

February 12, 2001

Mr. Mark Reddemann  
Site Vice President  
Kewaunee and Point Beach Nuclear Plants  
Nuclear Management Company, LLC  
6610 Nuclear Road  
Two Rivers, WI 54241

SUBJECT: KEWAUNEE NUCLEAR POWER PLANT - ENVIRONMENTAL ASSESSMENT  
AND FINDING OF NO SIGNIFICANT IMPACT OF THE AMENDMENT AND  
EXEMPTION REQUEST TO UTILIZE A MASTER CURVE-BASED  
METHODOLOGY FOR REACTOR PRESSURE VESSEL INTEGRITY  
ASSESSMENTS (TAC NO. MA8585)

Dear Mr. Reddemann:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for exemption requests dated June 7, 1999, as supplemented on February 4 and September 26, 2000.

The proposed exemptions allow the incorporation of the use of fracture toughness ( $K_{JC}$ ) test data for evaluating the integrity of the Kewaunee Nuclear Power Plant (KNPP) reactor pressure vessel (RPV) circumferential beltline weld. The licensee submittal requested staff approval of a new methodology for assessing the RPV circumferential beltline weld based on the use of the 1997 Edition of American Society for Testing and Materials Standard Test Method E-1921 and American Society for Mechanical Engineering Code Case N-629. The licensee submittal included: (1) exemption requests to establish the use of this new methodology to meet the requirements of Appendix G to Title 10 of the Code of Federal Regulations Part 50 (10 CFR Part 50), and 10 CFR 50.61; (2) an exemption request to modify the basis for the KNPP RPV surveillance program (required by Appendix H to 10 CFR Part 50) to incorporate the acquisition of fracture toughness data; and, (3) a reassessment of the KNPP RPV's compliance with 10 CFR 50.61 (concerning pressurized thermal shock, PTS) for end of license (EOL) condition.

Your letters dated June 7, 1999, as supplemented on February 4 and September 26, 2000, also included a request to amend your license to change certain Technical Specifications. The letter dated December 18, 2000, requested the Technical Specification changes be withdrawn; however, you requested that the Nuclear Regulatory Commission (NRC) staff continue to process the exemptions.

Mr. M. Reddemann

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The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

***/RA/***

John G. Lamb, Project Manager, Section 1  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-305

Enclosure: Environmental Assessment

cc w/encl: See next page

Mr. M. Reddemann

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The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

*/RA/*

John G. Lamb, Project Manager, Section 1  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-305

Enclosure: Environmental Assessment

cc w/encl: See next page

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cc:

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UNITED STATES NUCLEAR REGULATORY COMMISSION

NUCLEAR MANAGEMENT COMPANY, LLC

DOCKET NO. 50-305

KEWAUNEE NUCLEAR POWER PLANT

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of exemptions from 10 CFR 50.61 and Appendices G and H to Part 50 to Facility Operating License No. DPR-43 issued to the Nuclear Management Company, LLC (NMC or the licensee), for operation of the Kewaunee Nuclear Power Plant (KNPP or Kewaunee), located in Kewaunee County, Wisconsin.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The proposed action allows the incorporation of the use of fracture toughness ( $K_{Jc}$ ) test data for evaluating the integrity of the Kewaunee Nuclear Power Plant (KNPP) reactor pressure vessel (RPV) circumferential beltline weld. The licensee submittal requested NRC staff approval of a new methodology for assessing the integrity of the RPV circumferential beltline weld based on the use of the 1997 Edition of American Society for Testing and Materials (ASTM) Standard Test Method E-1921 and American Society for Mechanical Engineering (ASME) Code Case N-629. The licensee submittal included: (1) an exemption from 10 CFR 50.61 to use a proposed alternative methodology based on ASME Code Case N-629 and WCAP-15075; (2) an exemption from Appendix H to Part 50, which specifies use of ASTM E185-82 for testing of surveillance materials, to use a proposed alternative, ASTM E185-98, which allows use of ASTM E1921-97 for testing of surveillance capsule material; (3) an

exemption from Appendices G and H to Part 50, which specifies Charpy V-Notch impact and drop weight testing, to use a proposed alternative ASTM E1921-97; and, (4) a reassessment of the KNPP RPV's compliance with 10 CFR 50.61 (concerning pressurized thermal shock, PTS) for end of license (EOL) condition.

The proposed action is in accordance with the licensee's application for exemptions dated June 7, 1999, as supplemented by letters dated February 4, September 26, and December 18, 2000.

The Need for the Proposed Action:

KNPP is a pressurized water reactor (PWR) which commenced commercial operation in 1974, and its current operating license will expire in December 2013. The proposed action, exemptions from 10 CFR 50.61, Appendix G of Part 50, and Appendix H of Part 50, is needed to allow the use of the proposed alternative methodology. The exemption is necessary since the alternative methodology differs from the current methodology specified in the regulations. The proposed exemptions would permit the use of a proposed methodology to use fracture toughness data as an alternative to the Charpy V-notch and to use a drop weight-based methodology to adequately evaluate the integrity of the KNPP RPV, establish pressure-temperature limit curves, and ensure that the RPV is protected from failure by PTS.

Environmental Impacts of the Proposed Action:

The NRC has completed its evaluation of the proposed action and concludes that the exemptions and assessment methodology described above would provide an adequate evaluation of the reactor vessel fracture toughness for KNPP for end of license (EOL) condition. The proposed action would use an alternate methodology from the methodology currently utilized. The proposed action does not result in any physical or operational changes to the plant.

The proposed action will not significantly increase the probability or consequences of accidents, no changes are being made in the types of any effluents that may be released off site, and there is no significant increase in occupational or public exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological impacts, the proposed action does not involve any historic sites. It does not affect nonradiological plant effluents and has no other environmental impact. Therefore, there are no significant nonradiological environmental impacts associated with the proposed action.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with this action.

Alternatives to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the “no-action” alternative). Denial of the application would result in no significant change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources:

This action does not involve the use of any resources not previously considered in the Final Environmental Statement for Kewaunee.

Agencies and Persons Contacted:

In accordance with its stated policy, on November 14, 2000, the NRC staff consulted with the Wisconsin State official, S. Jenkins of the Wisconsin Public Service Commission, regarding the environmental impact of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated June 7, 1999, as supplemented by letters dated February 4, September 26, and December 18, 2000, which are available for public inspection at the NRC's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records are accessible electronically from the ADAMS Public Library component on the NRC Web site, <http://www.nrc.gov> (the Electronic Reading Room).

Dated at Rockville, Maryland, this 12th day of February, 2001.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Tae J. Kim, Acting Section Chief, Section 1  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation