunity to review and provide comments on the survey protocol to be used. NSPM will also allow representatives of the PIIC a reasonable opportunity to observe performance of the Phase I Reconnaissance Field Survey, subject to their compliance with NSPM's Plant site access restrictions. In addition, NSPM will provide the PIIC a reasonable opportunity to review and provide comments on the draft report summarizing the results of the Phase I Reconnaissance Field Survey prior to that report's finalization. With respect to any opportunity for review and comment under this paragraph, PIIC agrees that a ten-day period from receipt is sufficient.

2. NSPM agrees to prepare and implement a Cultural Resources Management Plan ("the Plan") to protect significant historical, archaeological, and cultural resources that may currently exist on the Plant site. The site drawings and maps reflecting the results of the Phase I Reconnaissance Field Survey will be incorporated into the Plan, and its distribution will be controlled and limited to protect this information. In connection with the preparation of the Plan, NSPM will conduct botanical surveys to identify culturally and medicinally important species on the Plant site, and incorporate provisions to protect such plants into the Plan. The Plan will provide reporting guidelines, including an annual report from NSPM to the PIIC regarding any archeological or ground-disturbing activities which have occurred at the Plant site within the previous year, in any

area designated as undisturbed and in any disturbed area that is described as potentially containing archaeological resources as identified in the 2009 Phase 1 Reconnaissance Field Survey. NSPM agrees to work cooperatively with the PIIC in the preparation of the Plan, will provide a draft plan to the PIIC for review and comment, and will meet to discuss resolution of comments prior to finalization of the Plan. NSPM will work diligently with the PIIC to finalize the Plan by the end of 2010.

3. NSPM further agrees to review and revise its Archaeological, Cultural & Historic Resources Procedure and its Excavation & Trenching Controls Procedure to identify sensitive areas and provide guidance for ground-disturbing activities. Procedures will be revised to reference drawings and illustrations in the Cultural Resource Management Plan to assist users in identifying culturally sensitive areas and include pictures of artifacts that are prevalent in the area of the Plant site. NSPM agrees to work cooperatively with the PIIC in the preparation of the revised Procedures and will provide draft Procedures to the PIIC for review and comment.

4. NSPM agrees to provide training to personnel who are responsible for the proper execution of excavation or other ground-disturbing activities – including the Environmental Coordinator, construction lead(s) and any other persons assigned responsibilities for cultural and archaeological protection – on the procedures for protecting cultural and archaeological resources, and on awareness and recognition of such resources. The training module will include review of cultural exclusion areas on the Plant site, artifact identification, notification of the state archaeologist and the PIIC, and the stop work process. The PIIC will be invited to assist in this training by sharing information and perspective on the cultural significance of the area and its resources.

5. NSPM agrees to retain a qualified archaeologist for consultation. NSPM agrees to consult with this archaeologist prior to conducting any ground-disturbing activity in any area designated as undisturbed and in any disturbed area that is described as potentially containing archaeological resources in the results of the Phase 1 Reconnaissance Field Survey. NSPM agrees that it will notify and consult with the PIIC whenever the Site Environmental Coordinator or qualified archaeologist determines to consult with or notify the State Historic Preservation Office. As stated in the amendment to the Environmental Report, the Site Environmental Coordinator is responsible for determining if proposed land-disturbing activity will occur in the vicinity of a culturally-significant site and, if so, for consulting with the State Historic Preservation Office. The qualified archaeologist is responsible for evaluating any cultural artifact discovered during ground disturbing activities to determine potential archaeological or historic significance and if of potential significance ensuring proper reporting to the State Historic Preservation Office.

6. If NSPM identifies any change in the expected footprint of the Unit 2 steam generator replacement project as described in the March 4, 2009 amendment to the Environmental Report that would affect either undisturbed areas or disturbed areas identified as having cultural resources potential, NSPM will notify the PIIC and perform additional surveys of such areas prior to any ground-disturbing activities.

7. NSPM will maintain and implement the Plan and the above-described procedures so long as NSPM owns or controls the Plant site.

8. PIIC and NSPM agree that NSPM has no claim to or ownership of historical or cultural items removed from the Plant site by Dr. Elden Johnson. NSPM and PIIC further agree to work cooperatively to encourage the repatriation of any remains from burial mounds at the Plant site currently in the possession of Hamline University.

9. With reasonable notice, NSPM agrees to allow the PIIC access to the Plant site for the PIIC to conduct any healing or other reparative ceremony it may desire in connection with any adverse impacts to historic or archaeological resources which are currently known or subsequently discovered. PIIC agrees to comply with all safety and security requirements requested by NSPM while on the Plant site.

10. PIIC hereby consents to the dismissal of Contention 1 and agrees to take such other actions as may be reasonably necessary to obtain its dismissal.

