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NMC
Committed to Nuclear Excellence

Kewaunee / Point Beach Nuclear
Operated by Nuclear Management Company, LLC

NRC-02-067

July 26, 2002

10 CFR § 50.90

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Ladies/Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
License Amendment Request 187 to the Kewaunee Nuclear Power Plant Technical Specifications, Conforming Technical Specification Changes for Use of Westinghouse VANTAGE+ Fuel

Reference:
1) NRC Letter, Ashok Thadani to S.R. Tritch, "Acceptance for Referencing Topical Report WCAP-12610 'VANTAGE + Fuel Assembly Reference Core Report',", July, 1991
2) Kewaunee Nuclear Power Plant, Reload Safety Evaluation Cycle 25, November 2001
3) Letter No. NRC-02-053, from Mark E. Warner to Document Control Desk, "License Amendment Request 185 to the Kewaunee Nuclear Power Plant Technical Specifications, "Core Operating Limits Report Implementation, July 2002.
4) Letter No. NRC-02-024, from Mark E. Warner to Document Control Desk, "Kewaunee Nuclear Power Plant, Revision to the Design Basis Radiological Analysis Accident Source Term," March 19, 2002.
5) LTR-NRC-02-18, Submittal of WCAP-12488-A, Addendum 2/WCAP-14204-A, Addendum 2 of Westinghouse Fuel Criteria Evaluation Process, "Revision to Design Criteria", April 26, 2002
6) NRC Letter, Ashok Thadani to W.J. Johnson, "Acceptance for Referencing of Licensing Topical Report WCAP-11397, Revised Thermal Design Procedure," January 17, 1989.

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In accordance with the provisions of 10 CFR 50.90. Nuclear Management Company, LLC, (NMC) hereby requests amendments to Facility Operating License DRP-43 for Kewaunee Nuclear Power Plant. The purpose of this license amendment request (LAR) is to implement the changes necessary to accommodate Westinghouse 422 VANTAGE + nuclear fuel with PERFORMANCE + features (referred to hereafter as 422V+ fuel). The 422V+ fuel is presently used by KNPP in the Lead Test Assembly Program for Cycle 25. During this and succeeding refueling outages, all discharged assemblies will be replaced with assemblies containing 422V+ fuel. The Cycle 26 refueling outage is scheduled for April of 2003.

The NRC has generically approved 422V+ fuel for use in operating reactors (Reference 1). This fuel has proven safe in operation at Point Beach Nuclear Plant. In addition, NMC has confirmed its compatibility with the KNPP reactor design and current fuel configuration during Cycle 25 (Reference 2).

The NRC is currently reviewing LAR 185 to implement a Core Operating Limits Report (COLR) at KNPP (Reference 3). The proposed changes to the plant Technical Specification (TS) described herein presuppose NRC approval of the COLR for Kewaunee. In order to facilitate the NRC's review of this LAR, a draft Cycle 26 COLR is being forwarded with this request. Since the analysis of the Cycle 26 operating limits is not yet complete, a future submittal will forward the actual Cycle 26 COLR.

Included in Attachment 1 to this letter are a description of changes, a safety evaluation, a significant hazards evaluation, and a statement of environmental considerations. Attachment 2 presents strike-out pages for the changes to the Technical Specification. Attachment 3 presents revised pages to the Technical Specification.

Attachment 4 presents a Westinghouse report, "Technical Design Basis for the Transition to 422V+ Fuel", summarizing the safety evaluations and analyses that were performed to confirm the acceptability of 422V+ fuel at KNPP. Sections 2.0 through 6.0 of the report address mechanical design features, nuclear design, thermal-hydraulic design, accident analyses, and systems and component analyses, respectively. The accident analysis was performed for small break and large break loss-of-coolant accidents (LOCA), non-LOCA events, containment analysis, and the radiological analysis. The radiological consequences of the design basis accidents were reanalyzed in accordance with the provisions of 10CFR50.67, "Accident Source Term" to justify revising the Kewaunee source term. The Alternate Source Term used in the radiological analysis was previously forwarded to the NRC (Reference 4) and requires approval prior to approval of this request. The Westinghouse report also evaluates the effect of transitioning from the current fuel configuration (Framatome/ ANP fuel) to cores of a mixed configuration and, finally, to cores populated solely with 422+ fuel.

As discussed in the Westinghouse report, fuel rod evaluations for the 422V+ fuel were performed using NRC approved models and methods to demonstrate that all fuel rod design criteria are satisfied and documented. One analysis, however, remains to be completed. Westinghouse has forwarded the NRC WCAP–12488, Addendum 2 (Reference 5) for review and approval. Following NRC approval of Addendum 2, the stress values will be re-evaluated to confirm that the proposed clad stress criterion is met.

