



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
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LISLE, IL 60532-4352

July 22, 2013

Mr. Jim Lynch
Site Vice President
Prairie Island Nuclear Generating Plant
Northern States Power Company, Minnesota
1717 Wakonade Drive East
Welch, MN 55089

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT 1 NRC
POST-APPROVAL LICENSE RENEWAL INSPECTION REPORT
05000282/2013008

Dear Mr. Lynch:

On June 13, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed a Post-Approval Site Inspection for License Renewal at your Prairie Island Nuclear Generating Plant, Unit 1. The enclosed report documents the results of this inspection, which have been discussed on June 13, 2013, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, performed walkdowns, and interviewed personnel.

Based on the sample selected for review, there were no findings of significance identified during this inspection. The team concluded commitments were properly identified, implemented, and completed.

On the basis of the sample selected for review and in consultation with the Division of License Renewal in the Office of Nuclear Reactor Regulation, the NRC concludes that the licensee has completed the necessary commitments for operation into the period of extended operation.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any), will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of

J. Lynch

-2-

NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Benny Jose, Acting Branch Chief
Engineering Branch 2
Division of Reactor Safety

Docket No. 50-282;
License No. DPR-42;

Enclosure: Inspection Report 05000282/2013008
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 05000282
License No: DPR-42

Report No: 05000282/2013008

Licensee: Northern States Power Company, Minnesota

Facility: Prairie Island Nuclear Generating Plant, Unit 1

Location: Welch, MN

Dates: May 20, 2013 – June 13, 2013

Inspectors: T. Bilik, Senior Reactor Engineer (Lead)
J. Neurauter, Senior Reactor Engineer
J. Gilliam, Reactor Engineer
D. Jones, Reactor Engineer
M. Jones, Reactor Engineer

Approved by: Benny Jose, Acting Branch Chief
Engineering Branch 2
Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

Inspection Report (IR) 05000282/2013008; 05/20/13 – 06/13/13; Prairie Island Nuclear Generating Plant, Unit 1; Post-Approval Site Inspection for License Renewal.

The report covers a team inspection conducted by region-based engineering inspectors. The inspectors concluded that commitments, license conditions, and regulatory requirements associated with the issuance of the renewed operating license are being met. The NRC's program for overseeing the Safe Operation of Commercial Nuclear Power Reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealed Findings

No findings were identified.

B. Licensee-Identified Violations

No violations were identified.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA5 Other Activities

.1 Post-Approval Site Inspection for License Renewal (Phase II) – Inspection Procedure 71003

a. Inspection Scope

(1) Review of Newly Identified Structures, Systems, and Components

The inspectors discussed the identification of newly identified Structures, Systems, and Components (SSCs) under the purview of 10 CFR 54.37(b), with the licensee's license renewal staff. The licensee's 10 CFR 54.37(b) review report identified 592 newly identified SSCs. All newly identified components have been assigned to existing Aging Management Programs (AMPS) and appropriate aging management strategies have been invoked to detect and manage the applicable aging effects throughout the period of extended operation. Thirty-two of the newly identified components would not have been addressed under any of the existing tables in the licensee renewal application (LRA) but were subsequently added to the appropriate tables. The list of newly identified SSCs have been included as an enclosure to the last Updated Safety Analysis Report (USAR) update issued November 20, 2012. The inspectors did not identify any deficiencies.

(2) Review of USAR and Commitment Change Process

As part of reviewing the Aging Management Programs (AMPs) associated with the commitments, the inspectors reviewed the USAR descriptions to confirm the implemented programs were consistent with the USAR descriptions.

The inspectors reviewed the licensee's procedures to ensure that commitment revisions would follow the guidance in NEI 99-04, Guidelines for Managing NRC Commitment Changes, including the elimination of commitments, and would properly evaluate, approve, and report changes to license renewal commitments listed in the USAR, in accordance with 10 CFR 50.59. The inspectors reviewed each change associated with the commitment as noted in the next section. No disparities were identified with respect to implementation.

(3) Review of Commitments

The inspectors reviewed supporting documents including completed surveillance records, conducted interviews, and performed walkdowns to verify the licensee completed the necessary actions to comply with the license conditions that are a part of the renewed operating license. The inspectors verified the licensee implemented the AMPs and time-limited aging analyses (TLAA) included in NUREG-1960, "Safety Evaluation Report (SER) Related to the License Renewal of the Prairie Island Nuclear Plant Units 1 and 2," (ML 11235A622), in accordance with Title 10 of the Code of Federal Regulations (CFR) Part 54, "Requirements for the Renewal of Operating Licenses for Nuclear Power Plants." The inspectors verified a selected sample of corrective actions taken to address issues identified during the Prairie Island Unit 1

license renewal Phase I inspection, which was documented in Inspection Report 05000282/2012009.

When changes to these commitments were identified, the inspectors reviewed the Commitment Change Evaluation (CCE) to verify the licensee followed the guidance in NEI 99-04 for the license renewal commitment change process, including the elimination of commitments, and properly evaluated, reported, and approved where necessary, changes to license renewal commitments listed in the USAR, in accordance with 10 CFR 50.59.

The inspectors reviewed the commitments listed below which are referenced to Appendix A of the SER. All Commitment Items were selected except Item 36, which was reported as complete in the SER and therefore, not reviewed. Specific documents reviewed are listed in the Enclosure.

1. Commitment Item 1, Annual Prairie Island Nuclear Generating Plant Amendments to Prairie Island Nuclear Generating Plant Application

Commitment Item 1 specified that each year, following the submittal of the PINGP License Renewal Application and at least three months before the scheduled completion of the NRC review, Nuclear Management Company (NMC) will submit amendments to the Prairie Island Nuclear Generating Plant (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.

The inspectors reviewed the license renewal application annual amendments submitted prior to completion of the NRC review.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 1.

2. Commitment Item 2, TLAA's, License Renewal Commitments, Incorporated into Prairie Island Nuclear Generating Plant USAR

Commitment Item 2 specified that following the issuance of the renewed operating license, the summary descriptions of AMPs 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.

The inspectors verified that the summary descriptions of AMPs and TLAAs provided in Appendix A of the License Renewal Application, and the final list of License Renewal commitments are incorporated into the PINGP USAR.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 2.

3. Commitment Item 3, Above Ground Steel Tanks

Commitment Item 3 states the Above Ground Steel Tanks Program perform visual inspection of accessible external tank surfaces for corrosion. Inaccessible external surfaces (e.g., bottoms of tanks that sit directly on the ground or other support structures) will be inspected by ultrasonic inspection from inside the tank.

The inspectors reviewed the licensing and program basis documents, procedures, work orders, ARs and interviewed the plant personnel responsible for this program. The inspectors reviewed visual and ultrasonic test (UT) inspection results from a sample of tanks.

Based on the review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 3.

4. Commitment Items 4 and 28, RG 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants Program

The Inspection of Water-Control Structures Associated with Nuclear Power Plants Program is an existing program that manages aging effects in water-control structures and components, including bolting, through periodic visual inspections and hydrographic surveys. Program elements include guidance on inspection scope, aids to facilitate the inspection process, criteria used to evaluate the inspection results, guidance on inspection frequency, and documentation requirements. Structures included within the scope of the program are the Screenhouse, Emergency Cooling Water Intake, Intake and Approach Canal.

Commitment Item 4 states, in-part, that the program be enhanced to include guidance for visual inspections of installed bolting.

Commitment Item 28 states the program is enhanced as follows:

- 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, or tornado.
- Include an inspection of water-control concrete components that are below the water line for cavitation and erosion degradation.
- 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.

The inspectors reviewed the licensing and program basis documents, implementing procedures, work orders, ARs, and interviewed the plant personnel responsible for this program.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Items 4 and 28.

5. Commitment Item 5, Buried Piping and Tanks Inspection Program

Commitment Item 5 states the licensee will implement a Buried Piping and Tanks Inspection Program prior to the period of extended operation, as described in LRA, Section B2.1.8. The enhancements to the program are implemented to ensure:

- The program performs visual inspections following excavation of external surfaces of buried piping and associated components (e.g., bolting) for evidence of coating damage and degradation of the underlying carbon steel and cast iron;
- A cathodic protection system is provided as an additional preventive measure, and is maintained at a minimum system availability of 90 percent. Cathodic protection system potential surveys are performed at least annually;
- Representative samples of buried piping, including a minimum of four inspection locations, are inspected every ten-year period of the license renewal term;
- Initial inspections, conducted within the ten years prior to the period of extended operation, will include at least one buried piping segment in each system within the scope of the program. Each inspection will include a minimum of ten linear feet of piping; and
- A minimum of three tank inspections are performed once every ten years, with three tanks inspected in the ten years preceding the period of extended operation.

The program will ensure that all seven buried fuel oil tanks will be inspected over the 30-year period, starting ten years prior to the period of extended operation

The inspectors reviewed the licensing and program basis documents, procedures, work orders, inspection documentation, ARs and interviewed the plant personnel responsible for this program. The inspectors verified implementing documents have been established to implement inspections of the cathodic protection system.

Based on the review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 5.

6. Commitment Item 6, Closed Cycle Cooling Water System Program

Commitment Item 6 states the licensee will implement an enhanced Closed-Cycle Cooling Water System Program prior to the period of extended operation.

The inspectors reviewed the licensing and design basis documents, program documents, work orders, and related ARs. Additionally, inspectors interviewed the plant personnel responsible for this program. The inspectors verified that the program commitments specified in the SER were incorporated into implementing plant procedures and work documents. The inspectors verified program implementing documents were complete and ensure: (1) 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; (2) inspections are performed to identify the presence of aging effects and to confirm the effectiveness of the chemistry controls; (3) visual inspection of component internals will be used to detect loss of material and heat transfer degradation; and (4) enhanced visual or volumetric examination techniques will be used to detect cracking. The inspectors verified the examinations and maintenance activities appropriately implemented these actions.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 6.

7. Commitment Item 7, Compressed Air Monitoring Program

Commitment Item 7 states, that the licensee implement an enhanced Compressed Air Monitoring Program prior to the period of extended operation. The enhancements ensure the 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. Particulate testing will be revised to use a particle size methodology as in ISA S7.0.01. The commitment also specifies the program will be enhanced to incorporate on-line dew point monitoring.

The inspectors reviewed the licensing and program basis documents, implementing procedures, work orders, and ARs. Additionally, the inspectors interviewed the plant personnel responsible for this program. The system air quality, particulate size testing, and online dew point monitoring were incorporated into program implementing documents.

Based on the review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 7.

8. Commitment Item 8, Electrical Cable Connections Not Subject to 10 CFR 50.49 Program

Commitment Item 8 states the licensee will develop a new program that is consistent, with exceptions, to NUREG-1801, "Aging Management Program (AMP) XI.E6" for electrical cables and connections installed in adverse localized environments not subject to 10 CFR 50.49 environmental qualification (EQ) requirements.

