

NRC-03-075

10 CFR 50.90

July 9, 2003

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

KEWAUNEE NUCLEAR POWER PLANT  
DOCKET 50-305  
LICENSE No. DPR-43

RESPONSE FOR REQUEST FOR ADDITIONAL INFORMATION REGARDING LICENSE  
AMENDMENT REQUEST 195, APPLICATION FOR STRETCH POWER UPRATE FOR  
KEWAUNEE NUCLEAR POWER PLANT

- References:
- 1) Letter NRC-03-057 from Thomas Coutu to Document Control Desk, "License Amendment Request 195, Application For Stretch Power Uprate For Kewaunee Nuclear Power Plant," dated May 22, 2003 (TAC NO. MB9031).
  - 2) Letter NRC-03-016 from Thomas Coutu to Document Control Desk, "NMC Responses to NRC Request for Additional Information Concerning License Amendment Request 187 to the Kewaunee Nuclear Power Plant Technical Specifications," dated February 27, 2003 (TAC NO. MB5718).
  - 3) Letter from John G. Lamb (NRC) to Thomas Coutu (NMC), "Kewaunee Nuclear Power Plant - Request For Additional Information For Proposed Amendment Request Regarding The Application For Stretch Power Uprate (TAC NO. MB9031), dated June 9, 2003. ([ML031610267](#))

In accordance with the requirements of 10 CFR 50.90, Nuclear Management Company, LLC (NMC) requested amendments to the operating license and the plant Technical Specifications (TS) for the Kewaunee Nuclear Power Plant (KNPP). The license amendment request (LAR) increased licensed reactor core power level by six percent from 1673 megawatts thermal (MWt) to 1772 MWt. The requested increase in licensed rated power (RP) is the result of a stretch power uprate.

In reference 3 the NRC requested additional information associated with the NMC submittal for a stretch power uprate (reference 1). The NMC response to this request is contained in attachment 1.

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Additionally, in the reference 1 letter to the NRC, the NMC stated that the majority of the KNPP Updated Safety Analysis Report (USAR) Chapter 14 accident analyses were performed at core powers at or in excess of 1772 MWt and were described in the fuel transition license amendment request. The NMC went on to state that the fuel transition accident analyses performed at 1772 MWt were included in summary form in attachment 4, Section 6.0 of reference 1 (the stretch uprate licensing report). This is stated in two places in reference 1: on page 3 of the cover letter and on page 2 of attachment 1. After further review it was noted that attachment 4 of reference 1 does not contain complete summaries of the non-LOCA accidents performed for the fuel transition at 1772 MWt, but instead includes a matrix of where the summaries can be found in the fuel transition License Amendment Request. The matrix providing the reference to the summaries is found on page 6-17 in section 6.2 of attachment 4 (reference 1). The summaries referred to in the matrix as "RTSR" were submitted to the NRC in reference 2, Attachment B, Section 5.1. It is requested that the NRC refer to Attachment B of reference 2 to review those summaries listed referring to the RTSR.

Neither this response to the request for additional information or the editorial correction impact the Operating License or Technical Specifications for the KNPP. Also, the response and correction do not change the significant hazards determination originally submitted in reference 1. No new commitments are being made as part of this response.

In accordance with 10 CFR 50.91, a copy of this application, is being provided to the designated Wisconsin Official.

I declare under penalty of perjury that the foregoing is true and correct.  
Executed on July 9, 2003.



Thomas Coutu  
Site Vice-President, Kewaunee Plant

GOR

Attachments: RAI Response Regarding License Amendment Request 195 - Decommissioning Funds

cc: US NRC, Region III  
US NRC Senior Resident Inspector  
Electric Division, PSCW

**ATTACHMENT 1**

**NUCLEAR MANAGEMENT COMPANY, LLC  
KEWAUNEE NUCLEAR PLANT  
DOCKET 50-305**

**July 9, 2003**

**Letter from Thomas Coutu (NMC)**

**To**

**Document Control Desk (NRC)**

**RAI Response Regarding License Amendment Request 195**

**Decommissioning Funds**

**NRC Question**

Title 10 of the Code of Federal Regulations (10 CFR) Section 50.75(c) has minimum amounts required to demonstrate reasonable assurance of funds for decommissioning by reactor type and power level in megawatts thermal (MWt). Your May 22, 2003, submittal proposes to increase the licensed reactor core power level at the Kewaunee Nuclear Power Plant (KNPP) to 1772 MWt from the current licensed reactor core power level of 1650 MWt.

