NORTHEAST UTILITIES

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May 28, 1980

Docket No. 50-336
B10002

Director of Nuclear Reactor Regulation
Attn: Mr. Robert A. Clark, Chief
Operating Reactors Branch #3
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

References: (1) W. G. Counsil letter to R. Reid dated March 6, 1980.
(2) R. A. Wiesemann letter to H. R. Denton dated February 29, 1980.
(3) R. A. Wiesemann letter to D. G. Eisenhut dated July 27, 1976.

Gentlemen:

Millstone Nuclear Power Station, Unit No. 2
Cycle 4 Refueling - BSR Addendum

In Reference (1), Northeast Nuclear Energy Company (NNECO) submitted the Basic Safety Report (BSR) to the NRC Staff in support of the Millstone Unit No. 2, Cycle 4 reload. The BSR is intended to serve as the reference fuel assembly and safety analysis report for the use of Westinghouse fuel at Millstone Unit No. 2.

A meeting was held with the NRC Staff in Bethesda on March 18, 1980, during which the licensing schedule for the Cycle 4 reload was discussed. At that time, NNECO had anticipated that the BSR addendum, addressing the topic of Cycle 4 nuclear uncertainties, would be docketed on or about May 1, 1980.

In response to that commitment, NNECO hereby submits, as Attachment 1, the proprietary version of the BSR Addendum - Nuclear Uncertainties. Attachment 1 supplements the information provided in Section 4.0 of the Basic Safety Report and describes the power peaking factor uncertainty analysis utilized in the nuclear design of the reload fuel for Millstone Unit No. 2 beginning with Cycle 4 operation.

The analysis is based on three cycles of measured data from Millstone Unit No. 2. Westinghouse has recalculated INCA coefficients for Cycles 1, 2, and 3 and combined them with the measured rhodium detector signals to recalculate three cycles of INCA cases. This analysis relies exclusively on Westinghouse nuclear input data and measured signals. No nuclear design input to INCA from the previous fuel supplier and NSSS vendor has been utilized.

The error in the Fourier fit utilized by INCA was evaluated using a library of approximately 1,250 axial power shapes to determine an error profile. Also included in the uncertainty analysis is a correction for 3-D effects on the power distribution. This correction is required because the basic INCA coefficients are calculated with the 2-D fine mesh model TURTLE. Waterhole peaking penalties have been evaluated over a range of burnups, enrichments, boron concentrations, and temperatures.

Due to the proprietary nature of portions of the material contained in Attachment 1, NNECO requests that the proprietary version of the BSR Addendum be withheld from public disclosure in accordance with the provisions of 10CFR2.790, and that this material be safeguarded. The reasons for the classification of this material as proprietary are delineated in affidavits signed by Westinghouse and previously submitted in References (2) and (3).

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

W. G. Counsil
Vice President

Attachment