11. PIIC agrees that the License Renewal Application supplement filed by NSPM on March 12, 2009, satisfactorily resolves its concerns regarding NSPM's aging management program for containment coatings and aging management program for flow accelerated corrosion.

12. PIIC consents to the dismissal of PIIC Contention 6, and agrees to take such other actions as may be reasonably necessary to obtain its dismissal.

13. PIIC consents to the dismissal of PIIC Contention 11, and agrees to take such other actions as may be reasonably necessary to obtain its dismissal.

14. PIIC and NSPM agree to file a joint motion seeking a Consent Order from the Board approving this Settlement Agreement and dismissing PIIC Contentions 1, 6 and 11.

15. With regard to this Settlement Agreement, NSPM and PIIC expressly waive any and all further procedural steps before the Board or any right to challenge or contest the validity of any order entered by that Board in accordance with this Settlement. The Parties also expressly waive all rights to seek judicial review or otherwise to contest the validity of any order entered by the Board, so long as such order is fully consistent with each provision of this Settlement Agreement.

16. NSPM and PIIC agree that an order entered by the Board in accordance with this Settlement Agreement will have the same force and effect as an order entered after a full hearing.

17. NSPM and PIIC acknowledge this Settlement Agreement resolves the matters identified in this Settlement Agreement that are required to be adjudicated.

18. This Settlement Agreement shall be effective upon the last signature dated below. In the event that the Board disapproves this Settlement Agreement, it shall be null and void.

IN WITNESS WHEREOF, the Parties have caused this Settlement Agreement to be signed by their respective representatives on the dates indicated below.

FOR NORTHERN STATES POWER COMPANY - MINNESOTA

By: Michael D. Wadley 4/12/09
Michael D. Wadley Date
Site Vice President,
Prairie Island Nuclear Generating Plant

FOR THE PRAIRIE ISLAND INDIAN COMMUNITY

By: Ronald Johnson 4-1-09
Ronald Johnson Date
Tribal Council President

Johnry Johnson 4-1-09
Johnry Johnson Date
Tribal Council Vice President

Lucy Taylor 4/1/09
Lucy Taylor Date
Tribal Council Secretary

Victoria Winfrey 4-1-09
Victoria Winfrey Date
Tribal Council Treasurer

Shelley Buck 4-1-09
Shelley Buck Date
Tribal Council Assistant Secretary/Treasurer

EXHIBIT D - PROPOSED CONSENT ORDER

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

William J. Froehlich, Chairman
Dr. Gary S. Arnold
Dr. Thomas J. Hirons

In the Matter of

Northern States Power Co.

(Prairie Island Nuclear Generating Plant,
Units 1 and 2)

Docket Nos. 50-282-LR and 50-306-LR

ASLBP No. 08-871-01-LR

April __, 2009

ORDER

(Approving Settlement and Dismissal of Contentions 1, 6, and 11)

On April 3, 2009, the Northern States Power Co. and the Prairie Island Indian Community (collectively, the "Parties"), with the NRC Staff's support and consent, moved for an order approving settlement and dismissal of Contentions 1, 6, and 11. In accordance with 10 C.F.R. § 2.338(g), the Parties forwarded the settlement agreement and proposed order to this Board.

Consistent with Commission policy to encourage resolution of contested issues in licensing proceedings through settlement, we find dismissal in the public interest. Pursuant to our authority under 10 C.F.R. § 2.338(i), we grant the Joint Motion and dismiss Contentions 1, 6, and 11.

It is so ORDERED.

THE ATOMIC SAFETY
AND LICENSING BOARD

William J. Froehlich, Chairman
ADMINISTRATIVE JUDGE

Dr. Gary S. Arnold
ADMINISTRATIVE JUDGE

Dr. Thomas J. Hirons
ADMINISTRATIVE JUDGE

Rockville, Maryland
April __, 2009

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

Before the Atomic Safety and Licensing Board

In the Matter of)	
)	Docket Nos. 50-282-LR
Northern States Power Co.)	50-306-LR
)	
(Prairie Island Nuclear Generating Plant, Units 1 and 2))	ASLBP No. 08-871-01-LR
)	

CERTIFICATE OF SERVICE

I hereby certify that copies of “Joint Motion for Approval of Settlement and Dismissal of PIIC Contentions 1, 6, and 11” dated April 3, 2009, was provided to the Electronic Information Exchange for service on the individuals listed below, this 3rd day of April, 2009.

Administrative Judge
William J. Froehlich, Esq., Chair
Atomic Safety and Licensing Board
Mail Stop T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
Email: wjf1@nrc.gov

Administrative Judge
Dr. Gary S. Arnold
Atomic Safety and Licensing Board
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/Signed electronically by David R. Lewis/

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