November 5, 2008

Mr. Michael D. Wadley
Site Vice President
Prairie Island Nuclear Generating Plants Units 1 and 2
Northern States Power Minnesota
1717 Wakonade Drive East
Welch, MN 55089

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE PRAIRIE ISLAND NUCLEAR GENERATING PLANT UNITS 1 & 2, LICENSE RENEWAL APPLICATION (TAC NOS. MD8513 and MD8514)

Dear Mr. Wadley:

By letter dated April 11, 2008, Nuclear Management Company, LLC (NMC) now known as Northern States Power Minnesota (NSPM) submitted an application pursuant to Title 10 of the *Code of Federal Regulations* Part 54 (10 CFR Part 54) to renew the operating license for Prairie Island Nuclear Generating Plants Units 1 and 2 for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). The staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review. Further requests for additional information may be issued in the future.

Items in the enclosure were discussed with Gene Eckholt, of your staff, and a mutually agreeable date for the response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-1427 or e-mail Richard.Plasse@nrc.gov.

Sincerely,

/RA/

Richard Plasse, Project Manager
Projects Branch 2
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-282 and 50-306

Enclosure:
As stated

cc w/encl.: See next page

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1717 Wakonade Drive East
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ADAMs Accession Number: ML082830947

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NAME	YEdmonds	DWrona	RPlasse
DATE	11/5/08	11/ 5/08	11/ 5/08

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Letter to M. Wadley from R. Plasse, dated November 5, 2008

DISTRIBUTION:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE PRAIRIE ISLAND NUCLEAR GENERATING PLANT UNITS 1 & 2, LICENSE RENEWAL APPLICATION (TAC NOS. MD8513 and MD8514)

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Prairie Island Nuclear Generating Plant,
Units 1 and 2

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RAI 2.2-01

Background:

Updated Final Safety Analysis Report (UFSAR) Section 1.3.9, Engineered Safety Features, 1.3.9.f.2 states in part:

> *The Shield Building Special Ventilation System provides pressure control in the annulus between the Containment Vessel and the Shield Building, and recirculation of annulus air through particulate, absolute and charcoal filters during accident conditions.*

License Renewal Application (LRA) Section 2.3.3.6, Cooling Water System Code CL-02 states:

> *Cooling water supplies wash water to the safeguards traveling screens in the emergency pump bay and the water to the Fire Protection Deluge System installed in each filter assembly in the Shield Building and Auxiliary Building Special Ventilations sub-systems.*

Issue:

The Shield Building Ventilation System is addressed in LRA Section 2.3.3.14, Primary Containment Ventilation System, however, the Shield Building **Special** Ventilation System cannot be found in the LRA.

Request:

1. Clarify that the Shield Building Special Ventilation System of LRA Section 2.3.3.6 and UFSAR Section 1.3.9 is the same system as LRA Section 2.3.3.14, Shield Building Ventilation sub-system, or

2. Provide the reasoning for not including the Shield Building Special Ventilation System in Table 2.2-1, Plant Level Scoping Results.

RAI 2.2-02

Background:

UFSAR Table 12.2-1, Classification of Structures, Systems and Components, classifies the Chemical Lab and Counting Room Ventilation System as Class III.

LRA Section 2.3.3.19 states in part:

> *The ZB System includes the Turbine Building, Old Admin Building, New Admin Building, Cold Chemical Lab, and TSC Ventilation and Cleanup sub-systems.*

Issue:

The Chemical Lab and Counting Room Ventilation System identified in UFSAR Table 12.2-1 cannot be found in the LRA.

Request:

1. Clarify that the Cold Chemical Lab of LRA Section 2.3.3.19 is the same system as UFSAR Table 12.2-1 Chemical Lab and Counting Room Ventilation System, or

2. Provide the reasoning for not including the Chemical Lab and Counting Room Ventilation System in Table 2.2-1, Plant Level Scoping Results.