The licensee developed a program which conducts an one time test of a representative sample of electrical connections to confirm the absence of aging effects.

The inspectors interviewed the program owner, reviewed licensing and program basis documentation, procedures, work orders, and records of walk downs for determining adverse localized environments, and visual inspections for cables. The inspectors also reviewed corrective actions, which addressed and identified cable issues and their associated corrective actions.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 8.

9. Commitment Item 9, Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Program

Commitment Item 9 states the licensee will develop a program that is consistent with NUREG-1801, AMP XI.E1 for electrical cables and connections installed in adverse localized environments not subject to 10 CFR 50.49 EQ requirements.

The licensee developed a program to visually inspect a representative sample of accessible electrical cables and connections installed in adverse localized environments to confirm insulation integrity. The program will also help to ensure that the applicable electrical components will perform their intended functions.

The inspectors interviewed the program owner, reviewed licensing and program basis documentation, ARs, procedures, work orders, and records of walk downs for determining adverse localized environments, and visual inspections for cables.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 9.

10. Commitment Item 10, Electrical Cables and Connections Not Subject to 10 CFR 50.49 EQ Requirements Used in Instrumentation Circuits

Commitment Item 10 states the licensee will develop a program that is consistent with NUREG-1801, AMP XI.E2 for electrical cables and connections used in instrumentation circuits exposed to adverse localized environments, not subject to 10 CFR 50.49 EQ requirements. The program includes periodic testing and review of surveillance data to manage the aging effect of reduced insulation resistance on non-EQ sensitive instrumentation circuit cables and connections.

The inspectors interviewed the program owner, reviewed the licensing and program basis documents, procedures, work orders, and related corrective actions.

Based on the review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 10.

11. Commitment Item 11, External Surfaces Monitoring Program

Commitment Item 11 states the licensee will implement an enhanced External Surfaces Monitoring Program prior to the period of extended operation. The inspectors reviewed the enhancements to verify: (1) the scope of the program was 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; (2) the program ensures surfaces that are inaccessible or not readily visible during plant operations will be inspected during refueling outages; (3) the program will ensure surfaces that are inaccessible, or not readily visible during both plant 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; (4) the program will apply physical manipulation techniques, in addition to visual inspection, to detect aging effects in elastomers and plastics; (5) the program includes acceptance criteria (e.g., threshold values for identified aging

effects) to ensure the need for corrective actions will be identified before a loss of intended function; (6) the program ensures program documentation, such as walkdown records, inspection results; and other records of monitoring and trending activities are auditable and retrievable.

The inspectors reviewed the licensing and program basis documents, procedures, work orders, ARs, and interviewed the plant personnel responsible for this program. The inspectors verified the program enhancements, program commitments to ensure all have been incorporated into implementing plant procedures.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 11.

12. Commitment Item 12, Fire Protection Program

Commitment Item 12 specified the licensee has an existing Fire Protection Program, with enhancements, that is consistent with NUREG-1801, AMP XI.M26. The Fire Protection Program was 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.

The inspectors interviewed the program owner, reviewed the licensing and program basis document, procedures, work orders, and corrective actions. During review of the scheduled frequency of the enhanced inspections, inspectors identified the inspection, which takes credit for the license renewal commitment was scheduled every 18 months with a 25 percent grace period attached to it. The inspectors were concerned that the potential of the inspection not meeting the committed frequency. The licensee initiated AR 01386211 to address this issue.

Based on the review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 12.

13. Commitment Item 13, Fire Water System

Commitment Item 13 is an existing Fire Water System Program, with enhancements, that is consistent with NUREG-1801, AMP XI.M27. The Fire Protection Program has been enhanced to add additional areas to the scope of the annual visual inspection and flushing activities, and replace sprinkler heads that have been in service for 50 years.

The inspectors interviewed the program owner, reviewed the licensing and program basis documents, procedures, work orders, and corrective actions. During review of the scheduled frequency of the enhanced inspections, inspectors identified the inspection which takes credit for the license renewal commitment was scheduled for every 12 months with a 25 percent grace period attached to it. The inspectors were concerned that the potential of the inspection not meeting the committed frequency. The licensee initiated an AR 01386211 to address this issue. During the Period of Extended Operation, the inspectors also reviewed action items, which track sprinkler replacements before they hit the 50-year replacement period.

Based on the review of the timeliness and adequacy of the licensee's actions, the inspectors determined whether the licensee met Commitment Item 13.

14. Commitment Item 14, Flux Thimble Tube Inspection Program

The Prairie Island Nuclear Generating Plant Flux Thimble Tube Inspection Program manages the loss of material due to wear on the in-core instrument thimble tubes. The flux thimble tubes provide a path for the in-core flux monitoring detectors and form part of the reactor coolant pressure boundary. The program conducts periodic inspections to monitor thinning of the flux thimble tube wall through eddy current testing. The program provides evaluation and trending of inspection results and appropriate corrective actions.

Commitment Item 14 states the Flux Thimble Tube Inspection Program will be enhanced as follows:

- The program will require the interval between inspections are 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 the examination frequency be justified, using plant-specific wear rate data unless prior plant-specific NRC acceptance for re-baselining have been 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; and
- The program will require that flux thimble tubes that cannot be inspected must be removed from service.

The inspectors reviewed the program basis document, procedures, work orders, ARs and interviewed the plant personnel responsible for this program. The inspectors verified the program and program enhancements were in place.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 14.

15. Commitment Item 15, Fuel Oil Chemistry Program

Commitment Item 15 specified the Fuel Oil Chemistry Program (FOCP) would be enhanced prior to the period of extended operation. Enhancements to the FOCP ensure: (1) particulate contamination testing of fuel oil in the 11 fuel oil storage tanks in-scope of License Renewal will be performed, in accordance with American Society for Testing and Materials (ASTM) D6217, on an annual basis; and (2) One-Time ultrasonic thickness measurements will be performed at selected tank bottom and piping locations.

The inspectors reviewed the licensing and program basis documents, procedures, work orders, ARs, and interviewed the plant personnel responsible for this program. The inspectors verified the program enhancements were complete through review of commitment implementing documents for: (1) particulate contamination testing of fuel oil in the 11 fuel oil storage tanks in-scope of license renewal (recurring); (2) external UT on select tank bottom locations on one of the vaulted fuel oil storage tanks for the Unit 2 emergency diesel generators; (3) internal tank cleaning, visual inspection and internal UT on select bottom locations on one of the Unit 1 emergency diesel generator underground storage tanks; and

(4) internal tank cleaning, visual inspection, and internal UT on select bottom locations of the diesel driven cooling water pump fuel oil storage tank. Comparable areas of the tank will be inspected to provide a basis for trend evaluation; (5) external UT on select bottom locations on four of the seven diesel fuel oil day tanks; (6) external UT on select bottom locations of one of the two D1/D2 clean fuel oil storage tanks; and (7) external UT on select piping locations typically considered low flow/stagnant areas.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 15.

16. Commitment Item 16, Fuse Holders Program

Commitment Item 16 states the licensee will develop a program that is consistent with NUREG-1801, AMP XI.E5.

The licensee developed a Condition Monitoring Program, which implements periodic visual inspections and test on fuse holders, in scope of license renewal, which are located in passive enclosures and assemblies, and exposed to environments that could potentially lead to electrical failures if left unmanaged.

The inspectors interviewed the program owner, reviewed licensing and program basis documentation, ARs, procedures, work orders, and thermography inspections and results.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 16.

17. Commitment Item 17, Inaccessible Medium Voltage Cables Not Subject to 10 CFR 50.49 Environmental Qualification

Commitment Item 17 states licensee will develop a program that is consistent with NUREG-1801, AMP XI.E3 for inaccessible medium and low voltage cables not subject to 10 CFR 50.49, Environmental Qualification.

The licensee developed a program, that periodically test exposure to significant moisture, as well as inaccessible low and medium voltage power cables within the scope of the license renewal. The program also includes actions to limit the exposure of in-scope inaccessible low and medium voltage power cables to long term significant moisture, through periodic manhole and pull box inspections, for water accumulation, and draining of water, as needed.

The inspectors interviewed the program owner, reviewed the licensing and program basis documents, work orders, and corrective actions. Implementing procedures were also reviewed to verify the licensee updated their flooding procedures to include steps to check manholes and pull boxes during times of significant flood or rain.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 17.

18. Commitment Item 18, Inspection of Internal Surfaces of Miscellaneous Piping and Ducting Components Aging Management Program

The Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components Program is a new condition monitoring program that performs visual inspections of the internal surfaces of mechanical components within the scope of License Renewal not covered by other aging management programs. The internal inspections are performed during scheduled preventive and corrective maintenance activities, or during other routinely scheduled tasks such as surveillance procedures, when internal surfaces are made accessible for inspections. The program inspections are performed to provide assurance that existing environmental conditions are not resulting in degradation that could result in a loss of component intended functions.

Commitment Item 18 states, an inspection of internal surfaces of miscellaneous piping and ducting components AMP will be implemented. The 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.

The inspectors reviewed the license renewal application, program basis documents, implementing documents, and interviewed the plant personnel responsible for this program.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 18.

19. Commitment Item 19, Inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems Program

The inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems Program is an existing program that manages the aging effect of loss of material due to corrosion and wear for crane rails, structural girders, beams, special lifting devices, and welded and bolted connections of load handling systems, within the scope of License Renewal.

Commitment Item 19 states the program will be enhanced as follows:

- Program implementing procedures will be revised to ensure the components and structures subject to inspection are clearly identified; and
- Program inspection procedures will be enhanced to include the parameters corrosion and wear, where omitted.

The inspectors reviewed the licensing and program basis documents, procedures, work orders, condition reports, and interviewed the plant personnel responsible for this program.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 19.

20. Commitment Item 20, Metal-Enclosed Bus Program

Commitment Item 20 states the licensee will develop a program that is consistent with NUREG-1801, AMP XI.E4 for the interiors of the non-segregated 4160V phase bus between station offsite source auxiliary transformers and plant bus.

The licensee developed a condition monitoring program that inspects a representative sample of the in scope components. The program manages the aging effect of reduction of installation resistance in insulation components, loose connections, and corrosion from moisture or debris intrusion in non-segregated bus ducts.

The inspectors interviewed the program owner, reviewed licensing and program basis documentation, corrective actions, implementing procedures, work orders, and thermography inspections and results.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 20.

21. Commitment Item 21, Nickel-Alloy Nozzles and Penetrations Program

Commitment Item 21 has been withdrawn according to, (Revision Letter dated March 27, 2009).