In Attachment 4 of your letter titled "Decommissioning Funding Status Reports" dated March 31, 2003 (ADAMS Accession No. ML030930058), you submitted the KNPP Funding Status Report. Item 1 states the minimum decommissioning fund pursuant to 10 CFR 50.75(b) and (c) is \$307,200,000.

Based on your proposed increase of the KNPP licensed reactor core power level to 1772 MWt, is the minimum decommissioning fund pursuant to 10 CFR 50.75(b) and (c) still \$307,200,000?

If so, please provide justification for how you calculated the \$307,200,000 amount and an explanation describing how the power level in MWt was taken into account.

If not, please provide the new the minimum decommissioning fund pursuant to 10 CFR 50.75(b) and (c) and explain your compliance with 10 CFR 50.75.

**NMC Response**

No.

**NRC Decommissioning Funding Status Calculation with a Unit Uprate**

This calculation was performed to determine the requirements of 10CFR50.75, Reporting and Record Keeping for Decommissioning Planning with KNPP uprated to 1772 Mw. NUREG 1307 Report on Waste Disposal Charges was used to determine the estimation of radioactive waste burial/disposition costs. The following formula, which was specified in 10CFR50.75, was used for determining the minimum decommissioning fund requirements.

$$\text{Estimated cost} = \$(75+0.0088P)[AL_x + BE_x + CB_x]$$

Where A, B, and C are the fractions of the total 1986 dollar costs that are attributable to labor (0.65), energy (0.13), and burial (0.22), respectively, and sum to 1.0. P is the unit rated thermal power which for KNPP is 1772 Mw thermal. The factors  $L_x$ ,  $E_x$ , and  $B_x$  are defined by:

$L_x$  = labor cost adjustment, January of 1986 to December of 2002

$E_x$  = energy cost adjustment, January of 1986 to December of 2002

$B_x$  = LLW burial/disposition cost adjustment, January of 1986 to January 2003

Effective with the 1998 update of NUREG-1307, turning over the majority of LLW to waste vendors for disposition is considered a possibility.

The labor cost adjustment is adjusted by region of the country. Kewaunee Nuclear Plant is a Midwest region plant and has an adjustment factor from NUREG 1307 table 3.2 and the U.S. Bureau of Labor Statistics:

$$L_x = (164.6)_{\text{Base 2002}} (1.409)_{\text{Base 1981/Base 1989}} + (125.0)_{\text{Base 1981}}$$

$$L_x = 1.855$$

$E_x$  is made up of two components, industrial electric power,  $P_x$ , and light fuel oil  $F_x$ . The energy adjustment factors can be taken from the Bureau of Labor Statistics. For KNPP the adjustment factors are  $0.58P_x + 0.42F_x$ . (See NUREG 1307 section 3.2 for how all the numbers are determined.)

$$P_x = 139.9_{\text{annual 2002}} + 114.2_{\text{Jan 1986}} = 1.225$$

(139.9 is preliminary from Bureau of Labor Statistics web site)

$$F_x = 76.3_{\text{annual 2002}} + 82.0_{\text{Jan 1986}} = 0.930$$

(76.3 is preliminary from Bureau of Labor Statistics web site)

Therefore, the value of  $E_x$  for KNPP is:

$$E_x = [(0.58 \times 1.225) + (0.42 \times 0.930)] = 1.1011$$

$B_x$  has an adjustment factor that can be taken directly from NUREG 1307 Table 2.1. For a PWR using a waste vendor, the factor is 9.467.

Using all these numbers, the total cost can now be determined.

$$\text{Estimated cost} = \$ (75 + 0.0088P) [AL_x + BE_x + CB_x]$$

$$\text{Estimated cost} = \$ (75 + (0.0088)(1772)) [(0.65)(1.855) + (0.13)(1.1011) + (0.22)(9.467)]$$

$$\text{Estimated cost} = \$ (90.5936)(3.4316)$$

$$\text{Estimated cost} = \$310.9 \text{ million}$$

Therefore, to be in compliance with 10 CFR 50.75 the decommissioning fund for the KNPP requires \$310.9 million. In the decommissioning funding status report, submitted by NMC for all NMC plants<sup>(1)</sup>, the funding listed for the KNPP was \$527,832,447. Thus the decommissioning funding of \$527,832,447 is greater than that required by 10 CFR 50.75, \$310.9 million, and the KNPP is in compliance with 10 CFR 50.75.

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<sup>(1)</sup> Letter from Edward J. Weinkam (NMC) to Document Control Desk (NRC), "Decommissioning Funding Status Reports," dated March 31, 2003 (Accession Number-ML030930058)