

March 21, 2003

Mr. Alfred Cayia  
Site Vice President  
Point Beach Nuclear Plant  
Nuclear Management Company, LLC  
6610 Nuclear Road  
Two Rivers, WI 54241

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - EVALUATION OF RELIEF  
REQUEST NO. 8 USE OF CODE CASE N-624, "SUCCESSIVE INSPECTIONS"  
(TAC NOS. MB5405 AND MB5406)

Dear Mr. Cayia:

By letter dated March 22, 2002, the Nuclear Management Company, LLC (the licensee), submitted Relief Request No. 8 (RR-8) for the Point Beach Nuclear Plant (PBNP), Units 1 and 2. The licensee proposes the use of the American Society of Mechanical Engineers (ASME) Code Case N-624, "Successive Inspections," as an alternative to the *Boiler and Pressure Vessel Code* (Code), Section XI, requirement for scheduling of components for examination, as specified in the ASME Code, Section XI, 1998 edition with addenda through 2000.

The Nuclear Regulatory Commission (NRC) staff has reviewed RR-8 and concluded that the licensee's compliance with the ASME Code requirements would result in a hardship or unusual difficulty without a compensating increase in quality or safety. The licensee's proposed alternative provides reasonable assurance of structural integrity of the subject component. The licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) for the fourth ISI interval at PBNP, Units 1 and 2.

The NRC staff's safety evaluation is enclosed.

Sincerely,

*/RA/*

L. Raghavan, Chief, Section 1  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosure: Safety Evaluation

cc w/encl: See next page

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Point Beach Nuclear Plant, Units 1 and 2

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March 2002

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE FOURTH INSERVICE INSPECTION INTERVAL

RELIEF REQUEST NO. 8

NUCLEAR MANAGEMENT COMPANY, LLC

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-266 AND 50-301

1.0 INTRODUCTION

By letter dated March 22, 2002, the Nuclear Management Company, LLC (the licensee), submitted Relief Request No. 8 (RR-8) for the Point Beach Nuclear Plant (PBNP), Units 1 and 2. The licensee proposes the use of American Society of Mechanical Engineers (ASME) Code Case N-624, "Successive Inspections," as an alternative to the *Boiler and Pressure Vessel Code* (the Code), Section XI, requirement for scheduling of components for examination, as specified in the ASME Code, Section XI, 1998 edition with addenda through 2000.

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.55a(g), requires that inservice inspection (ISI) of the ASME Code Class 1, 2, and 3 components be performed in accordance with the ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," Article IWA-5242(a), and applicable addenda, except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(6)(g)(i). The regulation at 10 CFR 50.55a(a)(3) states that alternatives to the requirements of paragraph (g) may be used, when authorized by the Nuclear Regulatory Commission (NRC), if the licensee demonstrates that (i) the proposed alternatives would provide an acceptable level of quality and safety or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2 and 3 components (including supports) shall meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI, to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120-month

ENCLOSURE

interval, subject to the limitations and modifications listed therein. For PBNP, Units 1 and 2, the applicable edition of Section XI of the ASME Code for the fourth 10-year ISI interval is the 1998 edition with addenda through 2000.

### 3.0 TECHNICAL EVALUATION

#### 3.1 RR-8 for PBNP, Units 1 and 2

Pursuant to 10 CFR 50.55a(a)(3)(i), the licensee requested relief from the requirements of the Code for scheduling components for examination as specified in the ASME Code, Section XI, 1998 edition with addenda through 2000.

#### 3.2 Components for Which Relief is Requested

Class 1, 2, and 3 component examinations for the fourth interval.

#### 3.3 ASME Code Requirement from Which Relief is Requested

The following articles of ASME Code, Section XI, 1998 edition with addenda through 2000:

IWB-2420(a) - The sequence of component examinations which was established during the first inspection interval shall be repeated during each successive inspection interval, to the extent practical.

IWC-2420(a) - The sequence of component examinations which was established during the first inspection interval shall be repeated during each successive inspection interval, to the extent practical.

IWD-2420(a) - The sequence of component examinations which was established during the first inspection interval shall be repeated during each successive inspection interval, to the extent practical.

IWF-2420(a) - The sequence of component examinations which was established during the first inspection interval shall be repeated during each successive inspection interval, to the extent practical.

#### 3.4 Licensee's Request for Relief (as stated)

Relief is requested from performing component examinations in the sequence that was established in the first inspection interval.

#### 3.5 Licensee's Basis for Requesting Relief (as stated)

Since PBNP began performing ISI examinations, the rules for radiation exposure, safety, and the selection and scheduling of ISI examination areas have changed significantly. The changes were enacted to provide additional safety to personnel working at the plants and to enhance the safety to the general public. 10 CFR 20.1101(b) mandates PBNP to reduce radiation exposure to as low as reasonably achievable [ALARA]. Procedures and engineering controls based upon sound radiation protection principles are being used to the extent practicable. In order to meet

this and other regulations, PBNP must reevaluate every aspect of every job at PBNP. Revising the ISI schedule will allow PBNP to minimize the amount of work being performed in radiation areas, meet safety and ALARA requirements, and still meet Section XI, requirements.

