

April 1, 2005

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U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Point Beach Nuclear Plant, Units 1 and 2
Dockets 50-266 and 50-301
License Nos. DPR-24 and DPR-27

Response to Request for Additional Information
Regarding the Point Beach Nuclear Plant
License Renewal Application
(TAC Nos. MC2099 and MC2100)

By letter dated February 25, 2004, Nuclear Management Company, LLC (NMC), submitted the Point Beach Nuclear Plant (PBNP) Units 1 and 2 License Renewal Application (LRA). On March 29, 2005, the Nuclear Regulatory Commission (NRC) requested additional information regarding the Spent Fuel Pool (SFP) Storage Rack Boraflex (Section 4.6.1 of the LRA). The enclosure to this letter contains NMC's response to the staff's questions.

Should you have any questions concerning this submittal, please contact Mr. James E. Knorr at (920) 755-6863.

Summary of Commitments

New commitments made as part of this response are as follows:

1. Certain accelerated Boraflex panels will be areal density and blackness tested every two years during the period of extended operation.

The first Boraflex areal density testing of the Boraflex panels will be performed prior to the period of extended operation.

A new procedure to schedule and perform Boraflex areal density and blackness testing will be created.

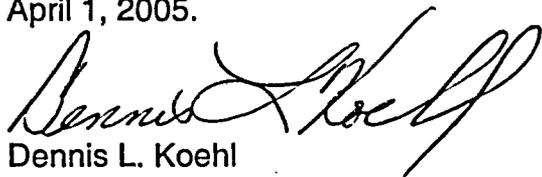
If silica sampling and trending indicates a boron areal density depletion trend to a value less than the acceptance criteria (i.e., maintaining the 5% subcriticality margin) prior to the next scheduled test, then an evaluation will be performed

within the corrective action program and the frequency of blackness and areal density testing increased.

Corrective actions will be taken to ensure that the 5% subcriticality margin of the spent fuel racks in the SFP is maintained during the period of extended operation. Corrective actions will be initiated if the test results find that the 5% subcriticality margin cannot be maintained because of current or projected future degradation. Corrective actions may include, but are not necessarily limited to, the following:

- Reanalysis
- Repair and/or Replacement

I declare under penalty of perjury that the forgoing is true and correct. Executed on April 1, 2005.



Dennis L. Koehl
Site Vice-President, Point Beach Nuclear Plant
Nuclear Management Company, LLC

Enclosure

cc: Administrator, Region III, USNRC
Project Manager, Point Beach Nuclear Plant, USNRC
Resident Inspector, Point Beach Nuclear Plant, USNRC
PSCW

ENCLOSURE

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 LICENSE RENEWAL APPLICATION

The following information is provided in response to the Nuclear Regulatory Commission (NRC) staff's request for additional information (RAI) regarding the Point Beach Nuclear Plant (PBNP) License Renewal Application (LRA).

The NRC staff's questions are restated below with the Nuclear Management Company (NMC) response following.

Spent Fuel Pool Storage Rack Boraflex

NRC Question RAI 4.6.1-1:

In Section B2.1.5 of Appendix B of the License Renewal Application (LRA), under the operating experience element, blackness tests along with Spent Fuel Pool (SFP) silica level measurements were completed during the August 1991, September 1996, and August 2001 scheduled surveillances. The staff requests that the applicant provide the most recent results of these tests to demonstrate that unexpected degradation of the Boraflex will be detected in a timely manner.

In addition, under the program description element in Section B2.1.5 of Appendix B of the LRA, the applicant states that blackness testing and areal density testing will be performed at a frequency of once every 5-years. Justification and approval of the 5-year frequency for blackness testing was provided in a Wisconsin Electric letter dated April 13, 1989, and U.S. Nuclear Regulatory Commission letter dated February 21, 1990. Provide justification of the 5-year frequency for areal density testing using the requested data to demonstrate that the current rate of degradation will not exceed the acceptance criteria if the panels are tested at this frequency.

