

November 18, 2005

Mr. Thomas J. Palmisano
Site Vice President
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Nuclear Management Company, LLC
1717 Wakonade Drive East
Welch, MN 55089

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2 -
CHANGES TO EMERGENCY ACTION LEVELS (TAC NOS. MC4930 AND
MC4931)

Dear Mr. Palmisano:

In your application dated October 22, 2004, as supplemented by letters dated July 28, and October 19, 2005, you submitted changes to the Prairie Island Nuclear Generating Plant emergency action levels (EALs) for the Nuclear Regulatory Commission review and approval prior to their implementation in accordance with Title 10 of the Code of *Federal Regulations* (10 CFR), Part 50, Appendix E.

We have completed our review of the proposed EAL scheme change and supporting documentation, and conclude that the proposed change meets the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR Part 50. Accordingly, we find these changes acceptable. Enclosed is our safety evaluation.

Sincerely,

/RA/

Mahesh L. Chawla, Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-282, 50-306 and 72-10

Enclosures: Safety Evaluation

cc w/encls: See next page

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ADAMS ACCESSION NUMBER: **ML053080024**

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DATE	11/18/05	11/18/05	11/10/05	11/18/05

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO PROPOSED UPGRADED EMERGENCY ACTION LEVELS
USING NUCLEAR ENERGY INSTITUTE (NEI) 99-01, REVISION 4
“METHODOLOGY FOR DEVELOPMENT OF EMERGENCY ACTION LEVELS”
PRAIRIE ISLAND NUCLEAR GENERATING PLANT UNITS 1 AND 2
NUCLEAR MANAGEMENT COMPANY, LLC, NMC
DOCKET NOS. 50-282, 50-306, AND 72-10

1.0 INTRODUCTION

By application dated October 22, 2004 (Reference 1) as supplemented by letters dated July 28, 2005 (Reference 2), and October 19, 2005 (Reference 3), Nuclear Management Company, LLC (NMC, the licensee) proposed changes to the emergency action level (EAL) scheme for the Prairie Island Nuclear Generating Plant, Unit 1 and Unit 2 (PINGP). The proposed changes were submitted for the Nuclear Regulatory Commission (NRC, Commission) review and approval prior to their implementation in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix E. The proposed changes would revise the PINGP EAL scheme, which is applicable to both Unit 1 and Unit 2, using the guidance in Nuclear Energy Institute (NEI) document NEI 99-01, Revision 4, “Methodology for Development of Emergency Action Levels” (Reference 4). This document was endorsed by the NRC in Regulatory Guide 1.101, Revision 4, “Emergency Planning and Preparedness for Nuclear Power Reactors” (Reference 5). In this safety evaluation, the phrase “NEI 99-01” denotes the endorsed NEI-99-01 Revision 4, unless otherwise stated.

The proposed changes to the PINGP EAL scheme would be implemented in the form of two large charts (one for operating Modes 1 to 4; one for Modes 5, 6, and defueled) supported by a technical basis document (TBD). The TBD is, in essence, the NEI 99-01 document edited to reflect proposed PINGP differences. To facilitate the NRC staff’s review, NMC submitted: (1) two versions of the TBD—a strike-in/strike-out version highlighting all proposed changes to the NEI 99-01 guidance and the clean version that will be implemented, (2) a CD-ROM of various materials referenced in the TBD, and (3) a differences justification matrix. The latter identifies proposed differences from the NEI 99-01 guidance and provides an evaluation of each difference.

2.0 REGULATORY EVALUATION

An EAL is a pre-determined, site-specific, observable threshold of plant parameters (e.g. containment pressure or radiation levels) or observable conditions (e.g., fire, flooding) that are used to classify off-normal conditions into one of four emergency classes (Notification of Unusual Event, Alert, Site Area Emergency, or General Emergency). Depending on the emergency classification level declared by the licensee, subsequent emergency response

actions are performed in a graded approach, increasing in scope and extent with higher classification levels.

