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SUBJECT: Confirms ref telcon between NRC & WPSC on 910528 & provides
 WPSC's understanding of guidelines for loading "advanced
 design fuel assemblies" manufactured by different vendors in
 Kewaunee Nuclear Power Plant.

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June 19, 1991

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Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
Core Reloads of Advanced Design Fuel Assemblies

Reference: 1) Teleconference on May 28, 1991, between Mr. Allen Hansen and Shih-Liang Wu of the Nuclear Regulatory Commission (NRC); and Mr. R. P. Pulec and Mr. S. F. Wozniak of Wisconsin Public Service Corporation (WPSC)

This letter documents the referenced conversation between the NRC and WPSC on May 28, 1991 and provides WPSC's understanding of guidelines for loading "advanced design fuel assemblies" manufactured by different vendors in the Kewaunee Nuclear Power Plant (KNPP).

The current fuel assembly design used at KNPP is a standard 14 x 14 fuel assembly supplied by Advanced Nuclear Fuels. This fuel design was first used at the KNPP in 1979. Prior to this, the initial core and the reload cycles 2, 3, and 4 used the Westinghouse standard 14 x 14 fuel assembly.

Since 1979, both Westinghouse Electric Corporation and Advanced Nuclear Fuels Corporation have manufactured advanced design fuel assemblies. These designs incorporate smaller diameter fuel rods which increase the water-to-uranium ratio and result in more efficient use of the uranium. These advanced design fuel assemblies have been used at the Prairie Island Nuclear Generating Plant and the Point Beach Nuclear Plant.

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WPSC wishes to use the more efficient fuel on a trial basis at KNPP to evaluate manufacturing and fuel performance. The standard fuel design used at the KNPP has performed exceptionally well. However, fuel cycle economics may be improved with a new fuel design without sacrificing fuel performance.

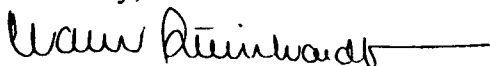
During the referenced teleconference, the NRC informed WPSC of restrictions on the use of test assemblies. These restrictions will assure that a test assembly is not the limiting assembly for loss-of-coolant accident (LOCA) analysis, and that the reactor will not use more than 20 of the test assemblies in a core reload without performing the required LOCA calculations and modifying the applicable KNPP Technical Specifications. WPSC agreed to accept these restrictions on the use of advanced design fuel assemblies.

WPSC intends to selectively use four to eight advanced design fuel assemblies in each of the new fuel loads scheduled for 1993, 1994, and 1995. The WPSC core design process will assure that the advanced design fuel assemblies loaded into the reactor are not the limiting fuel assembly with respect to power distribution and LOCA analysis assumptions. The power in these assemblies would be controlled through one or more of the following methods: burnable poison inserts, lower enrichments in the advanced design fuel assemblies, or assembly restrictions to core locations which will assure the assembly will not be the maximum power assembly.

WPSC intends to implement this proposed program for the use of advanced fuel assemblies pursuant to the provisions of 10 CFR 50.59 and in accordance with the restrictions detailed above. Please contact us promptly if this is not acceptable or additional restrictions are required.

If there are any additional questions or concerns please contact a member of my staff.

Sincerely,



for K. H. Evers
Manager - Nuclear Power

SFW/jms

cc - US NRC - Region III
Mr. Patrick Castleman, US NRC

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