

December 21, 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.

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, Request for RAI for the Review of the Pt. Beach Nuclear Plant, Units 1 & 2, Dated: December 21, 2004

Adams accession no.: **ML043570510**

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

B2.1.8 Cable Condition Monitoring Program

RAI B2.1.8-1 Inaccessible Non-EQ Medium-Voltage Cables

Question 1: Page B-84 (1st paragraph) of the Point Beach Nuclear Plant (PBNP) license renewal application (LRA) states, "This program applies to inaccessible (e.g., in conduit or direct buried) ...". Later on page B-84, the LRA states, "Medium-voltage cables at PBNP were ordered moisture resistant for direct buried or underground service, **but are not used in direct buried applications.**" [Bold emphasis added.]

Please clarify this apparent inconsistency. Which statement is correct? Are any **inaccessible non-EQ medium-voltage cables**, in scope of license renewal that credit the B2.1.8 AMP, use in buried applications?

Question 2: On Page B-84 of the PBNP LRA, purposes and an exception to the definition of "significant moisture." The GALL Report defines "significant moisture" as "periodic exposure to moisture that lasts more than a few days (e.g., cable in standing water)." The PBNP LRA (page B-84) states that, "Prolonged exposure to significant moisture is defined as exposures to significant moisture that last more than a few years (e.g., cable in standing water)."

The LRA supports this alternative definition based on a logic that includes consideration of:

- Use of moisture resistant cables
- Reduced likelihood for water treeing in lower voltage cables
- Installation of cables not using less susceptible installation material
- Minimize expose to moisture

While the NRC staff understands that these antidotal attributes suggest that water treeing would be minimized in these cables, the LRA does not provide any quantified test data supporting this alternate definition. Furthermore, the NRC staff understands that cables managed by this AMP are made by two manufactures and that one cable type is expected to perform better than the other because it has used a later technology. Please provide to the NRC staff manufacturer or laboratory test results for both types of cables that support a conclusion that water treeing would not occur if the cables were immersed in water for five or more years.

The LRA states that:

"Manhole flooding and groundwater intrusion has been a long standing issue at PBNP and efforts were periodically taken to reduce the exposure of medium-voltage cables to water. In order to better understand the magnitude of the groundwater intrusion problem into the electrical manholes, a new call-up to inspect and pump the flooded manholes was initiated. The new call-up periodically inspects and pumps down the electrical manholes, as necessary. As part of the new call-up, the approximate water level in each manhole is recorded. The recording

Enclosure

of the water level will provide the basis for any future changes in frequency to the call-up and any deletion of manhole inspections.”

The PBNP activities to better manage the manhole flooding and groundwater intrusion is a positive step in managing the potential for treeing. However, it has been the NRC staff’s experience that just eliminating water in the manholes does not provide reliable information about the presence of water or moisture in the inaccessible regions in conduits or where cables are buried. Therefore, based on the information contained in the LRA, it is not possible to determine if water or moisture is present in the inaccessible areas, even if the manholes are regularly drained. Please provide information that supports a lack of water in the inaccessible areas once the manholes have been drained. Alternatively, provide information documenting how PBNP will assure that the cables can not be immersed in water for more than a few days.

If this data is not available, please consider the use of the GALL Report definition for “significant moisture”?

Question 3: In the LRA (page B-79 and B-80), it states that B2.1.8 AMP on inaccessible non-EQ medium-voltage cables will perform “testing of a representative sample of in-scope, medium-voltage cables not designed for submergence subject to prolonged exposure to significant moisture and significant voltage once every 10 years to detect deterioration of insulation.” Please clarify if the sampling program will sample :

- The cables in each run or grouping that would be expected to experience the greatest amount time being immersed
- Cables form populations of cables manufactured by different companies and installed at different times