

November 18, 2004

Mr. Dennis L. Koehl  
Site Vice President  
Nuclear Management Company, LLC  
6610 Nuclear Road  
Two Rivers, WI 54241

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE  
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2, LICENSE RENEWAL  
APPLICATION

Dear Mr. Koehl:

By letter dated February 25, 2004, Nuclear Management Company, LLC, (NMC or the applicant) submitted an application pursuant to 10 CFR Part 54, to renew the operating licenses for Point Beach Nuclear Plant (PBNP), Units 1 and 2, for review by the U.S. Nuclear Regulatory Commission (NRC). The NRC staff is reviewing the information contained in the license renewal application (LRA) and has identified, in the enclosure, areas where additional information is needed to complete the review.

These RAIs were discussed with your staff, Mr. Jim Knorr, and a mutually agreeable date for this response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-2232 or e-mail [MJM2@nrc.gov](mailto:MJM2@nrc.gov).

Sincerely,  
**/RA/**

Michael J. Morgan, Project Manager  
License Renewal Section A  
License Renewal and Environmental Impacts Program  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Docket Nos.: 50-266 and 50-301

Enclosure: As stated

cc w/encls: See next page

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Point Beach Nuclear Plant, Units 1 and 2

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DISTRIBUTION: Ltr. To D. Koehl, RAI for the Review of the Pt. Beach Nuclear Plant, Units 1 and 2, License Renewal Application, Dated: November 18, 2004

Adams accession no.: **ML043280582**

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Project Manager

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POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2  
LICENSE RENEWAL APPLICATION (LRA)  
REQUEST FOR ADDITIONAL INFORMATION (RAI)

**Section 2.5 - Scoping/Screening Electrical & Instrumentation and Controls**

RAI-2.5.1

In section 2.5 the screening results listed Panels and junction boxes as a system within the scope of license renewal. In addition, the Panel and junction boxes are described under commodity group as a commodity that includes control boards, electrical panels, switchgear, cabinets, junction boxes, and other electrical enclosures. However, in table 2.5-1 the Panel and junction boxes is not listed as a component subject to an AMR. Are there any electrical passive components such as connections, wiring and hardware that could degrade because of aging mechanisms due to moisture and corrosion within the cabinets, junction boxes and other electrical enclosures? Discuss and provide justification why the passive components in panels and junction boxes are not subject to an AMR.

**Section 3.6 - Aging Management of Electrical and Instrumentation and Controls**

RAI-3.6.2.1.1

According to Table 3.6.2-1 of the LRA, "Electrical Components - Electrical Commodity Groups - Summary of Aging Management Evaluation" Aging Management Programs (AMPs) are not required for the following component types:

- High-voltage insulators (Offsite Power System)
- Phase bus (480 VAC, 4160 VAC, and 13.8 KVAC Power Systems)
- Transmission conductors (Offsite Power Systems)
- Electrical connections not subject to 10 CFR 50.49 EQ requirements that are exposed to borated water leakage (Some Electrical and I&C systems), Environment - Containment (External), Indoor - No Air-conditioning

The reason given for not including in the AMPs per note J of the Table 3.6.2-1 is that neither the component nor the material and environment combination is evaluated in NUREG-1801.

A component type not presently listed in NUREG-1801 (GALL Report) is not a sufficient reason to exclude it from an Aging Management Program. Please explain why an Aging Management Program for the above components is not required or specifically needed as discussed in the following subsections:

RAI-3.6.2.1.2

High-voltage insulators (Offsite Power System): Various airborne materials such as dust, salt, and industrial effluents can contaminate insulator surfaces. Airborne particles can buildup on the insulators and cause flashover or otherwise adversely impact the intended function. Therefore, please explain why an Aging Management Program for High-voltage insulators is not needed.

#### RAI-3.6.2.1.3

Phase bus (480 VAC, 4160 VAC, and 13.8 KVAC Power Systems): Information Notices 89-64, 98-36, and 2000-14 provide examples that underscore the safety significance of bus ducts and the potential problems that can arise from age-related bus component failures. Please explain why the aging management program (AMP) for bus ducts is not necessary. If needed, the AMP must address the following aging effects: oxidation, loosening of bolted connections due to thermal cycling, corrosion due to moisture, embrittlement, cracking, melting, discoloration, swelling or loss of dielectric strength of bus duct insulating materials (if applicable) leading to reduced insulation resistance and dielectric strength. The AMP should check bolted connections for proper torque. A periodic visual inspection of the bus duct is needed to inspect for signs of insulation cracking, corrosion, debris, excessive dust buildup, evidence of moisture and water intrusion, or discoloration of insulation which may indicate overheating. The internal bus supports should also be inspected for structural integrity and signs of cracks. If visual inspection of the whole bus assembly can not be performed, appropriate electrical tests should be conducted on a periodic basis to assess its condition for aging degradation.

#### RAI-3.6.2.1.4

Transmission conductors (Offsite Power Systems): Section 2.5.1, under the sub-heading “Transmission Conductors”, states that the transmission conductor connections to active disconnect switches, power circuit breakers and transformers are inspected using thermography and maintained along with and as part of disconnect switch, power circuit breaker or transformer and, therefore, meet the definition of an active component as discussed in the Statement Of Considerations (SOC) that accompanied the License Renewal Rule. The reason provided in Table 3.6.2-1 (note J) for not including transmission conductors in an AMP is different from the explanation provided in Section 2.5.1 of LRA. Provide an explanation for the discrepancy between Table 3.6.2-1 and Section 2.5.1 for Transmission conductors.

#### RAI-3.6.2.1.5

It is possible that some in-scope electrical components located indoor but outside containment may also be subjected to borated water leakage causing degradation of the components. Provide justification why in Table 3.6.2-1, Boric Acid Corrosion Program is not required for components located indoors but outside of containment.

#### RAI-3.6.2.1.6

In Table 3.6.2-1, it is indicated that “Switchyard buses and connections (Offsite Power System)” will be covered under Cable Condition Monitoring Program. However, Cable Condition Monitoring Program in Section B2.1.8 of Appendix B does not include Switchyard buses and connections. Section 2.5.1, under the sub-heading “Switchyard Bus”, states that the review of switchyard bus includes the switchyard bus and the hardware used to secure the bus to a high-voltage insulator. This includes corona rings and other similar fixtures that are standard design features of the switchyard bus. It further states that the bus connection to an active disconnect switch is inspected using thermography and maintained along with and as part of disconnect switch and, therefore, meets the definition of an active component as discussed in the SOC that accompanied the License Renewal Rule. Provide explanation for the

discrepancy between Table 3.6.2-1 and Section 2.5.1 for the Switchyard buses and connections.

RAI-3.6.2.1.7

Cable Condition Monitoring Program, explained in Section B2.1.8 of Appendix B, indicates an exception to NUREG-1801 AMP regarding the scope of inaccessible Non-EQ Medium-Voltage cables. The Cable Condition Monitoring Program requires periodic testing of a representative sample of inaccessible medium-voltage cables not designed for submergence, subject to prolonged exposure to significant moisture and significant voltage, while the NUREG-1801 program implies all such cables are to be tested. Identify basis as to how the representative sample will be selected.

The number of inaccessible medium-voltage cables not designed for submergence subject to prolonged exposure to significant moisture and significant voltage is generally very low, and the testing is needed only once in 10 years. Therefore, provide an explanation why testing of all in-scope, inaccessible medium-voltage cables for detecting any deterioration of the insulation system due to prolonged exposure to moisture and voltage fluctuations is not required under the subject program.