

April 3, 2006

Mr. David A. Christian
Senior Vice President and
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5000 Dominion Boulevard
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SUBJECT: KEWAUNEE POWER STATION - EMERGENCY ACTION LEVELS BASED ON
REVISION 4 TO NUCLEAR ENERGY INSTITUTE 99-01, "METHODOLOGY FOR
DEVELOPMENT OF EMERGENCY ACTION LEVELS," FOR KEWAUNEE
POWER STATION (TAC NO. MC8816)

Dear Mr. Christian:

By application dated October 26, 2004, Nuclear Management Company, LLC (NMC) submitted changes to the Kewaunee Nuclear Power Plant emergency action levels (EALs) for Nuclear Regulatory Commission (NRC) review and approval prior to their implementation, in accordance with Title 10 *Code of Federal Regulations* (10 CFR), Part 50, Appendix E, Section IV.B. On July 5, 2005, the plant ownership was transferred to Dominion Energy Kewaunee, Inc. (DEK), which changed the plant name to Kewaunee Power Station. The application was supplemented by DEK letters dated September 20, 2005, February 3, and March 9, 2006.

The NRC staff has completed its review of the proposed EAL changes and supporting documentation. We have concluded that the proposed changes meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR Part 50, and are therefore acceptable. The basis for our conclusions is contained in the enclosed safety evaluation.

Sincerely,

/RA/

David H. Jaffe, Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-305

Enclosure:
Safety Evaluation

cc w/encl: See next page

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Kewaunee Power Station

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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”
DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION
DOCKET NO. 50-305

1.0 INTRODUCTION

By application dated October 26, 2004 (Reference 1), Nuclear Management Company, LLC (NMC, the former licensee) proposed changes to the emergency action level (EAL) scheme for the Kewaunee Nuclear Power Plant. On July 5, 2005, plant ownership was transferred to Dominion Energy Kewaunee, Inc. (DEK, the present licensee), which changed the plant name to Kewaunee Power Station (KPS). The application was supplemented by DEK letters dated September 20, 2005, (Reference 2), February 3, (Reference 3) and March 9, 2006, (Reference 4), which provided additional information to clarify the application, but did not expand its scope. The proposed changes were submitted for Nuclear Regulatory Commission (NRC) review and approval prior to their implementation in accordance with Title 10 *Code of Federal Regulations* (10 CFR), Part 50, Appendix E, Section IV.B. The proposed changes would revise the KPS EAL scheme using the guidance in NEI document NEI 99-01, Revision 4, “Methodology for Development of Emergency Action Levels” (NEI 99-01, Reference 5). This document was endorsed by the NRC in Regulatory Guide 1.101, Revision 4, “Emergency Planning and Preparedness for Nuclear Power Reactors” (Reference 6).

The proposed changes to the KPS EALs would be implemented in the form of two wall charts covering reactor hot conditions (reactor coolant system greater than 200 degrees F) and cold conditions (reactor coolant system less than or equal to 200 degrees F), supported by a technical basis document (TBD). The TBD uses NEI 99-01 guidance, edited to reflect proposed KPS differences. To facilitate the NRC staff’s review, the licensee submitted: (1) two versions of the TBD: an insert/strike-out version highlighting all proposed changes to the NEI 99-01 guidance and the corrected 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 the licensee'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 of 10 CFR Part 50 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, of 10 CFR Part 50, Section 50.47(b)(4), stipulates that emergency plans include a standard emergency classification and action level scheme.

Section IV.B. of Appendix E of 10 CFR 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 public 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 reviewed annually thereafter 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 system to another EAL system (e.g., a change from a NUREG-0654/FEMA-REP-1 based system 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

Reference 5 endorsed the guidance provided in NEI 99-01 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 7), 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

Since the proposed revision to the KPS EALs involves a system conversion from NUREG-0654/FEMA-REP-1 to NEI 99-01, the proposed changes were submitted to the NRC for approval by the licensee prior to implementation, as required under Section IV.B. to Appendix E of Part 50.