This submittal is for approval of the use of the Westinghouse fuel. Although evaluations and analyses were performed at uprated power, in order to bound all operating conditions where 422V+ fuel or a combination of 422V+ and FRA/ANP fuel are located in the core, a separate licensing amendment will be submitted at a later date for the power uprate.

NMC worked with Westinghouse to successfully complete the evaluations and analyses for the upgraded fuel. This activity included (1) providing plant specific information for the existing fuel and for plant procedures affecting the aforementioned evaluations/analyses; (2) implementing a test program to evaluate the use of 422V+ fuel at KNPP; (3) reviewing the report to ensure the technical adequacy of the analyses, evaluations and conclusions; and (4) ensuring inputs and assumptions used in the analyses and evaluations support plant operations and reflect the KNPP plant design.

Attachment 5 presents draft changes to of the Updated Safety Analysis Report (USAR) due to the analyses performed for the 422V+ fuel. These changes are being provided to support the NRC staff review of this licensing amendment. While Westinghouse was preparing the draft USAR pages, KNPP completed Revision 17 of the USAR. Although some pages may not match Revision 17 sent to the NRC, the current USAR will be modified upon NRC approval of this submittal IAW 10CFR50.71.

Attachments 6 and 7 present the Westinghouse Revised Thermal Design Procedure (RTDP) uncertainty calculation for KNPP, the results of which were used in the Chapter 14 safety analyses. Although the RTDP methodology has been approved generically by the NRC (Reference 6), this letter forwards the KNPP-specific RTDP uncertainty calculation to aid the staff in its review of the LAR. Two versions of the plant specific methodology are attached, WCAP-15591 (proprietary) and WCAP-15592 (non-proprietary). Also enclosed in Attachment 8 are Westinghouse authorization letter, CAW-02-1540, an accompanying affidavit, Proprietary Information Notice, and Copyright Notice. The draft Cycle 26 COLR is enclosed in attachment 9.

As Attachments 6 and 8 contain information proprietary to Westinghouse Electric Company, they are supported by an affidavit signed by Westinghouse, the owner of the information. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10CFR2.790 of the Commission's regulations. Accordingly, it is respectfully requested that the information which is proprietary to Westinghouse be withheld from public disclosure in accordance with 10CFR 2.790.

Correspondence with respect to the copyright or proprietary aspects of the items listed above or supporting the Westinghouse Affidavit, should reference the appropriate authorization letter and be addressed to H.A. Sepp, Manager of Regulatory and Licensing Engineering, Westinghouse Electric Company, P.O. Box 355, Pittsburgh, Pennsylvania.

In summary, then, this request seeks NRC permission to amend the TS to use of 422V+ fuel as the standard fuel in the KNPP reactor. NMC asks that the NRC approve this request by February 28, 2003, prior to the Cycle 26 refueling outage, to be implemented after shutdown for Cycle 26 refueling outage.

Nothing in this letter should be construed to constitute a commitment or redefine a margin of safety unless specifically so stated in separate correspondence or in a safety analysis of record.

NMC has transmitted a copy of this request to the State of Wisconsin, per 10 CFR § 50.91(b)(1).

If there are questions regarding this request, please contact either Mr. Thomas J. Webb at (920) 388-8537 or me at (920) 755-7611.

To the best of my knowledge and belief, the statements contained in this document are true and correct. In some aspects, these statements are not based entirely on my personal knowledge, but on information furnished by cognizant NMC employees and consultants. Such information has been reviewed in accordance with company practice and I believe it to be reliable.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on July 26, 2002.

Sincerely,

Mark E. Warner
Site Vice President
Nuclear Management Company, LLC

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Attachments:

1. Description of Change, Safety Evaluation, Significant Hazards Determination, and Statement of Environmental Considerations
2. Strike-Out Pages for Technical Specification and Bases
3. Revised Pages for Technical Specification and Bases
4. Westinghouse Report, Technical Design Basis for the Transition to 422V+Fuel
5. Draft Revisions for Updated Safety Analysis Report
6. WCAP-15591 (proprietary), "Westinghouse Revised Thermal Design Procedure Instrument Uncertainty Methodology-Kewaunee Nuclear Power Plant (Power Uprate to 1757 MWt NSSS with Feedwater Venturis and 54F Replacement Steam Generators) ", Revision 0 dated July 2002
7. WCAP-15592 (non-proprietary), "Westinghouse Revised Thermal Design Procedure Instrument Uncertainty Methodology-Kewaunee Nuclear Power Plant (Power Uprate to 1757 MWt NSSS with Feedwater Venturis and 54F Replacement Steam Generators)", Revision 0 dated July 2002
8. Westinghouse authorization letter (CAW-02-1540), accompanying affidavit, Proprietary Information Notice, and Copyright Notice
9. Draft Cycle 26 COLR

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