RAI 2.2-03

Background:

UFSAR Table 12.2-1, Classification of Structures, Systems and Components, classifies the Generator Cooling Water System as Class III.

Issue:

The Generator Cooling Water System could not be located in Table 2.2-1, Plant Level Scoping Results.

Request:

Provide the reasoning for not including the Generator Cooling Water system in Table 2.2-1, Plant Level Scoping Results.

RAI 2.2-04

Background:

UFSAR Table 12.2-1, Classification of Structures, Systems and Components, classifies the Reactor Gap Cooling, Reactor Refueling Cavity Ventilation and Reactor Support Cooling Systems as Class II.

Issue:

The Reactor Gap Cooling, Reactor Refueling Cavity Ventilation or Reactor Support Cooling Systems could not be located in Table 2.2-1, Plant Level Scoping Results.

Request:

Provide the reasoning for not including the Reactor Gap Cooling, Reactor Refueling Cavity Ventilation and Reactor Support Cooling Systems in Table 2.2-1, Plant Level Scoping Results.

RAI 2.2-05

Background:

1. UFSAR 4.4.2.4, Acoustic Monitoring System states in part:

   The acoustic monitoring system indicates the position of the pressurizer safety valves and the PORVs. It provides a rapid means of detecting flow through the safety valves and the PORVs. The acoustic monitors are installed on the common discharge of the safety valves and the inlets for each PORV.

2. UFSAR 7.9.3, Seismic Monitoring System, states in part:

   The Seismic Monitoring System was installed in response to AEC questions during original plant licensing. These commitments also stated that the central seismic monitoring and recording system would be installed in accordance with Safety Guide 12 (Reference 58). The purpose of this QA type 3 system is to monitor and record seismic events and to determine the peak seismic accelerations of critical plant piping systems during a seismic event.

Issue:

The Acoustic Monitoring and Seismic Monitoring Systems could not be located in Table 2.2-1, Plant Level Scoping Results.

Request:

Provide the reasoning for not including the Acoustic Monitoring and Seismic Monitoring Systems in Table 2.2-1, Plant Level Scoping Results.

RAI 2.1-1

Title 10 of the *Code of Federal Regulations* (10 CFR) Section 54.4(a)(1) requires that safety-related systems, structures, and components (SSCs) required to be within the scope of license renewal are those which are relied upon to remain functional during and following design basis events to ensure (i) the integrity of the reactor coolant pressure boundary; (ii) the capability to shut down the reactor and maintain it in a safe shutdown condition; or (iii) the capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in 10 CFR 50.34(a)(1), 50.67(b)(2), or 100.11. During the NRC scoping and screening methodology audit, performed August 4-7, 2008, the applicant stated that there were plant defined safety-related components which were not included within the scope for license renewal in accordance with 10 CFR 54.4(a)(1).

(A) During the audit, the applicant stated that although the waste gas decay tanks were defined as safety related per the plant's definition, they were not in scope for license renewal because they did not meet the above criteria (i), (ii), or (iii). Specifically for criteria (iii), the applicant stated that the plant's criteria for safety-related SSCs was more conservative than the license renewal criteria because the Prairie Island Nuclear Generating Plant has committed to the more conservative 1% of the 10 CFR 100.11 exposure guidelines following a design basis accident. The applicant also documented that the term "comparable" in criteria (iii) has been defined by the nuclear industry as greater than or equal to 10% and the value is consistent with NRC guidance in Regulatory Guide 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants."

The staff requests that the applicant provide: (1) specific documentation, references, and citations that define the term "comparable," as used in 10 CFR 54.4(a)(1)(iii), to be greater than or equal to 10% and (2) a description of the methods used and the basis for conclusions, in determining that the safety-related waste gas decay tanks would not be included within the scope of license renewal in accordance with the requirements of 10 CFR 54.4(a)(1).

(B) During the audit, the applicant stated that the boric acid storage tanks were defined as safety-related per the plant's definition, but were not within the scope of license renewal for 10 CFR 54.4(a)(1). The staff requests the applicant provide a description of the methods used and the basis for conclusions, in determining that the safety-related boric acid storage tanks would not be included within the scope of license renewal in accordance with the requirements of 10 CFR 54.4(a)(1).

RAI 2.1-2

10 CFR 54.4(a)(2) requires that all nonsafety-related systems, structures, and components whose failure could prevent satisfactory accomplishment of any of the functions identified in 10 CFR 54.4(a)(1)(i-iii) be included within the scope of license renewal. During the NRC scoping and screening methodology audit, performed August 4-7, 2008, the applicant stated that there were certain nonsafety-related abandoned equipment which were not included within the scope for license renewal in accordance with 10 CFR 54.4(a)(2).

(A) LRA Section 2.1.2.5.5 states, "Abandoned equipment that is removed from the plant or disconnected and drained does not have a potential for spatial interaction (i.e. no fluids contained in the SSC), and is not within the scope of License Renewal. Abandoned equipment that is installed and connected to plant process pipes needs to be evaluated for non-safety attached to safety and non-safety affecting safety spatial interaction scoping criteria."

During the scoping and screening methodology audit, the applicant stated that not all abandoned equipment had been verified as disconnected and drained. However, this abandoned equipment had not been included within the scope of license renewal. The staff requests the applicant provide a description of the methods used and the basis for conclusions, in determining that nonsafety-related abandoned systems and attached piping, which had not been verified as disconnected and drained, were not included within the scope of license renewal in accordance with 10 CFR 54.4(a)(2).

RAI AMP-B2.1.2-1:

NUREG–1801, "Generic Aging Lessons Learned (GALL) Report" AMP XI.M29, "Aboveground Steel Tanks," recommends that based on operating experience, plant system walkdowns each outage will provide for timely detection of aging effects. However, the staff noted from the applicant's program basis document that external visual inspections will be performed at least once per refueling cycle and inspection scope/frequency will be adjusted based on the results of the previous inspections and operating experience. The applicant further states that sample selections of insulation near the bottom of each insulated tank will be removed periodically to directly examine the tank exterior. The staff noted that the frequency of inspections for the tank bottoms and exterior tank surfaces of insulated tanks were not specified.

- Clarify the inspection frequency for the inaccessible surfaces (tank bottoms) of the tanks in the scope of this program.

- Clarify the inspection frequency for the tank exterior of the insulated tanks that require the periodic removal of the insulation near the bottom of the tanks.

- Clarify and justify the number of inspections that will be performed on the external (accessible) surfaces, the inaccessible surfaces (tank bottoms), and the tank exteriors that require removal of insulation in scope of this program, before the inspection scope/frequency will be adjusted.

RAI AMP-B2.1.7-1:

The staff has determined that in the operating experience condition reports for LRA AMP B2.1.7, Boric Acid Corrosion Control Program, Prairie Island Nuclear Generating Plant (PINGP) has reported some instances of borated water leakage from valve package or flange gaskets or from bolted connections. However, PINGP did not incorporate this plant specific operating experience into the "operating experience" program element discussion for AMP B.2.1.7. Clarify what type of corrective actions are implemented for steel, copper alloy, and aluminum components that are exposed to borated water leakage or to boric acid residues that has

precipitated out as a result of previous borated water leakage. Clarify whether the program permits PINGP to leave any boric acid residues in place, and if so, how the program assesses the impacts of boric acid residues on the structural integrity of impacted components if the residues are left in place for any period of time. Identify all relevant PINGP operating experience with boric water leakage or boric acid residues over the past five (5) years, and discuss the corrective actions that were taken on the impacted steel, copper alloy or aluminum alloy components in order to correct the adverse conditions.

RAI AMP-B2.1.9-1:

Section B2.1.9 of the LRA states an exception to the "parameters monitored/inspected" program element of GALL AMP XI.M21, Closed-Cycle Cooling Water System. The exception states that some of the pumps and heat exchanger performance parameters recommended by the GALL Report are not used for monitoring specific pumps or smaller converters serviced by the closed-cycle cooling water systems. The information in the LRA is insufficient for the staff to evaluate the acceptability of this exception.