NMC Response:

The results of the Inspections of the Boraflex conducted at PBNP in August 1991, September 1996, and August 2001 were provided for review to the NRC Region III inspection team during their March 2005 License Renewal inspection.

Certain accelerated Boraflex panels will be areal density and blackness tested every two years during the period of extended operation. See the revised Boraflex Monitoring Program (LRA Section 2.1.5) element sections in the response to RAI 4.6.1-3 for additional information.

NRC Question RAI 4.6.1-2:

Under the program description element of the Boraflex Monitoring Program in Section B2.1.5 of Appendix B of the LRA, the applicant states that a predictive code, "EPRI RACKLIFE or its equivalent," will be used to determine which panels will be subjected to full length testing (i.e., blackness testing, neutron attenuation, and areal density testing) and to trend and analyze SFP silica level measurement results. The input to the predictive code includes areal density and SFP silica level measurements. If areal density testing is first completed after the beginning of the extended operation period, justify the ability of the predictive code to accurately project the condition of the panels to ensure that the degradation does not exceed the acceptance criteria with one set of data, or commit to conducting baseline testing prior to entering the period of extended operation.

NMC Response:

The first Boraflex panel areal density testing will be performed prior to entering the period of extended operation. See the revised Boraflex Monitoring Program (LRA Section 2.1.5) element sections in the response to RAI 4.6.1-3, for additional information.

NRC Question RAI 4.6.1-3:

In Section B2.1.5 of Appendix B of the LRA, under the acceptance criteria element, the applicant states that this element is consistent with NUREG-1801, "Generic Aging Lessons Learned (GALL) Report." Provide more information regarding your acceptance criteria and what specific corrective actions will be taken if trends indicate that the acceptance criteria may be met.

NMC Response:

The following portions of the Boraflex Monitoring Program (LRA Section 2.1.5) have been rewritten to respond to the three questions above (RAIs 4.6.1-1 through 4.6.1-3).

LRA Section B2.1.5: Boraflex Monitoring Program:

The following PBNP Boraflex Monitoring Program (LRA Section B2.1.5) elements have been revised to be consistent with NUREG-1801, Section XI.M22 .

Detection of Aging Effects

The Boraflex Monitoring Program detects aging effects on the Boraflex panels through blackness testing, areal density testing, and by trending the silica levels in the water of the spent fuel pool (SFP). Blackness testing detects aging effects in terms of gap formation, gap distribution and gap size. Areal density measurements are used to ascertain the physical loss of boron carbide. The

presence of silica in the SFP water is a physical sign of the aging effects of the Boraflex material. Tracking of the SFP silica levels provides a qualitative indication of boron carbide loss.

Silica level in the SFP water is monitored through periodic sampling. The current frequency of analyzing the SFP water for silica concentration is monthly. The Boraflex Monitoring Program trends and analyzes the results of the silica sampling by using the EPRI RACKLIFE predictive code or its equivalent on a monthly, quarterly, or annual basis depending on Boraflex panel condition. The Boraflex Monitoring Program determines the amount of boron carbide released from the Boraflex panels in the SFP, by direct measurement of boron areal density and subsequent correlation with the levels of silica present through the use of a predictive code. Analysis of these trends are used to predict when the 5% subcriticality margin of the spent fuel racks in the SFP will no longer be maintained.

The frequency of Boraflex areal density testing and blackness testing during the period of extended operation depends on the condition of the Boraflex panels, with a minimum test frequency of once every five years. In addition, the first Boraflex areal density testing of the Boraflex panels will be performed prior to the period of extended operation.

Certain accelerated Boraflex panels are areal density and blackness tested every two years during the period of extended operation. Two SFP storage locations have received freshly discharged spent fuel assemblies each refueling for approximately nine years, which has caused accelerated cumulative exposure levels to the bordering Boraflex panels. Four of these panels are tested during each scheduled surveillance.