22. Commitment Item 22, Nickel-Alloy Penetration Nozzles Welded to the Upper RV Closure Head of Pressurized Water Reactors (PWRs) Program

Commitment Item 22 has been withdrawn by the licensee in the Annual Update of the Application for Renewed Operating License (L-PI-09-043), dated April 13, 2009. The withdrawal of the commitment was a result of the replacement of the Unit 1 reactor head, which incorporated Nickel-Alloy 690 for each of the penetration nozzles instead of the Nickel-Alloy 600 utilized in the previous heads. Inspections for the upper reactor vessel head surface and each nickel alloy reactor head penetration nozzle are being implemented, in accordance with the requirements of the American Society of Mechanical Engineers (ASME) Code Case N-729-1.

23. Commitment Item 23, One-Time Inspection Program

Commitment Item 23 states a One-Time Inspection Program (OTIP) is developed to perform inspections of other Aging Management Programs to verify unacceptable material degradation is not occurring in areas exposed to oil, steam, treated water, or other environments where significant degradation is not expected to occur. The OTIP addressed potentially long incubation periods for certain aging effects and has verified that these aging effects are either, not occurring or are progressing so slowly as to have negligible effect on the intended function of the structure or component.

The inspectors reviewed the licensing and program basis documents, procedures, work orders, related ARs, and interviewed the plant personnel responsible for this program.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 23.

24. Commitment Item 24, One-Time Inspection of American Society of Mechanical Engineers Code Class 1 Small Bore-Piping Program

Commitment Item 24 states an one-time inspection of American Society of Mechanical Engineers (ASME) Code Class 1 Small-Bore Piping Program will be completed. The program features is as described in LRA Section B2.1.30. More specifically:

- An one-time inspection of ASME Code Class 1, Small-Bore Piping Program will be completed prior to the period of extended operation except as noted in Part B of this commitment. The program features will be described in LRA Section B2.1.30. The following examinations of ASME Code Class 1 small-bore piping socket welds will be performed prior to the period of extended operation: Volumetric examinations of two socket welds on Unit 1 and three socket welds on Unit 2; or Destructive Examination of two socket welds per Unit; and
- Socket weld examinations required by the one-time inspection of ASME Code Class 1, Small-Bore Piping Program, not performed prior to the period of extended operation, will be performed within three years of each Unit entering the period of extended operation.

The inspectors interviewed the program owner, reviewed the licensing and program basis documentation, and completed work orders indicating the UT examinations have been completed.

Based on the review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 24.

25. Commitment Item 25, PWR Vessel Internals Program

Commitment Item 25 originally states that for the Pressurized Water Reactor (PWR) Vessel Internals Program, the licensee committed to the following activities for managing the aging of reactor vessel internal components:

- Participate in the industry programs for investigating and managing aging effects on reactor internals;
- Evaluate and implement the results of industry programs, as applicable to the reactor internals;
- Upon completion of these programs, but not less than 24 months before entering; and
- The period of extended operation, submit an inspection plan for reactor internals to the NRC for review and approval. The licensee will implement an enhanced Reactor Vessel Internals (RVI) Program prior to the period of extended operation.

By letter to the NRC, dated May 12, 2009, the licensee amended the LRA and revised the commitment to read as follows:

- A PWR Vessel Internals Program will be implemented. The program features will be described in LRA Section B2.1.32. The program will be implemented prior to the period of extended operation; and
- An inspection plan for reactor internals will be submitted for NRC review and approval at least 24 months prior to the period of extended operation.

Then, by letter to the NRC, dated June 24, 2009, as a response to follow up request for additional information (RAI) B2.1.38, the commitment was revised to read as follows:

- A PWR Vessel Internals Program will be implemented. Program features will be described in LRA Section B2.1.32. The program will be implemented prior to the period of extended operation.
- An inspection plan for reactor internals will be submitted for NRC review and approval at least 24 months prior to the period of extended operation. In addition, the submittal will include any necessary revisions to the PINGP scoping, screening and aging management review results for reactor internals, to conform to the NRC-approved Inspections and Evaluation Guidelines.

Lastly, by letter to the NRC, dated August 8, 2011, Part B of the commitment has been revised by a commitment change to read as follows:

- An inspection plan for reactor internals will be submitted for NRC review and approval no later than October 1, 2012. In addition, the submittal will include any necessary revisions to the PINGP PWR Vessel Internals Program, as well as any related changes to the PINGP scoping, screening, and aging management, review results for reactor internals, to conform to NRC-approved Inspection and Evaluation Guidelines.
- The inspectors reviewed procedures, program basis documents, commitment change evaluation, ARs, and interviewed the plant personnel responsible for this program.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 25.

26. Commitment Item 26, Reactor Head Closure Studs Program

Commitment Item 26 specified the implementation of inservice inspection of the reactor vessel head closure studs. The program incorporates controls which ensure procurement of reactor head closure studs will be, in accordance with the material and inspection guidance provided in NRC Regulatory Guide 1.65.

The inspectors reviewed the licensing and program basis documents, implementing procedures, work orders, ARs, and interviewed plant personnel responsible for this program.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 26.

27. Commitment Item 27, Reactor Vessel Surveillance Program

The Reactor Vessel Surveillance Program is an existing program that manages the reduction of fracture toughness of the reactor vessel due to neutron embrittlement using monitoring methods, in accordance with 10 CFR Part 50, Appendix H, "Reactor Vessel Material Surveillance Program Requirements." This program ensures the reactor vessel materials meet fracture toughness requirements and have adequate margin against brittle fracture caused by pressurized thermal shock. Commitment Item 27 specified the licensee save and store all withdrawn and tested surveillance capsules and withdrawn, untested spare capsules.

The inspectors reviewed the licensing and program basis documents, procedures, work orders, related ARs, and interviewed plant personnel responsible for this program.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 27.

28. Commitment Item 28, See Commitment Item 4

29. Commitment Item 29, Selective Leaching of Materials Program

Commitment Item 29 states the implementation of an one-time Selective Leaching of Materials Program. However, when examinations indicated that the selective leaching aging mechanism was present, the licensee implemented a continuing Selective Leaching of Materials Program (USAR change 01372330).

The inspectors reviewed the licensing and program basis documents, implementing procedures, work orders, ARs, interviewed the plant personnel responsible for this program.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 29.

30. Commitment Item 30, Structures Monitoring Program

Commitment Item 30 states the Structures Monitoring Program will be enhanced prior to the period of extended operation as follows:

The licensee committed to add the following structures, components, and component supports to the scope of the inspections:

- 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 heating, ventilation, and air conditioning (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, wire-way, 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;
- Station Black Out (SBO) yard structures and components including SBO cable vault and bus duct enclosures;
- Fire Protection System hydrant houses;
- Caulking, sealant and elastomer materials; and
- Non-safety-related masonry walls that support equipment relied upon to perform a function that demonstrates compliance with a regulated event(s).

Furthermore, the program will:

- (a). Enhanced to include additional inspection parameters
- (b). 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
- (c). Require periodic sampling of groundwater and river water chemistries to ensure they remain non-aggressive

The inspectors reviewed the licensing and program basis documents, procedures, work orders, ARs, and interviewed the plant personnel responsible for this program.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 30.

31. Commitment Item 31, Thermal Aging Embrittlement of Cast Austenitic Stainless Steel Program

Commitment Item 31 states a Cast Austenitic Stainless Steel (CASS) Program be implemented with features as described in LRA Section B2.1.39. Prairie Island's CASS Program manages the loss of fracture toughness due to thermal aging embrittlement of components, other than pump casings and valve bodies. The program determines the susceptibility of CASS components to loss of fracture toughness due to thermal aging embrittlement based upon the casting method, molybdenum content, and percent ferrite. For components determined to be potentially susceptible to thermal aging embrittlement, component-specific flaw tolerance evaluations are being prepared.

The inspectors reviewed the licensing and program basis documents, procedures, work orders, related ARs, and interviewed the plant personnel responsible for this program.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 31.

32. Commitment Item 32, Water Chemistry Program

Commitment Item 32 states the licensee will implement an enhanced Water Chemistry Program prior to the period of extended operation. The enhancements to the Water Chemistry Program require increased sampling is performed as needed, per revised fleet procedure, FP-CY-CHEM-01, to confirm the effectiveness of corrective actions taken to address abnormal chemistry conditions and that 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.

The inspectors reviewed licensing basis documents, procedures, work orders, ARs, and interviewed the plant personnel responsible for this program.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Item 32.

33. Commitment Items 33, 34, 35, 36, and 47, Metal Fatigue of Reactor Coolant Pressure Boundary Program

The Metal Fatigue of Reactor Coolant Pressure Boundary Program is an existing program for monitoring the thermal and pressure transients experienced by selected reactor coolant system pressure boundary components to ensure those components remain within their design fatigue usage limits. The program uses the systematic counting of plant transient cycles to ensure that design assumptions for cumulative transient cycles are not exceeded. The program also tracks fatigue usage in critical high-usage components. Locations monitored by the program include the six component locations for older vintage Westinghouse plants identified in NUREG/CR-6260 as representative locations for the effect of reactor coolant environment on component fatigue life.

Commitment Item 33 states the program will be enhanced as follows:

- The program will monitor the 6-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:
 - (d). Reactor Vessel Inlet and Outlet Nozzles
 - (e). Reactor Pressure Vessel Shell to Lower Head
 - (f). RCS Hot Leg Surge Line Nozzle
 - (g). RCS Cold Leg Charging Nozzle
 - (h). RCS Cold Leg Safety Injection Accumulator Nozzle
 - (i). RHR-to-Accumulator Piping Tee
- Program acceptance criteria will clarified to require corrective action is taken before a cumulative fatigue usage factor exceeds 1.0 or a design basis transient cycle limit is exceeded.

Commitment Item 34 states reactor internals baffle bolt fatigue transient limits of 1,835 cycles of plant loading at 5 percent per minute and 1,835 cycles of plant unloading at 5 percent per minute will be incorporated into the Metal Fatigue of Reactor Coolant Pressure Boundary Program and USAR Table 4.1-8.

Commitment Item 35 states Northern States Power Company, Minnesota (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.

Commitment Item 36 states 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 Cumulative Usage Factor (CUF) 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 Environmentally Assisted Fatigue (EAF) results," will also be included in that amendment to reflect analysis results and remove references to stress-based fatigue monitoring. Commitment 36 was completed per Attachment A of the SER.

Commitment Item 47 states NSPM will perform a review of the design basis ASME Class 1 fatigue evaluations to determine whether the NUREG/CR6260 components that have been previously evaluated for the effects of reactor coolant environment on fatigue life are the limiting components for the PINGP design.

- If a more limiting component(s) is identified, the most limiting component will be evaluated for the effects of the reactor coolant environment on fatigue usage; and
- If the limiting component identified consists of nickel alloy, the methodology used to perform the EAF calculation for nickel alloy will be consistent with NUREG/CR-6909, or otherwise justified.

The inspectors reviewed the licensing and program basis documents, procedures, work orders, calculations, and interviewed the plant personnel responsible for this program.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Items 33, 34, 35, 36, and 47.