Please provide a more detailed description of this exception, stating which pumps and heat exchangers are affected by this exception, what performance parameters recommended in the GALL Report are not monitored, and what performance parameters are used in lieu of those recommended in the GALL Report. Also, provide a technical justification that the performance parameters proposed for use are adequate for aging management during the period of extended operation.

RAI AMP-B2.1.14-1:

GALL recommends that XI.M36, "External Surfaces Monitoring," is only applicable to detect loss of material due to general, pitting and crevice corrosion for steel (carbon steel) components. However based on the review of the LRA and the applicant's program basis document, the staff noted that the scope of this program will be expanded to include other metallic and non-metallic materials and additional aging effects that include cracking or change in material properties due to ozone, ultra violet or thermal exposure, loss of material due to wear and galvanic corrosion, heat transfer degradation due to fouling. The proposed expansion of AMP B2.1.14 is beyond the scope of GALL AMP XI.M36, which was meant for steel components and loss of material only.

- Please provide an appropriate program to manage the non-metallic components and their associated aging effects.

- Please justify why the aging effect of heat transfer degradation due to fouling, as it applies to the additional metallic components added to the scope of this program, is not considered an enhancement to the program element, "scope of program", of GALL AMP XI.M36.

- Please justify how this program will adequately manage the aging effects of loss of material and heat transfer degradation and their applicable aging mechanism, as it applies to the additional metallic components added to the scope of this program.

RAI AMP-B2.1.15-1:

The Fire Protection Program basis document states that the diesel-driven fire pump inspection activities require that the pump be periodically performance tested. PINGP credits the Fire Protection program to manage cracking in the fuel oil lines. Please confirm how the periodic performance test will manage the aging effect of cracking in the fuel oil lines.

RAI AMP-B2.1.15-2:

The GALL AMP XI.M26 in the "acceptance criteria" element recommends no corrosion is acceptable in the fuel supply line for the diesel-driven fire pump. Acceptance criteria element under Section 5.6 of the program basis document states that the diesel driven fire pump is flow tested to ensure there is no indication of internal fuel supply line corrosion. Please explain how the flow test will ensure there is no corrosion.

RAI AMP-B2.1.15-3:

The GALL AMP XI.M26 recommends once every six months for performance testing of the Halon system. In the LRA, PINGP takes an exception to performance testing of Halon smoke detectors. PINGP performance testing ranges from once every three years to once every five years. Please provide a basis for using a different frequency than the GALL Report recommended frequency.

RAI AMP-B2.1.17-1:

The "monitoring and trending" element in GALL AMP XI.M17 states that CHECKWORKS or a similar predictive code is used to predict component degradation in the systems conducive to flow accelerated corrosion (FAC), as indicated by specific plant data, including material, hydrodynamic, and operating conditions. PINGP stated that CHECKWORKS was implemented in late 2004. Please provide any operating experience such as excessive FAC requiring repair or replacement of piping that was the basis for converting to CHECKWORKS.

RAI AMP-B2.1.17-2:

FAC Program document FP-PE-FAC-01, Section 5.8.3 states under component evaluations to compare CHECKWORKS measured and predicted thickness. Has PINGP established a correlation between predicted results and actual wall thickness measurements? Has PINGP had excessive FAC that was not predicted by CHECKWORKS?

RAI AMP-B2.1.17-3:

FAC Program document FP-PE-FAC-01, Section 5.8.4.4 states that system changes could increase wear rates or subsequent reinspection could indicate significantly higher wear rates. What process/procedure is used to address changes in the chemical, operating and flow conditions that could impact remaining life predictions? How are these changes factored into the FAC program so that the remainder service life can be reevaluated?

