

July 22, 2005

Mr. Dennis Koehl  
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Point Beach Nuclear Plant  
Nuclear Management Company, LLC  
6610 Nuclear Road  
Two Rivers, WI 54241-9516

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - ISSUANCE OF  
APPROVAL OF THE UPGRADED EMERGENCY ACTION LEVEL PLANS  
BASED ON REVISION 4 TO NUCLEAR ENERGY INSTITUTE (NEI) 99-01  
(TAC NOS. MC3773 AND MC3774)

Dear Mr. Koehl:

By letter to the Nuclear Regulatory Commission (NRC) dated June 25, 2004, as supplemented by letters dated October 15, 2004, April 30, and June 3, 2005, Nuclear Management Company, LLC, requested the NRC staff review and approve changes to the emergency action levels (EALs) for Point Beach Nuclear Plant (PBNP), Units 1 and 2 as required by Title 10 of the *Code of Federal Regulations*, Part 50 (10 CFR), Appendix E, Section IV.B and 10 CFR 50.47(b).

The proposed changes revise the PBNP EALs to implement the guidance outlined in NEI 99-01, "Methodology for Development of Emergency Action Levels" (Revision 4, January 2003). NEI 99-01 has been endorsed by the NRC staff under Revision 4 of Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors" (July 2003) and in NRC Regulatory Issue Summary 2003-18, "Use of NEI 99-01, Methodology for Development of Emergency Action Levels," dated October 8, 2003.

The NRC staff has reviewed the revised EALs, as documented in the enclosed Safety Evaluation. The NRC staff finds that the proposed PBNP EAL revision is consistent with the guidance in NEI 99-01, Revision 4, or provides an acceptable alternative. As a result, the

D. Koehl

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revised EALs will continue to satisfy the criteria of Appendix E to 10 CFR Part 50 as well as 10 CFR 50.47(b) and are, therefore, acceptable.

Sincerely,

**/RA by HChernoff for/**

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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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO PROPOSED EMERGENCY ACTION LEVELS BASED ON REVISION 4 TO  
NUCLEAR ENERGY INSTITUTE 99-01, "METHODOLOGY FOR DEVELOPMENT OF  
EMERGENCY ACTION LEVELS"  
NUCLEAR MANAGEMENT COMPANY, LLC  
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2  
DOCKETS NOS. 50-266 AND 50-301

## 1.0 INTRODUCTION

By application to the Nuclear Regulatory Commission (NRC) dated June 25, 2004 (Reference 1), as supplemented by letters dated October 15, 2004 (Reference 2), April 30, 2005 (Reference 3), and June 3, 2005 (Reference 4), Nuclear Management Company, LLC, (NMC or the licensee) requested changes to the emergency action levels (EALs) for Point Beach Nuclear Plant (PBNP), Units 1 and 2. Based on requests for additional information (RAIs) contained in letters transmitted by the NRC staff to NMC on April 20, 2005 (Reference 5) and May 25, 2005 (Reference 6), the licensee provided a complete revision to their proposed EAL scheme under Reference 4. The supplements provided additional information that clarified the application, but did not expand the scope of the application as originally submitted. The proposed changes would revise the PBNP EALs to implement the guidance in Revision 4 to Nuclear Energy Institute (NEI) 99-01, "Methodology for Development of Emergency Action Levels," issued in January 2003, which was endorsed by the NRC in Revision 4 to Regulatory Guide (RG) 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors," issued in July 2003.

## 2.0 REGULATORY EVALUATION

The applicable regulations and guidance that the licensee must meet for the emergency plans, and changes to the EALs, at the station are described below:

### 2.1 Regulations

Paragraph (a)(1) to Section 50.47, "Emergency Plans," of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 states that no operating license for a nuclear power reactor will be issued unless a finding is made by the NRC that the state of onsite and offsite emergency preparedness provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. Section 50.47 also establishes standards that must be met by the onsite and offsite emergency response plans for NRC staff to make a positive finding that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. One of these standards, 10 CFR

50.47(b)(4), stipulates that emergency plans include a standard emergency classification and action level scheme.

