

November 17, 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, RAI for the Review of the Pt. Beach Nuclear Plant, Units 1 & 2, License Renewal Application, Dated: November 17, 2004

Adams accession no.: **ML043270651**

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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)

4.3 Metal Fatigue

RAI-4.3.1 Reactor Vessel Structural Integrity

Provide confirmation that the limiting locations of the PBNS reactor vessels evaluated for extended operation correspond to the structures and/or components listed in Table IV.A2 of NUREG-1801, Volume 2, for PWR reactor vessels structures and/or components, where cumulative fatigue damage/fatigue is the aging effect/mechanism, and which require further evaluation as TLAAs for the period of extended operation. Alternatively, provide the location in the LRA where this information is shown.

RAI-4.3.2.1 Reactor Vessel Internals Structural Integrity

Provide confirmation that the limiting locations of the PBNS reactor vessel internals evaluated for extended operation correspond to the structures and/or components listed in Table IV.B2 of NUREG-1801, Volume 2, for PWR reactor vessel internals structures and/or components, where cumulative fatigue damage/fatigue is the aging effect/mechanism, and which require further evaluation as TLAAs for the period of extended operation. Alternatively, provide the location in the LRA where this information is shown.

RAI-4.3.2.2 Reactor Vessel Internals Structural Integrity

Provide a summary of 60-year primary-plus-secondary stress intensities and cumulative fatigue usage factors (similar to revised Tables 4.3-1 and 4.3-2 in Appendix A of the LRA for components of the reactor vessel) for the key reactor internal components listed on page 4-41 of the LRA.

RAI-4.3.3 Control Rod Drive Mechanism Structural Integrity

Provide a comparison of the CLB set of transient conditions and design cycles, and the revised set of full power uprate transient conditions and design cycles, that were used in the CRDM fatigue TLAAs to show conformance with the CLB fatigue limits to the end of the period of extended operation.

RAI-4.3.4.1 Steam Generator Structural Integrity

Provide confirmation that the limiting locations of the PBNS steam generators evaluated for extended operation correspond to the structures and/or components listed in Table IV.D1 of NUREG-1801, Volume 2, for PWR reactor vessels structures and/or components, where cumulative fatigue damage/fatigue is the aging effect/mechanism, and which require further evaluation as TLAAs for the period of extended operation. Alternatively, state the location in the LRA where this information has been provided.

RAI-4.3.4.2 Steam Generator Structural Integrity

Provide a comparison of the CLB set of transient conditions and design cycles, and the revised set of Steam Generator Replacement and Full Power Uprate transient conditions and design cycles, that were used in the Units 1 and 2 steam generator fatigue TLAs to show conformance with the CLB fatigue CUF limit to the end of the period of extended operation. Alternatively, provide clarification stating that the applicable transient conditions and design cycles are those stated in Table 4.1-8 of Appendix A to the LRA.

RAI-4.3.4.3 Steam Generator Structural Integrity

List the key Units 1 and 2 steam generator components, and provide for each a summary of 60-year primary-plus-secondary stress intensities and cumulative fatigue usage factors (similar to revised Tables 4.3-1 and 4.3-2 in Appendix A of the LRA for components of the reactor vessel) for these components.

RAI-4.3.5.1 Pressurizer Structural Integrity

Provide confirmation that the limiting fatigue locations of the PBNS pressurizers evaluated for extended operation correspond to the pressurizer structures and/or components listed in Table IV.C2.5 of NUREG-1801, Volume 2, for PWR reactor vessels structures and/or components, where cumulative fatigue damage/fatigue is the aging effect/mechanism, and which require further evaluation as TLAs for the period of extended operation. Alternatively, state the location in the LRA where this information has been provided.

RAI-4.3.5.2 Pressurizer Structural Integrity

Provide a comparison of the CLB set of transient conditions and design cycles, and the revised set of Steam Generator Replacement and Full Power Uprate transient conditions and design cycles, that were used in the Units 1 and 2 pressurizers fatigue TLAs to show conformance with the CLB fatigue limit to the end of the period of extended operation.

RAI-4.3.5.3 Pressurizer Structural Integrity

Provide clarification that the “plant-specific insurge/outsurge” fatigue analyses are based on the combination of the insurge/outsurge transient condition and the transients listed in the revised set of Steam Generator Replacement and Full Power Uprate transient conditions.

RAI-4.3.5.4 Pressurizer Structural Integrity

Provide a description of the “Modified Operating Procedures” (page 4-45) that were used to minimize or eliminate in-surge/out-surge cycling.

RAI-4.3.5.5 Pressurizer Structural Integrity

List the key Units 1 and 2 pressurizer components, and provide for each a summary of 60-year primary-plus-secondary stress intensities and cumulative fatigue usage factors (similar to revised Tables 4.3-1 and 4.3-2 in Appendix A of the LRA for components of the reactor vessel) for these components.

RAI-4.3.7 Pressurizer Surge Line Structural Integrity

Provide a comparison of the CLB set of transient conditions and design cycles, and the revised set of Steam Generator Replacement and Full Power Uprate transient conditions and design cycles, that were used in the Units 1 and 2 pressurizer surge line fatigue TLAAAs to show conformance with the CLB fatigue limit to the end of the period of extended operation.

RAI-4.3.8 Pressurizer Spray Header Piping Structural Integrity

This section states that: "In view of the lack of margin with the Unit 1 piping system analysis results for end of life extension (EOLE), additional analysis investigations were pursued. The original 88-08 analysis incorporated simplified analysis techniques and assumptions. It was not clear that the analysis was in fact conservative. The 88-08 analyses were re-performed using the original temperature monitoring data, and refined analysis techniques and assumptions." Provide a detailed description and basis of the "refined analyses techniques and assumptions" that were used in the 88-08 re-evaluation to reduce the 60-year CUF of 0.99 for the Unit 1 piping system to a 60-year CUF of 0.277.

RAI- 4.3.10.1 Environmental Effects on Fatigue

For the USAS B31.1 locations, provide a description of the PBNP-specific simplified ASME Section III fatigue analyses that were used to calculate environmentally based cumulative usage factors.

RAI- 4.3.10.2 Environmental Effects on Fatigue

The Pressurizer CUFs are determined based on EPRI MRP-47 methodology. The staff has not endorsed MRP-47. Provide the environmentally assisted CUFs for the Pressurizer locations, based on the staff-accepted methodology as stated in Sections 4.3.2.2 and 4.3.3.2 of NUREG-1800.