RAI AMP-B2.1.17-4:

GALL AMP XI.M17 in the "monitoring and trending" element states that inspection results are evaluated to determine if additional inspections are needed. Please provide information on how PINGP expands sample size. What acceptance criterion is used for sample expansion? Is it related to thickness or to wear rates? Is there a different value used for safety related and non-safety related piping?

RAI AMP-B2.1.17-5:

GALL AMP XI.M17 in the "detection of aging effects" element states, "The extent and schedule of the inspections assure detection of wall thinning before the loss of intended function." Please clarify how PINGP calculates minimum permitted wall thickness to avoid loss of intended function and how it is used for the determination of the schedule of inspections in the FAC analysis.

RAI AMP-B2.1.18-1:

Please provide the following additional information relative to the following program element recommendations in GALL AMP XI.M37, "Flux Thimble Tube Inspection:"

1) The "acceptance criteria" program element in GALL AMP XI.M37 states in part that:

> Acceptance criteria different from those previously documented in NRC acceptance letters for the applicant's response to Bulletin 88-09 and amendments there to, should be justified.

State what the current acceptance criteria are for the Flux Thimble Tube Inspection Program. Justify the use of your current acceptance criteria if the current acceptance criteria for the program differs from those previously committed to in the PINGP response to Bulletin 88-09. Clarify how the acceptance criterion for capping a thimble tube and taking a thimble tube out of service differs from the acceptance criterion used to reposition a thimble tube. Clarify how many times a thimble tube may be repositioned if the tube continues to exhibit evidence of wear following an initial repositioning of the component.

2) The "acceptance criteria" program element in GALL AMP XI.M37 states:

> The wall thickness measurements will be trended and wear rates will be calculated. Examination frequency will be based upon wear predictions that have been technically justified as providing conservative estimates of flux thimble tube wear. The interval between inspections will be established such that no flux thimble tube is predicted to incur wear that exceeds the established acceptance criteria before the next inspection. The examination frequency may be adjusted based on plant-specific wear projections. Re-baselining of the examination frequency should be justified

using plant specific wear-rate data unless prior plant-specific NRC acceptance for the re-baselining was received. If design changes are made to use more wear-resistant thimble tube materials (e.g., chrome-plated stainless steel) sufficient inspections will be conducted at an adequate inspection frequency, as described above, for the new materials.

Clarify whether the inspection frequencies for flux thimble tubes at PINGP Units 1 and 2 are based on the unit specific wear data and wear rates established from the data or on the generic wear rate value that is provided in Proprietary Class 2 WCAP-12866. If the generic wear rate value is used as your basis, justify its use for projecting the inspection frequency for the thimble tubes, as there is no assurance that the generic wear rate value is conservative relative to wear rates established from the PINGP unit-specific wear data.

RAI AMP-B2.1.22-1:

The GALL Report recommends that AMP XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components," is only applicable for steel (carbon steel) components to detect loss of material with the use of visual inspections. However, based on the applicant's program basis documents and AMR line items the staff noted that the applicant has expanded the scope of materials to include aluminum, brass and bronze, cast austenitic stainless steel, copper alloy, copper-nickel and stainless steel; and has expanded the scope of aging effects to include cracking due to stress corrosion cracking. The proposed expansion of AMP B2.1.22 is beyond the scope of GALL AMP XI.M38, which was meant for steel components and loss of material.

- Please justify why the expansion in the scope of materials to include additional metallic components and in the scope of aging effects to include cracking due to stress corrosion cracking are not considered enhancements to GALL AMP XI.M38.

- Please justify how this program will adequately manage the aging effect of loss of material and their associated aging mechanisms, as it applies to the additional metallic components added to the scope of this program.

- Identify and justify the inspection techniques used by this program that will be capable of detecting stress corrosion cracking for stainless steel components added to the scope of this program or please provide an appropriate program to manage cracking due to stress corrosion cracking for stainless steel components.