34. Commitment Items 37, 38, 39, and 40, Cultural Resources Management Plan

The Cultural Resources Management Plan (CRMP) was developed by NSPM in cooperation with the Prairie Island Indian Community (PIIC) and the U.S. Department of the Interior, Bureau of Indian Affairs (BIA). The CRMP was developed as a tool to NSPM/PING employees responsible for planning, reviewing, approving, overseeing, and/or participating in construction and excavation activities or other undertakings on the plant property. The CRMP seeks to 1) prevent disturbances of known and unknown archaeological, cultural, and historical (AC&H) resources by presenting the

history of Prairie Island, its inhabitants, and the location and significance of its known AC&H resources; 2) establish specific review and notification procedures for those who manage and conduct construction or excavation projects at the facility; and 3) present guidance for proper identification of previously unidentified AC&H resources so the appropriate actions can be made.

Commitment Item 37 states 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.

Commitment Item 38 states 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. Northern States Power Company, Minnesota will use the results of these surveys to designate areas for archaeological protection.

Commitment Item 39 states that NSPM will prepare, maintain and implement a 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.

Commitment Item 40 states 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 Commitment Number 38).

The inspectors reviewed the program basis document, implementing procedures, and related ARs and interviewed the plant personnel responsible for this program.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined that the licensee met Commitment Items 37, 38, 39, and 40.

35. Commitment Items 41, 42, and 44, Reactor Cavity Leakage

Commitment Item 41 states during the first outage after refueling cavity repairs the site will excavate the concrete in Sump C (containment low point) to perform examination of the containment vessel, concrete and rebar. This commitment was met for Units 1 and 2 in 1R27 and 2R27. The containment vessel, concrete and rebar were found to be in good condition with no significant degradation.

Commitment Item 42 states for two consecutive outages after refueling cavity repairs the site will inspect areas with a history of leakage. If leakage is identified it will be entered into the corrective action program and evaluated for additional actions. This commitment has been met for Unit 1. During the first Unit 1 outage after repairs

(1R27) there was no indication of leakage. During the second Unit 1 outage after repairs there was minor leakage into the regen room characterized as a “slow drip” during core offload with no indications of leakage during core reload.

Commitment Item 44 states during the first refueling outage following refueling cavity leak repairs in each Unit (repairs performed in refueling outages 1R26 and 2R26), a concrete sample will be obtained from a location known to have been wetted by borated water leakage from the refueling cavity. These concrete samples will be tested for compression strength and will be subjected to petrographic examination to assess the degradation. Three core samples were taken from the concrete under the refueling cavities of each unit. The concrete was found to be in good condition with compressive strength of 10,000 psi or higher.

The inspectors reviewed the licensing and program basis documents, procedures, and ARs and interviewed the plant personnel responsible for this program. The inspectors verified that program and associated enhancements were in place.

Based on review of the timeliness and adequacy of the licensee’s actions, the inspectors determined the licensee met Commitment Items 41, 42, and 44.

36. Commitment Item 43, Diesel Generator Hose Replacement

Commitment Item 43 states the licensee would implement a Diesel Generator Hose Replacement Program prior to the period of extended operation. The inspectors verified the program implements preventative maintenance requirements to periodically replace rubber flexible hoses in the Diesel Generators, their Support Systems, and in the 122 Diesel Driven Fire Pump that are exposed to fuel oil or lubricating oil internal environments.

The inspectors reviewed program basis documents, periodic replacement procedures, vendor manuals, work orders, and associated ARs and interviewed plant personnel responsible for this program.

Based on review of the timeliness and adequacy of the licensee’s actions, the inspectors determined the licensee met Commitment Item 43.

37. Commitment Items 45 and 46, Steam Generator Tube Integrity Program

The Steam Generator Tube Integrity Program is an existing program that manages the aging effects of steam generator tubes, tube repairs, and accessible steam generator secondary side internal components. Incorporating the guidance of NEI 97-06, the program manages aging effects through a balance of mitigation, inspection, evaluation, repair, and leakage monitoring measures.

Commitment Item 45 states the performance of an inspection of each original Unit 2 steam generator to assess the condition of the divider plates and associated welds if they are not replaced prior to entry into the period of extended operation.

Commitment Item 46 states the performance of a one-time inspection sample of tube-to-tubesheet welds in each Unit 1 steam generator to determine if primary water stress corrosion cracking is present. The inspections are to be performed during the first Unit 1 refueling outage after the steam generators have reached 20 years of service.

The inspectors reviewed the program basis document, implementing procedures, completed work orders, associated ARs, and interviewed plant personnel responsible for this program.

Based on review of the timeliness and adequacy of the licensee's actions, the inspectors determined the licensee met Commitment Items 45 and 46.

38. LR-TR-543, GALL Gap Analysis (LR-TR-543/LRI-TR-001)

The inspectors reviewed the licensee's GALL (NUREG-1801, "Generic Aging Lessons Learned (GALL) Report") gap analysis comparing the GALL (Revision 1) under which the LRA was submitted to the present GALL (Revision 2). The differences between GALL Revision 1 and GALL Revision 2 are addressed in NRC Regulatory Issues Summary (RIS) 2011-05, "Information on Revision 2 to the Generic Aging Lessons Learned Report for License Renewal of Nuclear Power Plants." LRI-TR-001 compared those recommendations contained in RIS 2011-05 to the existing PINGP GALL, Revision 1 Aging Management Programs and evaluates any inconsistencies or gaps that may exist that could warrant change based on Operating Experience (OE).

The inspectors did not identify any significant differences between the GALL Revision 2 AMPs and the PINGP AMPs based on a review of the GALL Gap analysis performed. No disparities were identified with respect to the program.

39. LR-AMP-402, Environmental Qualification of Electrical Components Program

The licensee described the existing Environmental Qualification as being consistent with NUREG-1801, AMP X.E1. This program was established to demonstrate that certain electrical components located in harsh environments are qualified to perform their safety function in those harsh environments. Environmental Qualification components not qualified for the current license term were to be refurbished, replaced, or have their qualification extended by reanalysis, prior to reaching the aging limits established in the evaluation.

The inspectors reviewed the licensing and program basis, and interviewed plant personnel. No disparities were identified with respect to the program.

40. LR-AMP-403, ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD Program

The ASME Section XI IWB, IWC, and IWD Inservice Inspection (ISI) Program is an existing program that facilitates inspections to identify and correct degradation in Class 1, 2, and 3 piping, components, their supports and integral attachments, in accordance with 10 CFR 50.55a, "Codes and Standards."

The inspectors reviewed the licensing basis, procedures, and interviewed plant personnel. No disparities were identified with respect to the program.

41. LR-AMP-405, Boric Acid Corrosion Program

The Boric Acid Corrosion Program is an existing program that monitors component degradation due to boric acid leakage through the performance of periodic inspections implementing the recommendations of NRC Generic Letter 88-05.

The program requires periodic visual inspection of all systems within the scope of license renewal that contain borated water for evidence of leakage, accumulations of dried boric acid, or boric acid wastage.

The inspectors reviewed the licensing basis, procedures, work orders, ARs, and interviewed plant personnel. No disparities were identified with respect to the program.

42. LR-AMP-407, Flow Accelerated Corrosion Program

The Flow Accelerated Corrosion Program (FAC) Program is an existing Condition Monitoring Program that manages the aging effects due to loss of material due to wall thinning on the internal surfaces of carbon steel or low alloy steel piping and pipe components. The FAC Program implements the guidelines in Nuclear Safety Analysis Center (NSAC) 202L, "Recommendations for an Effective Flow-Accelerated Corrosion Program."

The inspectors reviewed the licensing basis, program basis documents, implementing procedures, scheduled and completed work orders, related condition reports; and interviewed the plant personnel responsible for this program. The inspectors noted that the program used CHECWORKS software for predictive modeling of wall thinning associated with FAC.

The inspectors identified an observation documented in Section 40A5.1.c (1) related to the FAC Program. Based on the licensee's actions to correct the concern, the inspectors determined that the program is being implemented as described in the SER.

43. LR-AMP-410, Open-Cycle Cooling Water System Program

The Open Cycle Cooling Water (OCCW) System Program is an existing program that implements commitments made in PINGPs response to Generic Letter 89-13. These commitments include surveillance and control of fouling, tests to verify heat transfer capability, and routine inspection and maintenance activities. The licensee also performs periodic eddy current tests in selected heat exchangers serviced by OCCW Systems under the "Heat Exchanger: Balance of Plant/Eddy Current Testing Implementing Procedure."

The GL 89-13 Program has provided reasonable assurance that aging effects is managed such that SSCs within the scope of this program will remain capable of performing their intended function throughout the period of extended operation.

The inspectors reviewed the program basis document, procedures, examination records, ARs, and interviewed plant personnel responsible for this program. No disparities were identified with respect to the program.

44. LR-AMP-424, Lubricating Oil Analysis Program

The Lubricating Oil Analysis Program is an existing program consistent with NUREG-1801, AMP XI.M39. This program maintains oil contaminants within acceptable limits to preserve an operating environment that is not conducive to loss of material, cracking, or heat transfer degradation. This program is not a commitment associated with License Renewal.

The inspectors reviewed licensing and program basis documents, and interviewed the program owner. No disparities were identified with respect to the program.

45. LR-PN-AMP-425, ASME Section XI, Subsection IWE Program

The PINGP ASME Section XI, Subsection IWE Program is an existing program which provides for the condition monitoring of Class MC pressure-retaining components and their related items, including integral attachments, seals, gaskets, moisture barriers, and pressure-retaining bolting. Implementation of the PINGP ASME Section XI, Subsection IWE Program provides reasonable assurance that aging effects is managed such that, structures, systems, and components within the scope of the program will continue to perform their intended function(s) during the period of extended operation.

The inspectors reviewed the program basis document, procedures, examination records, ARs and interviewed plant personnel. No disparities were identified with respect to the program.

46. LR-PN-AMP-426, ASME Section XI, Subsection IWF Program

The ASME Section XI, Subsection IWF Program provides for condition monitoring of Class 1, 2 and 3 component supports. The program is implemented, in accordance with the requirements of 10 CFR 50.55a, with specified limitations, modifications and NRC-approved alternatives, and utilizes ASME Section XI, Subsection IWF, 1998 Edition, including the 1998, 1999, and 2000 Addenda, for the current inspection interval.

The component supports within the program include piping supports and supports other than piping supports as required by ASME Section XI. There are no Class MC component supports installed at PINGP. The IWF Program manages aging effects by performing periodic visual (VT-3) examinations. The scope of the component support examinations for each 10-year inspection interval is based on the total support population, with the largest sample size specified for the most critical component supports (Class 1) and smaller sample sizes for the less critical component supports (Class 2 and 3).

The inspectors reviewed the program basis document, procedures, examination records, ARs and interviewed plant personnel. No disparities were identified with respect to the program.