### 3.6 Licensee's Proposed Alternative Examination (as stated)

PBNP proposes to use the alternative requirements of ASME Code Case N-624.

The sequence of examinations established during the previous inspection interval will be repeated to the extent practical, but will be modified in a manner that reduces scaffold, insulation, and radiation exposure. The examinations will be selected to coincide with the requirements of the PBNP Risk-Informed ISI Program to the extent practical.

PBNP will schedule the same areas for examination that were performed during the third interval, to the extent practical. The sequence of examinations established during the third interval will be followed, to the extent practical, but will be altered to reduce radiation exposure and expense, and allow the examination, preparation of areas, and the recovery process to be minimized. Substitute welds may be selected (the substitution of other components is defined in the ISI program). When welds are substituted, they will be similar in configuration to those originally scheduled, and on the same or similar lines, if possible. The number of examinations performed will meet or exceed the minimum number by each Examination Category. The number of components examined will meet the percentage requirements of Program B [Inservice Inspection Program B].

### 3.7 NRC Staff Evaluation

The licensee requested relief from the requirements of the Code for scheduling components for examination as specified in the ASME Code, Section XI, 1998 edition with addenda through 2000. The licensee submitted RR-8 pursuant to 10 CFR 50.55a(a)(3)(i); however, the NRC staff evaluated RR-8 pursuant to 10 CFR 50.55a(a)(3)(ii). Imposition of the Codes' scheduling and sequencing requirements would create an undue burden on the licensee.

The Code requires that the sequence of component examinations established during the first inspection interval be repeated during each successive inspection interval, to the extent practical. In addition, the Code requires a distribution of examinations in accordance with ASME Code, Section XI, Article IWX-2400, "Inspection Schedule." The licensee has proposed rescheduling examination areas for the fourth inspection interval to reduce the radiation exposure and burden associated with distributing the examinations of major components by inspection period. This approach is intended to focus on one component or zone at a time to minimize repeated insulation removal during the inspection interval. In addition, if scheduled welds are in areas of excessive radiation, the licensee has proposed to substitute these welds with similar welds in order to reduce radiation exposure.

As part of the review of the licensee's request for relief, the NRC staff reviewed how two technical concerns were addressed. The first pertained to the duration of time between examinations that are performed at intervals of approximately 10 years. It was determined that this is controlled by the successive examination requirements of the Code. The second pertained to the distribution of examinations within the inspection interval, which is governed by

the Inservice Inspection Program B from PBNP. It was determined that Inservice Inspection Program B specifies the percentage requirements for the examinations performed.

The Code scheduling philosophy requires periodic examination of selected component areas to ensure continued system structural and leakage integrity. Modifying the schedule of examination areas for the fourth 10-year interval provides the licensee a means of reducing radiation exposure while enhancing the overall efficiency of the ISI program. The licensee stated that modifying the sequence of examinations reduces the need for personnel to prepare and examine components in essentially the same area several times. The licensee also stated that changing the sequence of examinations can significantly reduce the radiation exposure, time, and manpower required to perform these tasks.

At PBNP, the licensee has proposed to use the alternative provided in Code Case N-624. The Code Case will allow the licensee to group the examinations of certain components within a single period to reduce radiation exposure. To accomplish this, the licensee will alter the sequence of examinations established during the first 10-year interval. To reschedule the examination of components, while minimizing the duration between examinations, the licensee will modify the distribution of examinations among inspection periods for major components. The NRC staff has determined that the use of Code Case N-624 at PBNP is acceptable.

The NRC staff concludes that the licensee's proposed alternative will provide reasonable assurance of the structural integrity of the affected systems, and imposing the scheduling and sequencing requirements of the Code would cause an undue hardship without a compensating increase in the level of quality and safety.

#### 4.0 CONCLUSION

The NRC staff reviewed the licensee's proposed alternative and concluded that the licensee's compliance with the Code requirements would result in a hardship or unusual difficulty without a compensating increase in quality or safety. The licensee's proposed alternative provides reasonable assurance of structural integrity of the subject component. ISI interval at PBNP, Units 1 and 2. Pursuant to 10 CFR 50.55a(a)(3)(ii) for the fourth ISI interval at PBNP, Units 1 and 2, use of Code Case N-624 is authorized until such time as the code case is published in a future version of Regulatory Guide (RG) 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1." At that time, if the licensee intends to continue implementing this code case, it must follow all provisions of Code Case N-624 with limitation or conditions specified in RG 1.147, if any.

Principal Contributors: D. Spaulding  
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Date: March 21, 2003