RAI AMP-B2.1.36-1:

In LRA Section B2.1.36, "Selective Leaching of Material Program," the applicant proposed an exception to the recommendations of GALL AMP XI.M33, "Selective Leaching of Materials." The exception proposed alternative selective leaching detection techniques that may be used instead of, or in addition to, visual inspection and hardness testing. The staff requests that the applicant provide additional information concerning the proposed alternative detection techniques and justification for using the proposed techniques.

RAI AMP-B2.1.40-1:

During audit of site documents related to LRA AMP B2.1.40, Water Chemistry Program, it was noted that there are differences between the water chemistry diagnostic parameter measurements recommended in EPRI Water Chemistry Guidelines referenced in the GALL Report for AMP XI.M2, Water Chemistry, and diagnostic parameter measurements as implemented by the applicant's water chemistry-related procedures. However, these differences were not identified as exceptions in the LRA's description of the Water Chemistry Program.

Please explain why the differences from the recommendations in the EPRI Water Chemistry Guidelines were not identified in the LRA as exceptions to the recommendations in the GALL Report and justify that with these differences the PINGP Water Chemistry Program provides adequate aging management for affected components during the period of extended operation.

RAI AMP-B2.1.40-2:

Section B2.1.40 of the LRA states that the "monitoring and trending" program element of the existing Water Chemistry Program will be enhanced to require increased sampling to be performed as needed to confirm the effectiveness of corrective actions taken to address an abnormal chemistry condition. The description in the LRA provides insufficient information for the staff to evaluate the need for or the effectiveness of the proposed Water Chemistry Program enhancement.

Please explain what the current practices and procedural requirements are with regard to increased chemistry sampling after corrective actions are taken to address an abnormal chemistry condition.

RAI AMP-B2.1.40-3:

Section B2.1.40 of the LRA states an exception to the "acceptance criteria" program element of GALL AMP XI.M2, Water Chemistry. The exception states that primary water (reactor coolant) dissolved oxygen Action Level limits are consistent with the Technical Requirements Manual, but above the corresponding recommended EPRI guideline limits. The information in the LRA is insufficient for the staff to evaluate the acceptability of this exception.

Please provide a quantitative comparison of the dissolved oxygen Action Level limits in your Technical Requirements Manual against the corresponding recommended EPRI guideline limits, and provide a technical justification of why the limits in your Technical Requirements Manual provide acceptable aging management mitigation during the period of extended operation that is comparable to what is provided by the EPRI guideline limits.

RAI AMP-B2.1.38-1

The PINGP LRA AMP B2.1.38, "Structures Monitoring Program," does not clearly specify how the GALL Report program element "Parameters of Aging Effects" is met. The staff notes that under "Enhancements" to this program element, it states to "require periodic sampling of groundwater…to ensure they remain non-aggressive."

The staff requests that the applicant provide the following information:

(a) The location(s) where test samples were/are taken relative to the safety-related and important-to-safety embedded concrete foundations; and

(b) Explain the technical basis for concluding that "periodic sampling" of a single well is sufficient to ensure that safety-related and important-to-safety embedded concrete foundations are not exposed to aggressive groundwater.

RAI AMP-B2.1.38-2

The PINGP LRA AMP B2.1.38, "Structures Monitoring Program," does not clearly specify how the GALL Report program element "Operating Experience" is met. PINGP has identified leakage of boron water from both units' refueling cavities and through the concrete backing the refueling cavity liners since 1998. Leakage was fairly consistent throughout the duration of the flooding of the refueling cavity pool (average 1 gallon per hour). Since then, the leakage path has not been specifically identified. Leakage could potentially degrade the carbon steel containment vessel, containment concrete, and containment rebar.

The staff requests that the applicant provide the results of any root cause analyses, as well as corrective and preventive actions taken to address or correct this issue.

RAI AMP-B3.1-1.

The GALL Report AMP X.E1 program element "Scope of Program," states that this program applies to certain electrical components that are important to safety and exposed to harsh environment accident conditions. In PINGP AMP B3.1 under element 1, the applicant states that the AMP consists of PINPG activities that manage aging effects of the electrical cables and connections subject to 10 CFR 50.49 EQ requirements.