Section IV.B to Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," of 10 CFR Part 50 provides that emergency plans are to include EALs, which are to be used as criteria for determining the need for notification and participation of local and State agencies and also for determining when and what type of protective measures should be considered both onsite and offsite to protect health and safety. EALs are to be based on plant conditions and instrumentation as well as onsite and offsite radiological monitoring. Section IV.B of Appendix E provides that initial EALs shall be discussed and agreed on by the applicant and State and local authorities and be approved by NRC, and reviewed annually thereafter with State and local authorities. In addition, Section IV.B to Appendix E states that an EAL revision must be approved by the NRC before implementation if it involves: (1) the changing from an EAL scheme based on NUREG-0654/FEMA-REP-1 to a scheme based on NUMARC/NESP-007 or NEI 99-01; (2) the licensee is proposing an alternate method for complying with the regulations; or (3) the EAL revision has been evaluated by licensee as constituting a decrease in effectiveness.

## 2.2 Guidance

Revision 4 to RG 1.101 endorses the guidance contained in NEI 99-01, Revision 4, and is acceptable to the NRC staff as an alternative method to that described in the following guidance for developing EALs required in Section IV.B to Appendix E of 10 CFR Part 50 and 10 CFR 50.47(b)(4):

- Appendix 1 to NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (November 1980), and
- Nuclear Utilities Management Council (NUMARC) document, entitled NESP-007, "Methodology for Development of Emergency Action Levels" (Revision 2, January 1992).

Regulatory Issue Summary (RIS) 2003-18, "Use of NEI 99-01, Methodology for Development of Emergency Action Levels," dated October 8, 2003, provides guidance for developing or changing a standard emergency classification and action level scheme. In addition, RIS 2003-18 provides recommendations to assist licensees, consistent with Section IV.B to Appendix E of Part 50, in determining whether to seek prior NRC approval of deviations from the new guidance.

## 3.0 TECHNICAL EVALUATION

Since the proposed revision to the PBNP EALs involves a scheme conversion from Appendix 1 of NUREG-0654/FEMA-REP-1 to the NEI 99-01, Revision 4, the proposed changes were submitted to the NRC for approval prior to implementation by the licensee, as required under Section IV.B to Appendix E of 10 CFR Part 50. This evaluation is based on revisions to initiating conditions (ICs) and EAL threshold values provided in Reference 4. Reference 3 provided answers to RALs raised by the NRC staff in Reference 5. Since Reference 4 provided a complete revision to the licensee's initial application and included changes made by NMC in

response to NRC RAIs contained in References 5 and 6, the safety evaluation is based on the complete revision provided with Reference 4. Reference 4 contained the following enclosures, which were reviewed by the NRC staff in evaluating the proposed EAL changes:

- Enclosure 1, NMC's response to the NRC staff's questions for PBNP
- Enclosure 2, Summary of changes in tab format
- Enclosure 3, EAL Technical Basis Document, which provides an explanation and basis for each EAL included in the EAL upgrade program
- Enclosure 4, Justification Matrix, marked-up to show proposed changes
- Enclosure 5, PBNP EAL scheme as proposed for PBNP Emergency Plan section EP Appendix B, with redline/strikeout formatting to show proposed changes
- Enclosure 6, PBNP EPIP 1.2, "Emergency Classification," with redline/strikeout formatting to show proposed changes
- Enclosure 7, PBNP EPIP 1.2.1, "Emergency Action Levels Technical Basis," with redline/strikeout formatting to show proposed changes
- Enclosure 8, CD-ROM of enclosures, references, and supporting documentation. Enclosures 3 through 8 supercede the enclosures contained in References 1 and 2 in the CD-ROM.

Proposed deviations or significant differences from the guidance in NEI 99-01, Revision 4, were identified in Enclosure 4. Additionally, Enclosure 4 provided a specific evaluation for each deviation. Minor differences, such as station-specific terminology, system and component names, or formatting were also identified for further evaluation. Eleven deviations were identified by the licensee and were evaluated by the NRC staff as alternate methods for complying with regulations.