47. LR-PN-AMP-427, 10 CFR Part 50, Appendix J Program

The 10 CFR Part 50, Appendix J Program is an existing program which provides for containment system examinations and leakage testing. Containment leak rate tests are performed to assure that leakage through the primary reactor containment, and

systems and components penetrating primary containment, do not exceed allowable leakage rate values as specified in the Technical Specifications. Periodic surveillance of reactor containment penetrations and isolation valves is performed so that proper maintenance and repairs are made during the service life of containment.

The Appendix J Program has successfully managed the leak tight integrity of the containment system, and has ensured the continuing effectiveness of the containment barrier against the release of radioactive material to the environmental

The inspectors reviewed the program basis document, procedures, examination records, ARs, and interviewed plant personnel. No disparities were identified with respect to the program.

48. LR-PN-AMP-428M, Masonry Wall Program

The Masonry Wall Program is an existing Condition Monitoring Program is based on NRC IE Bulletin 80-11, "Masonry Wall Design" and the guidance provided in NRC Information Notice 87-67, "Lessons Learned from Regional Inspections of Licensee Actions in Response to IE Bulletin 80-11." The program manages the functionality of structural steel and bracing and cracking of masonry walls in proximity to, or having attachments to, safety-related equipment by conducting periodic visual inspections.

The inspectors reviewed the licensing and program basis documents, procedures, work orders, and interviewed plant personnel. No disparities were identified with respect to the program.

49. LR-AMP-429, Protective Coating and Maintenance Program

The licensee described the existing Protective Coating and Maintenance Program as being consistent with NUREG-1801, AMP XI.S8. Performing periodic inspections of Service Level 1 coated surfaces inside containment, ensures that the amount of failed coatings that occurs during a LOCA does not exceed the design limits for the strainers.

The inspectors reviewed the program basis document, procedures, examination records, ARs, and interviewed plant personnel. No disparities were identified with respect to the program.

b. Findings and Observations

The inspectors identified two observations of minor significance.

(1) Computer Software Not Classified, in accordance with Licensee Software Quality Assurance Program

During review of the FAC Program, the inspectors identified a concern related to the licensee's software quality assurance classification for the CHECWORKS software program. Specifically, the inspectors were concerned that appropriate software quality assurance requirements were not being applied for installation and testing prior to use by the FAC Program.

As an additional effort to verify the implementation of FAC Program, the inspectors reviewed Procedure FP-IT-SQA-03, "Classifying Software Products," Revision 8, to ensure the predictive software, CHECWORKS, was appropriately controlled. According to licensee personnel, CHECWORKS was classified as "Business Critical - Level 3." The inspectors noted that this classification level applied to software products that "could NOT affect nuclear safety or compliance with nuclear laws or regulations." Specifically Business Critical - Level 3 software products generate output unrelated to nuclear safety. The inspectors questioned whether this software should be classified as "Regulatory - Level 2." As documented in Section 3.0.3.1.10 of NUREG-1960, the PINGP FAC Program uses CHECWORKS as predictive software consistent with the recommendations of NUREG-1801, Chapter XI, AMP XI.M17, "Flow-Accelerated Corrosion" which appeared to make CHECWORKS part of the NRC licensing basis and fulfill a regulatory commitment. In addition, the inspectors questioned whether this software was relied on for any safety-related components, which would indicate that it should be classified as "Safety-Related - Level 1." The licensee issued AR 1384073 to document this potential concern. The licensee subsequently concluded that the CHECWORKS software should be classified as Regulatory - Level 2.

Because the licensee had performed CHECWORKS software validation prior to use by the FAC Program (documentation not required for Business Critical - Level 3 software), this concern is considered to be of minor significance. The licensee entered the concern into their CAP as AR 1384073 with corrective actions to: (1) perform a CHECWORKS vendor supplied software validation [completed without any output discrepancy]; (2) reclassify CHECWORKS as Regulatory - Level 2 software; and (3) determine whether corrective actions are required at Monticello Nuclear Generating Plant, part of the Xcel Energy nuclear fleet.

(2) Failure to Process Instrument Air System Failed Filter Weight Acceptance Criteria, in accordance with Procedure.

During a review of the Compressed Air Monitoring Program, the inspectors identified a concern related to minor arithmetic errors identified in multiple consecutive performances of PM 3505-05, Instrument Air System, Dew Point/Air Quality Test. The inspectors were concerned that the procedurally required filter weight method could again lead to improperly concluding test acceptance criteria was met without notifying engineering personnel or generating an AR, in accordance with the procedure. The licensee generated AR 01386179 to document the failure to process the failed filter weight acceptance criteria, in accordance with procedure. The licensee was able to provide documentation to show an offsite assessor evaluated a separate particle filter and did not identify any particles greater than 40 micrometers in size, as required by procedure. The inspectors were satisfied with the licensee's reply and had no additional concerns. The inspectors verified the licensee did not exceed the semi-annual commitment.

4OA6 Management Meetings

.1 Exit Meeting Summary

On June 13, 2013, the inspectors presented the inspection results to the Site Vice-President, Mr. J. Lynch and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

J. Lynch, Site Vice President
D. Vincent, Regulatory Affairs
K. Vincent, Programs Engineering Supervisor
L. Farrell, Programs Engineer
K. Davison, Director, Site Operations
A. Mitchell, Site Engineering Director
S. Sharp, Plant Manager
T. Allen, Assistant Plant Manager
J. Anderson, Regulatory Affairs Manager
J. Boesch, Maintenance Manager
K. DenHerder, Backup Buried Pipe Program Owner
J. Lash, Nuclear Oversight Manager
J. Ruttar, Operations Manager

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened, Closed, and Discussed

None

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather, that selected sections of portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

4OA5.1 Other Activities

Application for Renewed Operating Licenses, Prairie Island Nuclear Plant Units 1 and 2

AR 01175249; Track Submittal of the Periodic Reports for 2011; June 14, 2010
NP 5.1.7; Regulatory Commitment Management; Revision16
NP 5.2.3; NRC Reports; Revision13

Action Requests (ARs) Generated as a Result of the Inspection

AR 01383829; License Renewal Inspection Frequencies not Assured; May 21, 2013
AR 01383934; D6 Duel Storage Vault Leak Detection; May 22, 2013
AR 01384044; Incorrect Information Inadvertently Provided to NRC; May 23, 2013
AR 01384045; PM 3586-10 Missing Equipment in Schedule; May 23, 2013
AR 01384099; Commitment Program Assessments; May 23, 2013
AR01384126; H65.2.13 Scope Wording Error; May 23, 2013
AR 01384073; 2013 LR P2: CHECWORKS Software Classification; May 23, 2013
AR 01386036; H69 Updated While Answering NRC Question; June 10, 2013
AR 01386195; Typographical Error on Response 42; June 10, 2013
AR 01386197; AMP 433 PMQR Discrepancies, PMQR 27682-01; June 10, 2013
AR 01386211; PMQR Freq may Challenge Commitment Compliance; June 11, 2013
AR 01386213; Clarify H44 to Indicate PINGP has Chosen to Evaluate CASS;
June 11, 2013
AR 01386166; 2013 LR P2: Enhancement Opportunity for Stainless Steel Bellows in
Diesel Exhaust; June 11, 2013
AR 01386179; Potential Air Particles Greater Than 1 g Particles; June 11, 2013
AR 01386279; NRC Resident Questioning Prairie Island's Use of SR Grace; June 12,
2013
AR 01386318; PM 3505-5 Document Control Inadequate; June 12, 2013

Commitment Item 1

AR 1162729; LR Commitment 1 – Submit Annual LRA Update; December 17, 2008
Xcel Energy Letter L-PI-09-043; Annual Update of the Application for Renewed
Operating Licenses; April 13, 2009
Xcel Energy Letter L-PI-10-081; Annual Update of the Application for Renewed
Operating Licenses and Supplemental Information Regarding Buried Piping and Tanks
Inspection Program and Class 1 Small Bore Piping Program; August 12, 2010
Xcel Energy Letter L-PI-11-034; Annual Update of the Application for Renewed
Operating Licenses; May 11, 2011

Commitment Item 2

Prairie Island Updated Safety Analysis Report; Appendix L, Section L.2: Summary Description of Programs that Manage the Effects of Aging; Revision 32P
Prairie Island Updated Safety Analysis Report; Appendix L, Section L.5: License Renewal Commitments; Revision 32

Commitment Item 4

LR-AMP-408; License Renewal Proof Notebook, PINGP Bolting Integrity Program; Revision 0
H65.2.6; Bolting Integrity Aging Management Program; Revision 0

Commitment Item 5

8.1; PINGP Buried Pipe Inspection Program; Revision 0
AR 1359643; Coating Damage on 30-CL-20 during License Renewal Inspection; November 21, 2012
D92; Excavation; Revision 10
H58; Underground Piping and Tank Inspection Program; Revision 3
PINGP 1699; Underground Pipe or Tank Inspection; Revision 0
Report No. 1101501.401; PINGP Units 1 & 2 Site Specific Risk Analysis for Buried and Underground Piping and Tanks; June 28, 2012
TP 1626; Cathodic Protection Monthly Inspection; Revision 12
WO 379943; Eng-Inspect Buried Portions of 6-FP-22 and 10-FP-22; January 12, 2010
WO 417979; PM-3573 Perform Cathodic Protection Testing; November 8, 2011
WO 4198601; EPRO; Perform Inspection 3" Buried Fuel Oil Pipe; August 14, 2012
WO 470928; EPRO; Inspect 10-ft U/G SA Pipe for License Renewal; February 26, 2013
WO419862; EPRO: U1 Inspect 30" CL & 2" SA Lines between PT Schnhse and TB; November 20, 2012
H5AR1368052; Minor Coating Defects on ½ inch SA Lines; January 30, 2013

Commitment Item 6

AR 1167284-03; Revise Chem Procedures to EPRI Closed Cycle Cooling Guideline; March 12, 2010
AR 1152289; Increase in Fouling noted in 21 CCHX per SP 2304; March 28, 2010
H65.2.9; Closed Cycle Cooling Water System; Revision 0
WO 404310; SP 1304 Unit 1 CC HX Performance Test; May 7, 2011

Commitment Item 7

AR 1214891; Instrument Air Particulate Content Exceeds Acceptance Criteria; October 18, 2010
AR 1341707; Potential Air Particles Greater Than 40 Micron in IA System; September 30, 2012
H65.2.10; Compressed Air Monitoring Aging Management Program; Revision 0
PINGP 196; Turbine Bldg Data – Unit 2; Revision 121
PM 3505; Instrument Air (SA) System Dewpoint Test, Test Instrument Air System Dew Point Test; Revision 13
WO 414456; PM 3505-05 - Instrument Air (SA) System Dewpoint Test; June 20, 2011

