

NRC-03-037

10 CFR 50.90

April 3, 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 TO A QUESTION CONCERNING LICENSE AMENDMENT REQUEST 187 TO
THE KEWAUNEE NUCLEAR POWER PLANT TECHNICAL SPECIFICATIONS,
"CONFORMING TECHNICAL SPECIFICATION CHANGES FOR USE OF WESTINGHOUSE
VANTAGE + FUEL." (TAC NO. MB5718)

- References:
- 1) Letter from Mark E. Warner (NMC) to Document Control Desk (NRC),
"License Amendment Request 187 to the Kewaunee Nuclear Power Plant
Technical Specifications, Conforming Technical Specification Changes for
Use of Westinghouse VANTAGE+ Fuel," dated July 26, 2002.
 - 2) Letter from Thomas Coutu (NMC) to Document Control Desk (NRC),
"NMC responses to NRC request for additional information concerning
License Amendment Request 187 To The Kewaunee Nuclear Power
Plant Technical Specifications (TAC NO. MB5718)," dated February 27,
2003.

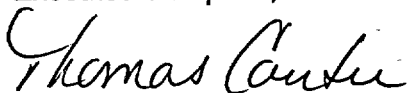
The Nuclear Management Company, LLC, (NMC) submitted a license amendment request (LAR) to implement the changes necessary to accommodate Westinghouse 422 VANTAGE + nuclear fuel with PERFORMANCE + features (referred to hereafter as 422V+ fuel (reference 1). The Nuclear Management Company, LLC, (NMC) subsequently submitted a response (reference 2) to a Nuclear Regulatory Commission (NRC) request for additional information (RAI) concerning License Amendment Request (LAR) 187 to the Kewaunee Nuclear Power Plant (KNPP) Technical Specifications (TS). In a conference call on April 1, 2003, between the NRC, NMC, and Westinghouse Electric Corporation the NRC requested additional clarification concerning NMC's response to question 13 of reference 2.

4001

Docket 50-305
NRC-03-037
April 3, 2003
Page 2

Attachment 1 to this letter contains NMC's response to the additional clarification requested by the NRC. This response does not change the conclusion reached in the safety analysis or the significant hazards determination contained in reference 1.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on April 3, 2003.



Thomas Coutu
Site Vice-President, Kewaunee Plant

GOR

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

Attachment

ATTACHMENT 1

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

April 3, 2003

Letter from Thomas Coutu (NMC)

To

Document Control Desk (NRC)

License Amendment Request 187

Question 13 Additional Information

NMC's Additional Response to Question 13

Dynamic analysis of the assembled reactor vessel, internals, and fuel is performed for several events. Resultant core plate motions are provided for fuel structural analysis. The dynamic events considered are:

- (A) Safe Shutdown Earthquake (SSE)
- (B) Accumulator Line Break

Event B above is a loss-of-coolant accident, and is considered as a limiting LOCA event because of the Leak-Before-Break (LBB) criteria applied to the larger main coolant lines.

Once the core plate motions are obtained for these two separate events, two corresponding analyses are performed for various fuel assembly rows. The resultant loads in the grid assemblies are combined by the square-root-of-the-sum-of-the-squares (SRSS) method for seismic and LOCA events.

The combined Seismic and LOCA fuel assembly forces analysis, using the SRSS method, were performed for the homogenous core and two mixed cores of co-resident 14X14 422V+ and FRA-ANP fuel. The results of the worst-case analysis show only one instance in which the grid impact forces transferred to the 14x14 422V+ fuel assembly exceeded the grid crush strength limitation. This crushed grid (minor deformation) occurred at the 13-fuel-assembly-row at the baffle edge of the reactor. Since three 13-fuel-assembly-rows were designed in the Kewaunee reactor core, the crushed grids could be up to three at one time. Fuel assembly grid crush tests performed by Westinghouse (which included the 14x14 422 V+ design) have resulted in no indications of fuel rod tube damage.. For the reactor core with crushed grid condition, the analysis results show that core coolable geometry will be maintained. Therefore, the safety criteria applicable to this event are met.