The regulatory requirements and guidance that the NRC staff considered in its review of NMC's application are as follows:

2.1 Regulations

Section 50.47, "Emergency Plans," of 10 CFR Part 50 states, in part, that no operating license for a nuclear power reactor will be issued unless a finding is made by the NRC that there is 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 the 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, Section 50.47(b)(4), stipulates that emergency plans include a standard emergency classification and action level scheme.

Section IV.B of Appendix E to Part 50 requires 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 which are to be used 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 in-plant conditions and instrumentation, and also on onsite and offsite monitoring. Section IV.B requires that initial EALs shall be discussed and agreed on by the applicant and State and local authorities, be approved by NRC, and be reviewed annually with State and local authorities. Section IV.B also requires that an EAL revision must be reviewed by the NRC before implementation if any of the following are applicable: (1) The licensee is changing from one EAL scheme to another EAL scheme (e.g., a change from an NUREG-0654 based scheme to one based on NUMARC/NESP-007 or NEI 99-01; (2) The licensee is proposing an alternative method for complying with regulations; or (3) The EAL revision decreases the effectiveness of the emergency plan.

2.2 Guidance

Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors, Revision 4, endorsed the guidance provided in NEI 99-01, Revision 4, as one of three acceptable methods for complying with the Commission's regulations, addressed above. Regulatory Issue Summary (RIS) 2003-18, "Use of NEI 99-01, Methodology for Development of Emergency Action Levels," dated October 8, 2003 (Reference 6), provides guidance for developing or changing a standard emergency classification and action level scheme. In addition, this RIS provided recommendations to assist licensees in complying with the Commission's regulations on whether to seek prior NRC approval of deviations from the new guidance.

3.0 TECHNICAL EVALUATION

The NRC staff has reviewed NMC's regulatory and technical analyses in support of the proposed PINGP EAL scheme that is described in References 1 through 3. The NRC staff reviewed the content of the PINGP EAL scheme charts against NEI 99-01, the strike-in/strike-

out version of the TBD, and the differences justification matrix for consistency and completeness. Then, working with the differences justification matrix, the NRC staff reviewed the justification for each difference between the PINGP EAL scheme language and that of the approved NEI 99-01. Where the TBD referenced a site-specific document (e.g., a plant procedure, setpoint analysis, engineering drawing, etc.) the NRC staff considered the information contained therein in its review.

Initiating Conditions, entitled "Defueled Station Malfunctions," listed under Category D in NEI 99-01 were not considered during this technical evaluation since both PINGP 1 and 2 have current operating licenses.

Near the end of this review, the NRC resident inspector at the Prairie Island site notified the reviewer of a condition that appeared to place into question the numeric thresholds for EALs HU1.7 and HA1.6. The NRC staff discussed this situation with NMC personnel on October 21, 2005. The proposed EAL HA1.6 establishes a flood level greater than 698 feet above mean sea level (MSL) as the threshold for declaring an Alert emergency. The basis for this EAL states that above this level the station transformers will not remain functional. The threshold for the proposed EAL HU1.7 is set at 692 feet MSL, which is the procedure level at which the reactor must be brought to Mode 3. These numeric values are consistent with the flood levels identified in plant procedure AB-4, "Flood," the updated safety analysis report (USAR), and the currently effective EALs. Subsequent to the submittal of the proposed EAL scheme, NMC determined (Condition Evaluation CE005659) that the station transformers may become inoperable at a level less than 698 feet MSL, rendering EAL HA1.6 inconsistent with its basis and therefore non-conservative. NMC has initiated corrective actions (e.g., CAP No. 037654) to establish a new level that will be used in the USAR, AB-4, and the current EAL (that corresponds to the proposed EAL HA1.6). Should the replacement level be less than the value specified in HU1.7, that EAL could be affected as well. Prior to this discovery, the staff had found the bases of the proposed EAL HA1.6 and HU1.7 to be acceptable. Provided that the replacement level values continue to correspond with the accepted bases, the NRC staff has determined that NMC may evaluate and implement the replacement value using the 10 CFR 50.54(q) change process.