WO 425371; PM 3505-05 - Instrument Air (SA) System Dewpoint Test; December 15, 2011
WO 429877; PM 3505-05 – Instrument Air (SA) System Dew Point Test; March 27, 2012
WO 445224; PM 3505-05 – Instrument Air (SA) System Dew Point Test; November 16, 2012

Commitment Item 8

H32.3; Thermography Program; Revision 3
PM 4910; Thermographic Inspection of Prairie Island Components; Revision 5
WO 427868; PM4910-2 MCC Thermography Survey 2nd Quarter; April 10, 2012
AR 1339110; Heating on Connection in BKR 251-28 21 CDSR Spray PMP; May 23, 2012
AR 1346743; BKR 262-46 has Heating on A Phase Motor Overload Connection; August 1, 2012
WO 438075; PM 4910-20 120V SRGDS Panel Thermography; June 08, 2012

Commitment Item 9

H65.2.12; Electrical Cables and Connections Not Subject to 10 CFR 50.49
Environmental Qualification Requirements Aging Management Program; Revision 0
FP-PE-CBL-01; Cable Condition Monitoring Program; Revision 2
AR 1338808; Black Substance Found on Cables and Cable Tray 1SM-T10; May 22, 2012
AR 1350176; Cable from TB 2346 to SV33347; August 31, 2012
AR 1350203; Cable 1C-4671 and 1C-1683 Near Hot Flanges; August 31, 2012
WO 433150; Low Voltage Cable Walkdown; March 28/2012
WO 434527; Low Voltage Cable Walkdown; August 16, 2012
WO 452941; LOOP FPZ-024 Cable Walkdown for License Renewal; August 16, 2012

Commitment Item 10

H65.2.13; Electrical Cables & Connections Not Subjected to 10 CFR 50.49
Environmental Qualification Requirements Used in Instrumentation Circuits Program;
Revision 0
AR 1327440; 2N32-NM106 Isolation AMP Found O.O.T During SP 2318.1; March 02, 2012
AR 1324419; SP 2318.3 Out of Tolerance Equipment; February 09, 2012
WO 477534; Review Instrument Cables for License Renewal; May 08, 2013
WO 409654; SP 2318.3 - NIS Power Range Chanel Calibration; January 27, 2012

Commitment Item 11

PINGP 1516, "Walkdown Checklist Mechanical Systems/Components", Revision 1

Commitment Item 12

H65.2.15; Fire Protection Aging Management Program; Revision 0
SP1192; Electrical and Mechanical Penetrations Surveillance Inspection; Revision 17
WO 425857; SP 1192- SRGDS Elect/ Mech Penetrations Surveillance Inspect; April 26, 2012
AR 1355436; SP 1192 Documentation Misplaced for WO 425857-01; October 25, 2012

AR 1334517; SP 1192, Fire Penetration Inspection Completion Comments; May 08, 2012

Commitment Item 13

H65.2.16; Fire Water System Aging Management Program; Revision 1
AR 01279769; Found 16931 Out of Tolerance during SP-1196; April 8, 2011
AR 01186232; FP 39-2, U0, DA-3 Contains Mud and H2O; June 20, 2009
WO 434066; SP 1197 Annual Header/ Drains Flush Fire Protection System; October 04, 2012

Commitment Item 14

LR-PN-AMP-423; Flux Thimble Tube Inspection Aging Management Program; Revision 0
H65.2.18; Flux Thimble Tube Inspection Aging Management Program; Revision 0
D67; Incore Instrumentation Refueling/Maintenance Outage Operations; Revision 34
PM 3560-2-1; Unit 1 Incore Thimble Eddy Current; Revision 2
WO 00402417; PM 3560-2-1 Unit 1 Incore Thimble Eddy Current; May 2, 2011
WO 00396140; PN 1105-U1 Incore Instruments Outage Work D67; October 8, 2012
AR 01201474; Unit 1 Incore Thimble C-03 Showing Increased Wear; October 7, 2009
AR 01296309; Two Incore Thimbles Show Wall Loss; July 26, 2011

Commitment Item 15

H30; Fuel Oil Program; Revision 5
WO 414199; Inspect 121 DSL GEN OIL STG TANK (VT and UT); January 28, 2013
AR 1369411; Fuel Oil Chemistry AMP Documentation; February 7, 2013
LR 39232; License Renewal Boundary Drawing Fuel and Diesel Oil System Flow Diagram Unit 1 & 2; Revision 5
LR 118252; License Renewal Boundary Drawing Fuel and Diesel Oil System Flow Diagram Unit 1 & 2; Revision 1
H65.2.19; Fuel Oil Chemistry Aging Management Program; Revision 0
WO 439354; Fuel Oil Piping; July 19, 2012
WO 443420; Fuel Oil Piping; July 28, 2012

Commitment Item 16

H65.2.20; Fuse Holders Aging Management Program; Revision 0
H32.3; Thermography Program; Revision 3
LR-TR-537; Fuse Holders- AMR Screening Process and AMP Determination; Revision 0
WO 00434612; PM 4910-17- DC and Battery Annual Thermography Inspection; October 15, 2012
WO 446543; PM 4910-27 125 VDC Panel Thermography Inspection; October 15, 2012
AR 1097131; Rust Found in Bottom of Multiple Termination Boxes; August 16, 2007
AR 253845; Fuse Holder OE 253845 Report; June 14, 2012

Commitment Item 17

H65.2.21; Inaccessible Medium and Low Voltage Cables not Subject to 10CFR 50.49 Environmental Qualification Requirements Aging Management Program; Revision 0
AB-4, Rev. 43; Flood; Revision 43

AR 1272234; CTSUB-1 Cable Tan Delta Test Result Higher than Expected; February 23, 2011
AR1363051; Bus 16-8 Cables- Tan Delta Assessment Tested Out of Spec; December 12, 2012
AR 1344826; JB 2045 Cover Gasket Degraded; July 13, 2012
WO 403869; Test CTSUB-1 Cables per PE 482; November 01, 2010
WO 460231; Perform Inspection of PB 1180 (License Renewal); July 09, 2012

Commitment Item 18

LR-PN-AMP-438; License Renewal Proof Notebook: Inspection of Internal Surfaces of Miscellaneous Piping and Ducting Components Program; Revision 0
H65.2.22; Inspection of Internal Surfaces of Miscellaneous Piping and Ducting Components Aging Management Program; Revision 0
H69; PINGP Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components Aging Management Program; Revision 1
FP-E-RTC-02; Equipment Classification; Revision 9
P8345-016; Training Module: Microbiologically Influenced Corrosion (MIC); Revision 2
P8345-0901; Training Module: Boric Acid Corrosion Control for Maintenance Personnel; Revision 0
P8345-1001; Training Module: Flow Accelerated Corrosion Program; Revision 0
PINGP 1767; Renewed License Internal Surface Inspection Program, As-found Component Examination Form; Revision 1
PM 3154-1-1-12; 12 Containment Fan Coil Unit (CFCU) Refueling Inspection/Maintenance (174-012); Revision 12
PM 4871-2-11; 11 SGB HUT Pump Cleaning; Revision 2
SP 1080.1; 11 Shield Building Ventilation Filter Removal Efficiency Test; Revision 21
SP 1738; Technical Support Center HVAC System Clean Up Filter Removal Efficiency Test; Revision 18
SP 2080.1; 21 Shield Building Ventilation Filter Removal Efficiency Test; Revision 21
WO 470010; Remove T-Mod EC 21282; June 5, 2013

Commitment Item 19

LR-PN-AMP-412; License Renewal Proof Notebook: Inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems Program; Revision 1
H65.2.23; Inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems Aging Management Program; Revision 0
AR 1127127; Cracks Found on Support for Bridge Truck Girder; February 13, 2008
AR CAP 1155007; Crack Identified on Unit 2 Turbine Building Crane; October 12, 2008
PM 3160-1; Containment Polar Crane Mechanical Inspection; Revision 19
PM 3160-2; Turbine Building Crane Mechanical Inspection; Revision 13
PM 3160-5; Fuel Handling Crane Inspection; Revision 31
PM-3560-19-1; Fuel Transfer System Periodic Maintenance Unit 1 Reactor Side; Revision 9
PM 3560-21; RCC Change Fixture; Revision 10
PM 3560-51; Internals Lifting Rig Inspection; Revision 12
PMID-RQ 6243-08; PM-3560-19-1 Unit 1 Reactor Side Fuel Transfer System; due March 5, 2016
PMID-RQ 6243-08; PM 3560-21-1 Unit 1 Reactor Side; Fuel Transfer System; due March 5, 2016

PMID-RQ 7132-01; PM 3160-5 Fuel Handling Crane Inspections; due January 26, 2014
PMID-RQ 7569-01; PM 3160-1-11 Containment Polar Crane Mechanical Inspection; due March 5, 2016
PMID-RQ 7571-01; PM 3160-2-11 Turbine Building Crane Mechanical Inspection; due January 11, 2014
PMID-RQ 7689-01; PM 3560-21-1 RCC Change Fixture Inspection; due September 18, 2015
WO 283194; PM 3160-1-11: Containment Polar Crane Mechanical Inspection; February 11, 2008
WO 354688; Repair Cracks Found on 11 Polar Crane End Trucks, "A" Girder; April 14, 2008
WO 379292; Unit 2 Turbine Building Modification Per EC13680; April 23, 2009
WO 391736; Modify Unit 1 Polar Crane Per EC12205; January 13, 2011
WO 395703; PM 3560-51-11 Internals Lifting Rig Inspection; May 24, 2012
WO 395759; PM 3160-1-11 Containment Polar Crane Mechanical Inspection; May 18, 2012
WO 396197; PM-3560-19-1 Unit 1 Reactor Side Fuel Transfer System; July 27, 2012
WO 426102; PM 3560-21-1 RCC Change Fixture Inspection; May 28, 2012
WO 450627; PM 3160-5 Fuel Handling Crane Inspections; January 29, 2013
WO 453351; PM 3160-2-21 Turbine Building Crane Mechanical Inspection; November 29, 2012

Commitment Item 20

H65.2.26; Metal-Enclosed Bus Aging Management Program; Revision 0
WO 416154; TD: PE-0005-TC 1RX Bus Duct 1 RX XFMR to 1RX Disc; November 10, 2012
PE 0005-TC; 4.16 KV Bus and Duct Inspection; Revision 4
WO 416157; Torque Check Bolts: 1 RY Disconnect to Bus 15 and 16; November 11, 2012
AR 1359288; Broken Hardware Found in 1R-YS Bus Duct; November 19, 2012
AR 1359487; 1R-YS Bus Duct Additional Installation Cracking; November 16, 2012

Commitment Item 21

No documents reviewed

Commitment Item 22

LR-PN-AMP406; Nickel-Alloy Penetration Nozzles Welded To The Upper RV Closure Heads of PWRs Program; Revision 0