The NRC staff's evaluation of the ICs and EAL threshold values provided in Reference 1 prompted the NRC staff to request a public meeting with NMC. This meeting was held on September 2, 2004, and resulted in NMC's decision to withdraw Reference 1. NMC submitted a revised EAL package in Reference 2. The NRC staff's review of the proposed EAL changes resulted in an RAI, which was provided to NMC in Reference 5. The RAI to the licensee consisted of 31 separate NRC comments. The licensee subsequently provided responses to these comments in Reference 3. The NRC staff reviewed the RAI responses and requested additional information to clarify six issues which were not completely addressed by NMC in Reference 3. The responses were consistent with or provided an acceptable alternative to the guidance in NEI 99 01, Revision 4, and therefore, are considered acceptable with the additional inclusion of the comments listed below:

Comment #1: NMC has elected to take a fleet-wide deviation to the NEI 99-01, Revision 4, methodology for classifying loss-of-power related events for EALs CU 3.1, CA 3.1, SU 1.1, SS 1.1, and SG 1.1, which identifies the use of buses in addition to transformers in the classification scheme. As part of the justification for the deviation, NMC stated that,

"Classification using buses in addition to transformers is being addressed uniformly across the NMC Fleet in order to provide consistent classification criteria for State and local Emergency Management Officials within the State of Wisconsin. As a part of routine communication with the State and Local officials, EAL status and changes associated with the submittal process are discussed. Additionally, EAL training for State and local Emergency Management officials is scheduled for July 2005. This training will mitigate the potential for confusion of State and local Emergency Management Officials with respect to these classifications."

It is the NRC staff's expectation that operating reactors in Wisconsin maintain consistent classification criteria. Therefore, based on the justification provided by NMC, including the rationale concerning a potential for confusion by State and Local officials, the scheduling of training for emergency management officials, and the adoption of a fleet-wide classification methodology for loss of power events, the NRC staff considers the above deviations to be acceptable.

Comment #2: NMC made a commitment to the NRC, as indicated in Reference 7, to review and revise Emergency Operating Procedures (EOP) calculations. The calculation review and revision commitment had a potential to affect certain EALs. In Reference 5, the NRC staff issued an RAI to ensure that NMC appropriately considered the impact of the EOP calculation review process on the proposed EALs and documented the results. NMC provided a limited explanation in the response to NRC RAIs in Reference 3. In Reference 3, NMC identified 15 EALs which could be affected by the EOP calculation review and stated that, "The impact of the EOP calculation is expected to be minimal to the EALs," but did not provide detailed evidence that a specific review of the EALs had been performed or the results of that review. The NRC staff issued an additional RAI to NMC in Reference 6, and NMC provided additional information in Reference 4. In Reference 4, NMC indicated that the proposed EALs were "correct" in regard to EOP set point calculations, but also stated that, "Discrepancies while quantifiable, did not appear to have significant impact on EAL set points..." and "Should the Calculation Review & Reconstitution (CRR) Project identify the necessity of adjusting any EAL set points, the station corrective action process will be utilized."

The NRC staff has expressed concern in the licensee's capability to effectively identify, evaluate, and correct problems in a timely manner. In NRC Inspection Report 50-266 and 50-301/2003-007 (Reference 8), the NRC noted examples of inconsistent quality in the implementation of programs and processes related to the identification and resolution of problems. One example involved an apparent violation due to changes made to the EALs which, following the identification of problems by the NRC, were not effectively evaluated and corrected in a timely manner. In a Confirmatory Action Letter, dated April 21, 2004 (Reference 9), reference was made to the PBNP Commitment Letter submitted to the NRC on March 22, 2004 (Reference 7), in which NMC committed to make sustained improvement to address issues. One of the specifically identified actions was to address longstanding emergency preparedness issues associated with the implementation of the emergency preparedness program and a lack of understanding of emergency preparedness regulatory requirements that resulted in an inadequate EAL scheme. It is the NRC staff's understanding that the EALs were thoroughly evaluated and that the proposed EALs submitted in Reference 4 are correct, as stated. If discrepancies are later identified as part of the EOP calculation review, then the NRC staff expects NMC to promptly evaluate and appropriately implement changes to EALs, if warranted. The NRC staff will specifically monitor the licensee's actions regarding EAL changes.