In Reference 1, NMC committed to supplement its application if the NRC were to issue guidance on revised security EALs prior to approval of the application. In Reference 2, NMC withdrew that commitment, noting that it will instead provide a 30-day written response as requested by NRC Bulletin 2005-02, "Emergency Response Preparedness and Response Actions for Security-Based Events," issued July 18, 2005 (Reference 7). The NRC staff finds this withdrawal acceptable given the response required by NRC Bulletin 2005-02.

Based on its review of the information provided in Reference 3, as supplemented by References 1 and 2, the NRC staff finds that the proposed changes to the PINGP initiating conditions, EAL threshold values, and TBD to be consistent with the guidance of NEI 99-01, Revision 4, or to be acceptable alternatives to that guidance. As such, the proposed PINGP EAL scheme, incorporating the large charts and the TBD documented in Reference 3, is acceptable.

4.0 STATE CONSULTATION

At the time that the application was made, Section IV.B of Appendix B to 10 CFR Part 50 required that EALs be discussed and agreed on by the applicant and State and local authorities, be approved by the NRC, and reviewed annually thereafter with State and local authorities. In its letter dated October 22, 2004 (Reference 1), NMC stated that the proposed EALs had been discussed with and agreed to by the applicable State, tribal, and government representatives. In Enclosure 3 of that letter, NMC documented their outreach to the State, tribal, and local authorities and their agreement with the proposed changes. Enclosure 3 includes written certifications from the following:

- Wisconsin Emergency Management
- Prairie Island Indian Community
- Minnesota Division of Homeland Security and Emergency Management
- Pierce County Emergency Manager
- Dakota County Emergency Manager
- Goodhue County Emergency Manager

5.0 ENVIRONMENTAL CONSIDERATION

The NRC staff has determined that the proposed changes to the PINGP EAL scheme do not involve a significant increase in the amounts, or a significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure.

6.0 CONCLUSION

The NRC staff performed a review of the proposed changes to the PINGP EAL scheme described in Reference 3, as supplemented by References 1 and 2, to be consistent with the guidance of NEI 99-01, Revision 4, or to be acceptable alternatives to that guidance. As such, the proposed PINGP EAL scheme, incorporating the large charts and the TBD documented in Reference 3, meet the requirements of 10 CFR 50.47(b) and Section IV.B of Appendix E to 10 CFR Part 50. The NRC staff has determined, 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 issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

1. Letter L-PI-04-120 from Nuclear Management Company, LLC, to Nuclear Regulatory Commission, dated October 22, 2004, "Revision to Emergency Action Levels." ADAMS Accession Nos. ML043080179, ML043080182, and ML043080252.
2. Letter L-PI-05-067 from Nuclear Management Company, LLC, to Nuclear Regulatory Commission, dated July 28, 2005, "Proposed Emergency Plan Changes Related to Prairie Island Nuclear Generating Plant (PINGP) Emergency Action Levels (EALs) Upgrade to NEI 99-04, Revision 4, and Response to Request for Additional Information (RAI)." ADAMS Accession Nos. ML052150071 and ML052150085.

3. Letter L-PI-05-097 from Nuclear Management Company, LLC , to Nuclear Regulatory Commission, dated October 19, 2005, "Proposed Emergency Plan Changes Related to Prairie Island Nuclear Generating Plant (PINGP) Emergency Action Levels (EALs) Upgrade to NEI 99-04, Revision 4, and Response to Request for Additional Information (RAI)." ADAMS Accession No. ML052980206.
4. "Methodology for Development of Emergency Action Levels," NEI 99-01, Revision 4, January 2003, ADAMS Accession No. ML030300486.
5. "Emergency Planning and Preparedness for Nuclear Power Reactors," Regulatory Guide 1.101, Revision 4. ADAMS Accession No. ML032020276.
6. "Use of NEI 99-01, Methodology for Development of Emergency Action Levels," Regulatory Issue Summary 2003-18, dated October 8, 2003. ADAMS Accession Nos. ML032580518 (Supplement 1: ML041550395).
7. "Emergency Response Preparedness and Response Actions for Security-Based Events," NRC Bulletin 2005-02, issued July 18, 2005. ADAMS Accession No. ML051740058.

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Date: November 18, 2005

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