Commitment Item 23

LR-PN-AMP-418; One-Time Inspection Program; Revision 0
LR-TR-539; One-Time Inspection Program Sampling Methodology; Revision 2
FP-PE-NDE-425; Ultrasonic Thickness Examination-Localized Corrosion; Revision 1
FP-PE-NDE-510; Visual Examination, VT-1; Revision 4
FP-PE-NDE-530; Visual Examination, VT-3; Revision 6
FP-PE-NDE-402; Ultrasonic Examination of Austenitic Pipe Welds-Supplement 2; Revision 3

Commitment Item 24

LR-PN-AMP-421; Inspection of ASME Code Class 1 Small Bore Piping Aging Management Program; Revision 0
LMT-10-PAUT-003; Encoded Phased Array Ultrasonic Examination of Austenitic Socket Welded Fittings; Revision 0
WO 00461431; UT on Socket Weld on RC-1-2 for OTI; December 20, 2012
WO 00460990; VALC/EPRO: Perf UT Examination of Valve Removed from SI-16-5; December 14, 2012

Commitment Item 25

LR-PN-AMP442; PWR Vessel Internals Program; Revision 0
EPRI Report 1022863; Materials Reliability Program: Pressurized Water Reactor Internals Inspection and Evaluation Guidelines (MRP-227-A); December 2011
L-PI-09-044; Supplemental Information Regarding Application for Renewed Operating Licenses; May 12, 2009
L-PI-09-082; Response to NRC Request for Additional Information Regarding Application for Renewed Operating Licenses; June 24, 2009
L-PI-09-097; Supplemental Information Regarding Application for Renewed Operating Licenses; August 21, 2009
H65.2.32; PWR Vessel Internals Aging Management Program; Revision 0
H44; Reactor Vessel Integrity Program; Revision 16
AR 01091661; TB-07-2, Reactor Vessel Head Adapter Thermal Sleeve Wear; May 8, 2007
TB-07-2; Reactor Vessel Head Adapter Thermal Sleeve Wear; Revision 1
AR 01228460; Westinghouse IG-10-1 Reactor Internals Lower Radial Support; April 21, 2010
IG-10-1; Reactor Internals Lower Radial Support Clevis Insert Cap Screw Degradation; March 31, 2010

Commitment Item 26

LR-PN-AMP434; Reactor Head Closure Studs Program; Revision 0
H65.2.33; Reactor Head Closure Studs Program Basis Document; Revision 0
H44; Reactor Vessel Integrity Program; Revision 14
H10.5; 4th Interval Inservice Inspection Program; Revision 14
M491; Reactor Vessel Closure Stud Addendum to E Spec 676413; Revision 00
USAR Section L; Reactor Head Closure Studs Program; Revision 33P
1D7; Unit 1 Reactor Vessel Closure; Revision 5
AR 1190351; 434-RV Studs: Revise Spec M491 for LR Commitment 26; July 22, 2009
AR 1162954; LR Commitment 26-Enhance Reactor Head Closure Studs Program 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; December 18, 2008
Regulatory Guide 1.65; Materials and Inspections for Reactor Vessel Closure Studs; April 2010

Commitment Item 27

LR-PN-AMP417; Reactor Vessel Surveillance Program; Revision 0

AR1345833; MRP-326 Coordinated PWR Reactor Vessel Surveillance Program;
July 24, 2012
AR 1374190; MRP 2013-12: Reactor Pressure Vessel (RPV) Forging Fabrication UT
Inspection Records; March 12, 2013

Commitment Item 28

LR-PN-AMP-428W; License Renewal Proof Notebook: RG 1.127, Inspection of Water
Control Structures Associated with Nuclear Power Plants Program; Revision 0
H65.2.35; Water Control Structures Aging Management Program; Revision 0
H24.3; Structures Monitoring Program; Revision 10
AB-2; Tornado/Severe Thunderstorm/High Winds; Revision 39
AB-3; Earthquakes; Revision 31
AB-4; Flood; Revision 43
AR 1227794; Emergency Intake Line Cover Found Off Structure; April 18, 2010
MSIP 1041; Screenhouse Intake Bay Cleaning; Revision 3
PM 3108-2; Cooling Water Emergency Intake Structure 5 Year Inspection; Revision 5
PM 3512-8; Five Year Underwater Inspection of Screenhouse Inlet(s); Revision 2
PM 3586-10; Periodic Structures Inspection; Revision 8
PMID-RQ 6035-02; PM 3108-02-2P3108-02 Cooling Water Emergency Intake Structure;
due May 26, 2014
PMID-RQ 6614-06; OM CW-2006OM Inspect U2 Intake Bays and CW Pump Volutes;
due September 18, 2015
PMID-RQ 7041-26; PM 3586-10 Periodic Structures Inspection; due April 4, 2014
PMID-RQ 7097-06; OM CW-2006OM Inspect U1 Intake Bays and CW Pump Volutes;
due March 5, 2016
PMID-RQ 7097-09; PM 3512-8 Screenhouse Underwater Inlet Inspection; due
July 3, 2013
PMID-RQ 7097-16; SP 1690 Approach, Intake, and Discharge Canal Hydrographic
Survey; due June 20, 2013
Report 90259U.10.021-001; Veolia Environmental Services Inspection Report: Cooling
Water Emergency Intake, 5-Year Inspection and Cooling Water Intake Pipeline for Silt
Build-up; April 2010
SP 1293; Inspection of Flood Control Measures; Revision 22
WO 375682; SP 1690 Approach, Intake, and Discharge Canal Hydrographic Survey;
August 30, 2009
WO 384868; PM 3108-2 Cooling Water Emergency Intake Structure 5 Year;
April 5, 2010
WO 433691; SP 1690 Approach, Intake, and Discharge Canal Hydrographic Survey;
September 26, 2012

Commitment Item 29

LR-PN-AMP-419; Selective Leaching of Materials Program; Revision 0
H65.2.36; Selective Leaching of Materials Aging Management Program; Revision 0
FP-PE-NDE-510; Visual Examination, VT-1; Revision 5
H71; Selective Leaching of Materials Aging Management Program Procedure; Revision 0
PINGP 1770; Selective Leaching of Materials Inspection Form; Revision 0
AR 1359748; Indications of Selective Leaching Found In CW-2-4; November 17, 2012
AR 1368224; Five PI Components Were Identified With Selective Leaching; January 29,
2013

AR 1376814; Selective Leaching Found In Components Removed From Plant,; March 29, 2013

Commitment Item 30

H24.3; Structures Monitoring Program; Revision 10
H65.2.38; Structures Monitoring Aging Management Program; Revision 0
PINGP 1516, "Walkdown Checklist Mechanical Systems/Components"; Revision 1
PM 3586-10; Periodic Structures Inspections; Revision 8
AR 1309956; Spalling Concrete/Wood Piece in Unit 1 Shield Building Wall; October 26, 2011
AR 1310016; Small Cavity on Rib of Shield Bldg Exterior Wall of Unit 2; October 26, 2011
AR 1339557; Wood, Anchor Holes, Exposed Rebar, Wire in Shield Bldg Walls; May 30, 2012
AR 1344846; OE Evaluation: IERL4-12-57 Shield Building Cracking, November 27, 2012
Drawing NF-38380; Reactor Building, Units 1 and 2, Concrete Wall Sections and Details; Revision J
EC 20070; Unit 1 and Unit 2 Shield Building Exterior Wall Concrete Inspection and Repairs; December 22, 2012
PM 3586-10; Periodic Structures Inspection; Revision 8
WO 349870; PM 3586-10 Quarterly Periodic Structures Inspection; August 14, 2008
WO 372731; PM 3586-10 Quarterly Periodic Structures Inspection; August 11, 2009

Commitment Item 31

LR-PN-AMP-435; Thermal Aging Embrittlement of CASS Program; Revision 1
H65.2.39; Thermal Aging Embrittlement of CASS Aging Management Program; Revision 0
H44; Reactor Vessel Integrity Program; Revision 16
AR 01314944; Implement Recommendations from Rx Vessel Integrity Challenge Track; November 28, 2011
AR 01369616; Error in CASS LR AMP; February 8, 2013
AR 01374157; Investigate Use of EVT-1 for CASS Program; March 12, 2013
1200752.401; Flaw Tolerance Evaluation of Prairie Island Units 1 and 2 CASS Components; Revision 0

Commitment Item 32

AR 1325454; U2 Secondary System Chemistry Action Level One Due to Low Hydrazine Concentration; February 21, 2012
FP-CY-CHEM-01; Conduct of Chemistry; Revision 2
H65.2.40; Water Chemistry Aging Management Program; Revision 0
RPIP 3006; Primary Water Chemistry Guidelines
SWCPP; Strategic Water Chemistry Plan for PINGP Primary System Chemistry; Revision 12
SWCPS; Strategic Water Chemistry Plan for PINGP Secondary System Chemistry; Revision 11

Commitment Items 33, 34, 35, and 47

LR-PN-AMP-401; License Renewal Proof Notebook: Metal Fatigue of RCPB Program; Revision 1
H29; Metal Fatigue Management Program; Revision 6
H44; Reactor Vessel Integrity Program; Revision 16
H65.3.2; Metal Fatigue of RCPB Aging Management Program; Revision 0
SP 1173; Stress Cycle Record; Revision 36
SP 2173; Stress Cycle Record; Revision 36
Calculation 0800784.309; Hot Leg Surge Nozzle Fatigue Analysis; January 10, 2012
Calculation 0800784.310; Hot Leg Surge Nozzle Environmentally-Assisted Fatigue (EAF) Analysis; January 20, 2012
Calculation 0800784.312; Hot Leg Surge Nozzle Environmentally-Assisted Fatigue Evaluation with Revised Numbers of Design Transients; January 20, 2012
Calculation 1300238.304; Prairie Island Unit 1 EAF Analysis Bounding Location: Fatigue Analysis of 6" Cold Leg Safety Injection Nozzle; Revision 0
CN-PAFM-10-82; Prairie Island Units 1 and 2 Pressurizer Insurge/Outsurge Fatigue Evaluations; Revision 4
WO 00445191 01; SP 1173 Stress Cycle Record; November 4, 2012
WO 00451062 01; SP 1173 Stress Cycle Record; February 7, 2013
Xcel Energy Letter L-PI-09-060; Supplemental Information Closing License Renewal Commitment 36 Regarding Application for Renewed Operating Licenses; April 28, 2009

Commitment Items 37, 38, 39, and 40

LR-PN-CRMP; Cultural Resources Commitments; Revision 0
AR 01148737; Excavation Discovered During NRC Archaeological Tour; August 27, 2008
AR 01148094; Excavation Procedure not Followed; August 20, 2008
AR 01286840; PIIC Notification of Change in U2 SGR Facilities Footprint; May 20, 2011
FP-IH-EXC-01; Excavation and Trenching Controls; Revision 11
FP-CY-ENV-01; Archaeological, Cultural and Historic Resources; Revision 2
QF 1306; Excavation Permit; Revision 10
Cultural Resources Management Plan; Revision 2