#### 4.0 CONCLUSION

The NRC staff has performed a review of the proposed PBNP EAL conversion from the NUREG-0654 based scheme to NEI 99-01, Revision 4, submitted in Reference 4. Based on the responses to RAIs and proposed changes provided in Reference 4, the NRC staff finds that the proposed PBNP EAL revision is consistent with the guidance in NEI 99-01, Revision 4, or provides an acceptable alternative as discussed in this safety evaluation.

A complete version of the EAL Technical Basis document provided by the licensee, including ICs and associated EAL threshold values, is contained in Agencywide Documents and Management System (ADAMS) Accession No. ML051750132. This EAL Technical Basis document reflects the changes made to ICs, EAL threshold values, and bases provided in Reference 4. Therefore, the proposed PBNP EAL revision to the NEI 99-01, Revision 4, scheme, as reflected in the EAL Technical Basis document is acceptable.

The NRC staff also finds that the EAL changes meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E of 10 CFR Part 50. Therefore, the NRC staff concludes, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the approval of the proposed emergency plan changes will not be inimical to the common defense and security or to the health and safety of the public.

#### 5.0 REFERENCES

1. Koehl, D. L., Nuclear Management Company, LLC, to Document Control Desk, U.S. Nuclear Regulatory Commission, "Proposed Emergency Plan and Emergency Plan Implementing Procedure Changes Upgrading Point Beach Nuclear Plant Emergency Action Levels to NEI 99-01," Revision 4, June 25, 2004. ADAMS Accession No. ML041840099.
2. Koehl, D. L., Nuclear Management Company, LLC, to Document Control Desk, U.S. Nuclear Regulatory Commission, "Revision to Emergency Action Levels," October 15, 2004. ADAMS Accession No. ML051390342.
3. Koehl, D. L., Nuclear Management Company, LLC, to Document Control Desk, U.S. Nuclear Regulatory Commission, "Proposed Emergency Plan Changes Related to Point Beach Nuclear Plant Emergency Action Levels Upgrade to NEI 99-01, Revision 4, and Response to Request for Additional Information," April 30, 2005. ADAMS Accession No. ML051330495.
4. Koehl, D. L., Nuclear Management Company, LLC, to Document Control Desk, U.S. Nuclear Regulatory Commission, "Proposed Emergency Plan Changes Related to Point Beach Nuclear Plant Emergency Action Levels Upgrade to NEI 99-01, Revision 4, and Response to Second Request for Additional Information," June 3, 2005. ADAMS Accession No. ML051750042.
5. Chernoff, H. K., U.S. Nuclear Regulatory Commission to D. L. Koehl, Nuclear



Management Company, LLC, "Point Beach Nuclear Power Plant, Units 1 and 2 - Request for Additional Information Regarding Revision to Emergency Action Levels," April 20, 2005. ADAMS Accession No. ML051110033.

6. Chernoff, H. K., U.S. Nuclear Regulatory Commission to D. L. Koehl, Nuclear Management Company, LLC, "Point Beach Nuclear Power Plant, Units 1 and 2 - Request for Additional Information Regarding Revision to Emergency Action Levels," May 25, 2005. ADAMS Accession No. ML051450017.
7. Van Middlesworth, G. D., Nuclear Management Company, LLC, to Document Control Desk, U.S. Nuclear Regulatory Commission, "Commitments in Response to 95003 Supplemental Inspection," March 22, 2004. ADAMS Accession No. ML041840102.
8. Caldwell, J. L., U.S. Nuclear Regulatory Commission to G. D. Van Middlesworth, Nuclear Management Company, LLC, "Point Beach Nuclear Power Plant, Units 1 and 2 - 95003 Supplemental Inspection, NRC Inspection Report 05000266/2003007; 05000301/2003007," February 4, 2004. ADAMS Accession No. ML0403601041.
9. Caldwell, J. L., U.S. Nuclear Regulatory Commission to G. D. Van Middlesworth, Nuclear Management Company, LLC, "Confirmatory Action Letter," April 21, 2004. ADAMS Accession No. ML041130447.

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Date: July 22, 2005

Point Beach Nuclear Plant, Units 1 and 2

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