The staff requests that the applicant explain how the scope of program B3.1 is consistent with that in the GALL Report AMP X.E1.

RAI AMP-B3.1-2.

The GALL Report AMP X.E1 under program description discusses reanalysis attributes in detail. In LRA Section B3.1, the applicant did not describe the reanalysis attributes in the program description of PINGP AMP B3.1.

The staff requests that the applicant provide a detailed description of each of the reanalysis attributes.

RAI AMP-B3.1-3.

The LRA Appendix A, FSAR Supplement Section A3.0, did not provide a complete summary of the time-limited aging analysis (TLAA) evaluation of the environmental qualification of electric equipment as described in SRP Section 4.4, Table 4.4-2.

The staff requests that the applicant provide a complete summary of the TLAA evaluation of the EQ of electrical equipment program.

RAI AMP-B2.1.20-1.

The GALL Report AMP XI.E6, under "Program Description," states that the aging management program for fuse holders (metallic clamps) needs to account for the following stressors, if applicable: fatigue, mechanical stress, vibration, chemical contamination, and corrosion. The applicant's Fuse Holder Program under the same program element states that the aging management program for fuse holders (metallic clamps) manages the effects of aging from adverse localized environments. Adverse localized environment is defined in the GALL Report as high heat, high radiation, or high moisture.

The staff requests that the applicant explain how the environment of the applicant's fuse holder program is consistent with those in the GALL Report AMP XI.E6.

RAI AMP-B2.1.26-1.

The scope of the program in GALL Report AMP XI.E4 is to inspect all metal enclosed buses (MEBs) within the scope of the program and a sample of bolted connections. In LRA AMP B2.1.26, the applicant will only inspect representative samples of MEBs within the scope of license renewal.

The staff requests that the applicant explain how the scope of AMP B2.1.26 is consistent with that in the GALL Report AMP X1.E4.

RAI AMP-B2.1.26-2.

The GALL Report AMP XI.E4 will inspect the interior of MEBs and the Structure Monitoring Program will inspect the exterior of the enclosure assembly. In LRA AMP B2.1.26, under program element 3 (parameters monitored/inspected), the applicant stated that it will inspect both the exterior and interior of MEBs such as housing and housing seal.

The staff requests that the applicant explain why this is not an exception to the GALL Report XI.E4 or provide a technical basis for this exception.

RAI AMP-B2.1.26-3.

Under element 3 (parameter monitored/inspected), the GALL Report XI.E4 states that the internal bus support will be inspected for structural integrity and signs of cracks.

The staff requests that the applicant explain why the internal bus supports are not included in this element for LRA AMP B.2.1.26.

RAI AMP-B2.1.26-4.

Under program element 6 (Acceptance Criteria) of LRA AMP B.2.1.26, the applicant stated that the acceptance criteria for each inspection and test is defined by the specific type of test performed.

The staff requests that the applicant describe acceptance criteria for each inspection and/or test. Compare these acceptance criteria against those in GALL XI.E4 element 6.

RAI-B2.1.6-1

The PINGP LRA AMP B.2.1.6, "Bolting Integrity Program," is not clear in how it satisfies the GALL report program element "Monitoring and Trending". Specifically, the element requires bolting connections for pressure retaining components (not covered by ASME Section XI) to be "…inspected daily. If the leak rate does not increase, the inspection frequency may be decreased to biweekly or weekly." PINGP credits the corrective action program for meeting this inspection frequency: however, the staff could not determine how this is achieved. In addition, if this recommendation was not specifically addressed in written procedures and guidance, there was no exception documented.

The staff requests that the applicant provide detailed plans for inspection frequency which satisfy this GALL element or the basis for taking an exception.