The NRC staff has reviewed the licensee's regulatory and technical analyses in support of the proposed KPS EAL system that is described in References 1 through 3. The NRC staff reviewed the content of the KPS EAL system 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 staff reviewed the justification for each difference between the KPS EAL scheme language and that of the approved NEI 99-01. Where the TBD referenced a site-specific document (e.g., a plant procedure, set-point analysis, engineering drawing, etc.) the staff considered the information contained therein in its review.

Initiating Conditions (ICs) entitled "Defueled Station Malfunctions," listed under Category D in NEI 99-01 were not applicable since KPS has a current operating license, and therefore, were not considered during this technical evaluation. Additionally, the licensee did not request approval of ICs entitled "Events Related to Independent Spent Fuel Storage Installations (ISFSI)," as listed under Category E of NEI 99-01.

In Reference 1, NMC committed to provide an update to its application to reflect revisions to security EALs due to any threat advisories issued by the NRC. DEK submitted Reference 4 withdrawing the commitment in Reference 1, noting that DEK will instead revise their security EALs in accordance with the guidance contained in NRC Bulletin 2005-02, "Emergency Response Preparedness and Response Actions for Security-Based Events," issued July 18, 2005 (Reference 8). The NRC staff finds this change acceptable because it meets the standards of 10 CFR 50.47.

Based on its review of the information provided in Reference 3 (containing a final copy of the TBD, EAL Wall Charts, and Justification Matrix, with all changes incorporated), as supplemented by References 1 and 2, the NRC staff finds that the proposed changes to the KPS 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 KPS EAL system, incorporating the wall charts and the TBD documented in Reference 3, are 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 Reference 1, NMC stated that the proposed EALs had been discussed with and agreed to by applicable State and local government representatives. Enclosure 3 of that letter documented the licensee's outreach to State and local authorities, and the authorities' agreement with the proposed changes. Enclosure 3 includes written certifications from:

- State of Wisconsin Emergency Management
- Wisconsin Department of Health and Family Services, Division of Public Health, Radiation Protection Section
- Manitowoc County Emergency Management
- Kewaunee County Emergency Management

5.0 CONCLUSION

The NRC staff performed a review of the proposed changes to the KPS EAL system 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 KPS EAL changes, incorporating the wall 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 and are therefore, acceptable.

6.0 REFERENCES

1. Letter Serial No. NRC-04-114 from Nuclear Management Company, LLC , to Nuclear Regulatory Commission, dated October 26, 2004, "Revision to Emergency Action Levels," ADAMS Accession Nos. ML051440263, ML051440270, ML051440282, ML051440285.
2. Letter Serial No. 05-451 from Dominion Energy Kewaunee, Inc., to Nuclear Regulatory Commission, dated September 20, 2005, "Proposed Emergency Plan Changes Related to Kewaunee Power Station (KPS) Emergency Action Levels (EALs) Upgrade to NEI 99-04, Revision 4, and Response to Request for Additional Information (RAI)," ADAMS Accession No. ML052710130.
3. Letter Serial No. 05-451A from Dominion Energy Kewaunee, Inc., to Nuclear Regulatory Commission, dated February 3, 2006, "Kewaunee Power Station Unit 1 Response to Request For Additional Information Regarding Revisions To Emergency Action Levels (TAC NO. MC5055)," ADAMS Accession Nos. ML060410421, ML060410455, ML060410457.
4. Letter Serial No. 05-452C from Dominion Energy Kewaunee, Inc., to Nuclear Regulatory Commission, dated March 9, 2006, "Kewaunee Power Station Emergency Action Level Revision Commitment Change," ADAMS Accession No. ML060680273.
5. "Methodology for Development of Emergency Action Levels," NEI 99-01, Revision 4, January 2003, ADAMS Accession No. ML030300486.
6. "Emergency Planning and Preparedness for Nuclear Power Reactors," Regulatory Guide 1.101, Revision 4, ADAMS Accession No. ML032020276.
7. "Use of NEI 99-01, Methodology for Development of Emergency Action Levels," Regulatory Issue Summary 2003-18, dated October 8, 2003, ADAMS Accession No. ML032580518 (Supplement 1: ML041550395).

8. "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: April 3, 2006