Commitment Items 41, 42, and 44

LR-PN-RVCAV; Reactor Cavity Commitments; Revision 0
Report No. BOP-UT-08-022; UT Thickness Examination; October 15, 2008
Report No. BOP-VT-08-101; Visual Exam of Equipment and Components (VT-1); October 16, 2008
Report No. BOP-UT-09-012; UT Thickness Examination; September 29, 2009

Commitment Items 45 and 46

LR-PN-AMP-409; Steam Generator Tube Integrity Program; Revision 1
H65.2.37; Steam Generator Tube Integrity Program Basis Document; Revision 0
H25; Steam Generator Program; Revision 17
SP 1391; Unit 1 Steam Generator Tube Surveillance; Revision 8
SP 1534; Unit 1 Steam Generator Internals Inspection; Revision 8

GALL Gap Analysis

LRI-TR-001; PINGP License Renewal Implementation Technical Report GALL Gap Analysis; Revision 0

LR-AMP-402, Environmental Qualification of Electrical Components Program

H65.3.1; Environmental Qualification of Electrical Components; Revision 0
CD 5.11; Equipment Qualification Standard; Revision 4

LR-AMP-403, ASME Section XI, ISI, Subsections IWB, IWC, and IWD Program

LR-PN-AMP-403; ASME Section XI ISI, Subsections IWB, IWC, and IWD Program; Revision 0
USAR Section L; ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD Program; Revision 33P
H65.2.3; ASME Section XI ISI, Subsections IWB, IWC, IWD; Revision 0
H10.5; 4th Interval In-Service Inspection Plan-Units 1 and 2 December 21, 2004 through December 20, 2014; Revision 13
SP 1070; Reactor Coolant System Integrity Test; Revision 45
SP 1168.4; Component Cooling System Pressure Test; Revision 15
AR 1284978; Reactor Vessel Closure Head 157-051 Inspection Results 1R27; May 10, 2011
AR1357508; ISI Indication 135-011 11 Excess Letdown HX Boric Acid; November 1, 2012

LR-AMP-405, Boric Acid Corrosion Program

LR-PN-AMP405; Boric Acid Corrosion Program; Revision 0
USAR Section L; Boric Acid Corrosion Program; Revision 33P

LR-AMP-407, Flow-Accelerated Corrosion Program

LR-PN-AMP-407; License Renewal Proof Notebook: Flow Accelerated Corrosion Program; Revision 0
H65.2.17; Flow Accelerated Corrosion Aging Management Program; Revision 0
AR 1328622; FAC Degradation on 25A FWH Vent Line Near Tmin; March 9, 2012
Component NF-39225-2HV-1-20-E1; FAC Remaining Service Life Evaluation; date February 24, 2012
Component NF-39225-2HV-1-20-E2; FAC Remaining Service Life Evaluation; date February 24, 2012
EA-PINGP-NF392252HV120E1-20071017; Engineering Analysis for Component NF-39225-2HV-1-20-E1 < 87.5 percent Tnom; October 17, 2007
EA-PINGP-NF392252HV120E2-20071017; Engineering Analysis for Component NF-39225-2HV-1-20-E1 < 87.5 percent Tnom; October 17, 2007
FP-IT-SQA-03; Classifying Software Products; Revision 8
FP-PE-FAC-01; Fleet Procedure: FAC Program; March 14, 2013
FP-PE-FAC-02; Fleet Procedure: Layout and Marking of Piping and Components for Flow Accelerated Corrosion Program; April 12, 2013
QF-1501; Software Classification Determination; Revision 13
SWI NDE-UT-10; Ultrasonic Thickness Measurement; Revision 2

WO 453885; Replace CS Portions of 25 FWH Vent Lines with SS – 2R28;
March 22, 2012
WO 421007; D2 – UT Inspection of Exhaust Pipe; April 1, 2011
WO 433938; Replace D2 Exhaust Piping; October 24, 2012
Xcel Energy Letter L-PI-08-098; Responses to NRC Requests for Additional Information
November 5, 2008 Regarding Application for Renewed Operating Licenses;
December 5, 2008
Xcel Energy Letter L-PI-09-036; Supplemental Information Regarding Application for
Renewed Operating Licenses; March 12, 2009

LR-AMP-410, Open-Cycle Cooling Water System Program

WO 404310; SP 1304 Unit 1 CC HX Performance Test; April 25, 2011
WO 436628; SP 1304 Unit 1 CC HX Performance Test; December 06, 2012

LR-AMP-424, Lubricating Oil Analysis Aging Management Program

H65.2.24; Lubricating Oil Analysis Aging Management Program; Revision 0

LR-AMP-425, ASME Section XI, Subsection IWE Program

LR-PN-AMP-425; ASME Section XI, Subsection IWE Program; Revision 0
H65.2.4; ASME Section XI, Subsection IWE Program Basis Document; Revision 0
5AWI 14.6.0; ASME Section XI, Inservice Inspection and Pressure Testing; Revision 14
H10.3; Containment Inspection Plan, Units 1 and 2; Revision 9
SP 1277; General Visual Examination of the Containment Vessel for ASME Subsection
IWE; Revision 3
SP 1123; Inspection of Concrete-Steel Interface Adjacent the Containment Vessel
“Knuckle” Region; Revision 14
WO 00396593; SP 1123 Inspection of Concrete E-Steel Interface Adjacent Containment;
August 15, 2012
WO 00399534; SP 1277 Visual Examination of Containment Liner (ASME); May 13,
2011
AR 01383297; Information Provided to NRC in L-PI-09-041 Incomplete; May 17, 2013
AR 01383303; USAR Appendix L.2.4 Outdated; May 17, 2013
AR 01031439; Indications of Peeling Paint Found During IWE Inspections; May 21, 2006

LR-AMP-426, ASME Section XI, Subsection IWF Program

0228; Reactor Vessel Supports not in ISI Program; December 5, 2007
LR-PN-AMP-426; ASME Section XI, Subsection IWF Program; Revision 0
H65.2.5; ASME Section XI, Subsection IWF Aging Management Program; Revision 0
H10.5; 4th Interval Inservice Inspection Plan – Units 1 and 2, December 21, 2004
through December 20, 2014; Revision 16
5AWI 14.6.0; ASME Section XI, Inservice Inspection and Pressure Testing; Revision 14
WO 00426136; Conduct ISI Exams in Containment IAW H10.5; August 16, 2012
WO 00426137; Conduct ISI Exams in Aux Bldg IAW H10.5; August 20, 2012
AR 0112AR 01231008; 2-CWH-34 Clg Water Support ISI Indications; May 4, 2010

LR-AMP-427, 10 CFR Part 50, Appendix J Program

LR-PN-AMP-427; 10 CFR Part 50, Appendix J Program; Revision 0

H65.2.1; 10 CFR Part 50, Appendix J Program; Revision 0
H19; Containment Leakage Rate Test; Revision 15
SP 1072; Local Leakage Rate Test of Containment Penetrations; Revision 25
SP 1071.5; Integrated Leakage Rate Test Final Preparations and Test Procedures;
Revision 16
SP 1132; Unit 1 Personnel and Maintenance Airlock Door Seal Test; Revision 40
SP 1136.1; Volumetric Leakage Rate Test Containment Personnel Airlock; Revision 19
WO 00425943; SP 1072 – Local Leakage Rate Test of Containment Penetrations;
August 16, 2012
WO 00425958; SP 1136.1, Pre-Rfl Volumetric LRT of Containment Personnel Airlock;
September 7, 2012
AR 01128988; CV-31438 Failed as Found Local Leak Rate Test; February 27, 2008
AR 01284892; High Leakage Observed During the LLRT of CV-31741

LR-AMP-428M, Masonry Wall Program

LR-PN-AMP-428M; License Renewal Proof Notebook: Masonry Wall Program;
Revision 0
H24.3; Structures Monitoring Program; Revision 10
H65.2.25; Masonry Wall Aging Management Program; Revision 0
PM 3586-10; Periodic Structures Inspection; Revision 8
PMID-RQ 7041-26; PM 3586-10 Periodic Structures Inspection; due April 4, 2014
WO 366589; PM 3586-10 Quarterly Periodic Structures Inspection; June 4, 2009
WO 450450; Document 2011 SMP Inspections; March 20, 2012

LR-AMP-429, Protective Coating and Maintenance Program

H65.2.41; Revision. 0, Protective Coating and Maintenance Program
WO 4681119; Remove/Recoat Heavy Rust on 8-CL-41; November 21, 2012
AR 1337328; Degraded Coatings in Unit 2 Containment; May 18, 2012

LIST OF ACRONYMS USED

AC&H	Archaeological, Cultural and Historical
ADAMS	Agencywide Document Access Management System
AMP	Aging Management Program
AR	Action Request
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing & Materials
BIA	Bureau of Indian Affairs
CASS	Cast Austenitic Stainless Steel
CCE	Commitment Change Evaluation
CFR	Code of Federal Regulations
CRMP	Cultural Resources Management Plan
EPRI	Electric Power Research Institute
EQ	Environmental Qualification
FAC	Flow Accelerated Corrosion
GALL	Generic Aging Lessons Learned
HVAC	Heating, Ventilation, and Air Conditioning
ISI	Inservice Inspection
LBB	Leak Before Break
LRA	License Renewal Application
MIRVP	Master Integrated Reactor Vessel Surveillance Program (also MIRVSP)
MRP	Material Reliability Project
NSAC	Nuclear Safety Analysis Center
NCV	Non-Cited Violation
NDE	Non-Destructive Examination
NMC	Nuclear Management Company
NRC	U.S. Nuclear Regulatory Commission
NSPM	Northern States Power Company, Minnesota
OCCW	Open-Cycle Cooling Water
OE	Operating Experience
PARS	Publicly Available Records System
PINGP	Prairie Island Nuclear Generating Plant
PSPM	Periodic Surveillance and Preventive Maintenance
PTS	Pressurized Thermal Shock
PWR	Pressurized Water Reactor
PWROG	Pressurized Water Reactor Owners Group
RAI	Request for Additional Information
RHR	Residual Heat Removal
RIS	Regulatory Issue Summary
RPV	Reactor Pressure Vessel
RVI	Reactor Vessel Internals
SBO	Station Black Out
SER	Safety Evaluation Report
SSC	Structures, Systems and Components
TLAA	Time-Limited Aging Analysis
TRM	Technical Requirements Manual
USAR	Updated Safety Analysis Report
UT	Ultrasonic Test
WO	Work Order
WRGM	Wide Range Gas Monitor

J. Lynch

-2-

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Sincerely,

/RA/

Benny Jose, Acting Branch Chief
Engineering Branch 2
Division of Reactor Safety

Docket No. 50-282;
License No. DPR-42;

Enclosure: Inspection Report 05000282/2013008
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