The surveillance examines a minimum of 10 full length Boraflex panels selected from those that have been exposed to the greatest number of freshly discharged fuel assemblies. The 10 panels include four panels with accelerated exposure that are tested every two years and six panels selected at random that are tested at a minimum frequency of once every five years. The results of the Boraflex panel areal density and blackness testing are evaluated as part of the Boraflex Monitoring Program to determine if a change in test frequency or methodology is warranted. Corrective actions will be initiated if the test results find that the 5% subcriticality margin cannot be maintained because of current or projected future degradation.

A new procedure to schedule and perform Boraflex areal density and blackness testing will be created.

This element is consistent with the corresponding NUREG-1801 aging management program element.

Monitoring and Trending

Silica level in the SFP water is monitored through periodic sampling. The Boraflex Monitoring Program trends and analyzes the results of the silica sampling by using the EPRI RACKLIFE predictive code or its equivalent. The Boraflex Monitoring Program determines the amount of boron carbide released from the Boraflex panels in the SFP, by direct measurement of boron areal density and subsequent correlation with the levels of silica present through the use of a predictive code. Analysis of these trends are used to predict when the 5% subcriticality margin of the spent fuel racks in the SFP will no longer be maintained.

The physical condition of the Boraflex panels is monitored through periodic areal density and blackness testing. Blackness testing confirms the in-service performance data in terms of gap formation, gap distribution, and gap size. Areal density testing of the Boraflex panels measures the physical loss of boron carbide from the neutron-absorbing material.

Periodic measurements and analysis are compared to values of previous measurements and analysis to provide a continuing level of data for trend analysis. The results of the Boraflex panel areal density and blackness testing are evaluated as part of the Boraflex Monitoring Program to determine if a change in test frequency or methodology is warranted. If silica sampling and trending indicates a boron areal density depletion trend to a value less than the acceptance criteria (i.e., maintaining the 5% subcriticality margin) prior to the next scheduled test, then an evaluation will be performed within the corrective action program and the frequency of blackness and areal density testing increased.

This element is consistent with the corresponding NUREG-1801 aging management program element.

Acceptance Criteria

The acceptance criteria for the Boraflex Monitoring Program is to maintain the 5% subcriticality margin of the spent fuel racks in the SFP during the period of extended operation. Corrective actions will be taken to ensure that the 5% subcriticality margin of the spent fuel racks in the SFP is maintained during the period of extended operation.

The Boraflex Monitoring Program trends and analyzes the results of the silica sampling by using the EPRI RACKLIFE predictive code or its equivalent. The Boraflex Monitoring Program determines the amount of boron carbide released from the Boraflex panels in the SFP, by direct measurement of boron areal density and subsequent correlation with the levels of silica present through the use of a predictive code. Analysis of these trends are used to predict when the

5% subcriticality margin of the spent fuel racks in the SFP will no longer be maintained. If silica sampling and trending indicates a boron areal density depletion trend to a value less than the acceptance criteria (i.e., maintaining the 5% subcriticality margin) prior to the next scheduled test, then an evaluation will be performed within the corrective action program and the frequency of blackness and areal density testing increased.

The physical condition of the Boraflex panels is monitored through periodic areal density and blackness testing. The results of the Boraflex panel areal density and blackness testing are evaluated as part of the Boraflex Monitoring Program to determine if a change in test frequency or methodology is warranted. Corrective actions will be initiated if the test results find that the 5% subcriticality margin cannot be maintained because of current or projected future degradation.

This element is consistent with the corresponding NUREG-1801 aging management program element.

Corrective Actions

Corrective actions are implemented in accordance with the requirements of 10 CFR 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," and ANSI N18.7-1976, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants," as committed in Section 1.4 of the PBNP FSAR).

Corrective actions will be taken to ensure that the 5% subcriticality margin of the spent fuel racks in the SFP is maintained during the period of extended operation. Corrective actions will be initiated if the test results find that the 5% subcriticality margin cannot be maintained because of current or projected future degradation. Corrective actions may include, but are not necessarily limited to, the following:

- Reanalysis
- Repair and/or Replacement

This element is consistent with the corresponding NUREG-1801 aging management program element.