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September 6, 1983

Mr. H. R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. NUCLEAR REGULATORY COMMISSION
Washington, D. C. 20555

Attention: Mr. J. Miller, Chief
Operating Reactors Branch 3

Gentlemen:

DOCKET NOS. 50-266 AND 50-301
ADDITIONAL INFORMATION
TECHNICAL SPECIFICATION CHANGE REQUEST NO. 87
SAFETY EVALUATION FOR OPTIMIZED FUEL
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

By letter dated March 14, 1983 Wisconsin Electric Power Company, Licensee for the Point Beach Nuclear Plant, submitted a license amendment application and technical specification change request which contained the changes required for utilization of the Westinghouse 14x14 Optimized Fuel Assembly (OFA) design in the Point Beach reactors. In addition, the proposed technical specification changes covered the following items which are not directly related to OFA utilization:

1. A change in the $F_{\Delta H}$ limit formulation to $F^N_{\Delta H} \leq 1.58 \times [1+0.3(1-P)]$. Currently this formulation is $F^N_{\Delta H} \leq 1.58 \times [1.0.2(1-P)]$.

2. Use of the Relaxed Axial Offset Control (RAOC) strategy instead of the Constant Axial Offset Control (CAOC) method currently in use.

3. Use of 0.95 for refueling $K_{eff}$ instead of 0.90 which is currently being used.

4. Allowance for a small positive moderator temperature coefficient (+5 pcm/°F) for up to 70% power.

The proposed technical specification changes were developed to cover both transition cycles, i.e., the cores of which contain both OFA and standard design fuel assemblies, and those subsequent

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cycles with cores comprised entirely of OFA fuel. The specifications for cores consisting entirely of standard design fuel or cores containing up to four demonstration OFA's are addressed by the current technical specifications. The most limiting core conditions were used to develop the proposed technical specification changes.

The purpose of this transmittal is to provide additional information in support of the original submittal. In addition, editorial improvements to the proposed technical specification page changes are included.

Attachment A contains revised proposed technical specification pages with editorial changes. These pages are intended to supersede the respective pages previously submitted. The other page changes proposed in the March 14 submittal remain in effect. For your convenience we have enclosed duplicates of these pages so that Attachment A includes a complete package of all our proposed specification changes or revisions.

Attachment B presents a report of the Safety Evaluation performed to evaluate utilization of OFA fuel in conjunction with the four other operational changes discussed above. The Safety Evaluation discusses the differences between standard design fuel and OFA fuel. Evaluations of the mechanical, nuclear, and thermal-hydraulic characteristics are also presented. The Accident Evaluation section discusses the effect of using OFA fuel, and the other operational items mentioned above, on the accidents covered by the Point Beach FSAR. The safety analyses were performed using approved models and methodology similar to those described in WCAP-9500, the reference core report for the 17x17 optimized fuel assembly design. Thermal-hydraulic calculations employed the Westinghouse Improved Thermal Design Procedure, as described in WCAP-8567P.

As stated in our March 14 letter, the OFA analyses for the "small-break" LOCA have not yet been completed. These analyses have been delayed pending completion of NRC review of the latest Westinghouse small-break LOCA model and computer codes. It is intended that the latest version of these models and codes will be used as soon as they have been approved. It is not anticipated that the "small-break" LOCA will be the limiting accident.

Attachment C presents an evaluation of the impact of handling and storage of new and spent OFA fuel assemblies at Point Beach. Based on the evaluations performed and the results of these evaluations, it is concluded that the proposed amendment to the Point Beach technical specifications does not constitute a significant hazards consideration because, as set forth in 10 CFR 50.92, the proposed amendment to the technical specifications would not:

1. ...olve a significant increase in the probability or consequences of an accident previously evaluated.

2. Create the possibility of a new or different kind of accident from any previously evaluated.

3. Involve a significant reduction in a margin of safety.

Under the proposed amendment the current standard Westinghouse Electric Corporation 14x14 LOPAR fuel assemblies will be replaced with Westinghouse OFA's beginning with Cycle 11 of Point Beach Unit 2. The OFA's are not significantly different from fuel assemblies previously found acceptable by the NRC and used in the Point Beach reactors. The Westinghouse OFA reload fuel assemblies are mechanically and hydraulically compatible with the current standard Westinghouse 14x14 LOPAR fuel assemblies, control rods, reactor internals interfaces, fuel handling, and refueling equipment. Only minor differences between OFA and current fuel exist. They are:

1. Replacement of five intermediate Inconel grids with Zircaloy grids (utilizing the same grid cell support design).

2. A reduction in the fuel rod diameter to optimize the water-to-uranium ratio.

3. Reduction in the guide and instrument tube diameters.

4. The implementation of a modified bottom nozzle to facilitate reconstitution (fuel assembly repair).

Core parameters are not significantly changed as the result of the transition to OFA reload fuel since the characteristics of OFA fuel are similar to standard fuel. The proposed changes to the Point Beach technical specifications incorporating the following are consistent with the safety evaluations that have been performed. No changes were made to the acceptance criteria for the technical specifications.

1. A positive moderator coefficient.

2. A 0.3 multiplier for the relation between $F_{\Delta H}$ and rated power level.

3. A change in the control bank insertion limits.

4. Relaxed Axial Offset Control strategy.

5. A reduction in the refueling shutdown margin.

6. The Point Beach Units 1 and 2 reloaded with OFA fuel.

The analytical methods used to demonstrate conformance with the technical specifications and regulations are not changed from established Westinghouse reload methodology as contained in WCAP-9272, which has previously been found to be acceptable to the NRC. For the above reasons it is concluded that the proposed changes to the Point Beach technical specifications associated with the introduction of Westinghouse OFA reload fuel and the additional changes listed do not constitute a significant hazards consideration. Furthermore, they are within the scope of the NRC's example iii, "examples of amendments that are considered not likely to involve significant hazards considerations..." (48 Federal Register 14870), as contained in the statement of consideration published with the interim final rule.

We trust that the additional information provided herewith will be sufficient for your staff to begin its review and safety evaluation of Technical Specification Change Request No. 87.

Very truly yours,

C W Fay

Vice President-Nuclear Power

C. W. Fay

Attachments

Copy to NRC Resident Inspector

Subscribed and sworn to before me
this 6th day of September 1983.

Dorothy Fleischmann
Notary Public, State of Wisconsin

My Commission expires July 1, 1984.