RAI-B2.1.6-2

In the PINGP LRA, AMP B.2.1.6, "Bolting Integrity Program," states that it follows the guidance contained in NUREG-1339, EPRI NP-5769, and EPRI TR-104213. These guidance documents are accepted by the GALL XI.M18 Bolting Integrity Program. However, PINGP states that it also follows the guidance contained in other industry based recommendations including EPRI NP-5067, EPRI NP-6316, and EPRI TR-111472, which are not identified as accepted guidance documents in the GALL.

The staff requests that the applicant indicate when the guidance contained in EPRI NP-5067, EPRI NP-6316, and EPRI TR-111472 is used, and whether or not its usage will contradict the GALL approved guidance. In addition, provide an account of any contradictions between the two sets of guidance and their impact on this program.

RAI-B2.1.6-3

In the PINGP LRA, AMP B.2.1.6 "Bolting Integrity Program" identifies an enhancement to the GALL report program elements "Parameters Monitored/Inspected" and "Detection of Aging Effects" regarding enhancement of guidance for visual inspections of installed bolting. However, the LRA does not specify the enhancements in sufficient detail.

The staff requests that the applicant provide clarification on specifically what will be changed. Additionally, provide clarification on how the visual inspections described in the enhancement will meet the inspection specifications set forth in the GALL Report Bolting Integrity Program, and justification if it is not consistent with this GALL Report program.

RAI-B2.1.6-4

In the PINGP LRA, AMP B.2.1.6, "Bolting Integrity Program," identifies the External Surfaces Monitoring Program, Buried Piping and Tanks Inspection Program, Structures Monitoring Program, and RG 1.127 Inspection of Water Control Structures Associated with Nuclear Power Plants Program as other aging management programs which implement aspects of the bolting integrity program. However, these supplemental programs include inconsistent statements in their program basis documents regarding their management of bolting. The discrepancies indicate a possible misunderstanding of the intent of the Bolting Integrity Program. As a result, it is not clear how, or if, these supplemental programs implement the specifications set in the Bolting Integrity Program. Examples of discrepancies are included below:

- The Bolting Integrity Program, Scope of Program Element states in several locations that other supplemental AMPs provide the requirements for the inspection of the applicable bolting for each supplemental program. However, this statement may cause a discrepancy with the GALL Bolting Integrity Program. The Bolting Integrity Program provides the requirements for the supporting AMPs to implement.

- The Structures Monitoring Program and RG 1.127 Inspection of Water Control Structures Associated with Nuclear Power Plants Program states in their Detection of Aging Effects summary that "The program is supplemented by the Bolting Integrity Program…" However, this statement may cause a discrepancy with the GALL Bolting Integrity Program. The Bolting Integrity Program is supplemented by the supporting AMPs.

- The External Surfaces Monitoring Program does not specifically identify bolting as a component that it manages. If the program does not manage bolting, then the statements made in the Bolting Integrity Program are incorrect.

The staff requests that applicant provided the inspection requirements which will enable it to meet the inspection specifications set forth in the GALL Bolting Integrity Program for each AMP that supplements the Bolting Integrity Program. Additionally, ensure that these programs are amended accordingly to accurately portray the correct intent of the programs as highlighted in the examples above.

RAI B2.1.4-1

In the PINGP LRA, the IWE AMP discusses coating degradation under "Operating Experience" but the LRA does not address aging management of coatings. The failure of coatings could result in aging effects for the steel containment vessel. The failure of coatings could also result in the failure of safety systems to perform their intended functions (for instance, safety injection).

The staff requests that the applicant provide a basis for not having an aging management program for coatings, including a discussion of plant specific operating experience related to coating inspection and degradation.

RAI B2.1.1-1

During the AMP audit, the staff reviewed historic test data for the Unit 2 maintenance airlock, which failed a Type B test in 1989. During this review, the staff found that the Type B & C allowable leak rates were changed from 154,800 to 43,331 cc/min on the provided surveillance procedures since 1998. The staff also noticed relatively high leak rates through the maintenance airlock prior to 2002.

The staff requests that the applicant provide an explanation and basis for the above two changes in order to provide sufficient information relative to operating experience for the Appendix J AMP.