Wisconsin Electric POWER COMPANY
231 W. MICHIGAN, P.O. BOX 2046, MILWAUKEE, WI 53201

February 22, 1983

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

Attention: Mr. R. A. Clark, Chief
Operating Reactors Branch 3

Gentlemen:

DOCKET NOS. 50-266 AND 50-301
EMERGENCY CORE COOLING SYSTEM ANALYSES
SPECIFICALLY TREATING UPPER PLENUM INJECTION
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

In Mr. Clark's letter of November 8, 1982 you requested the submittal on our dockets of the Emergency Core Cooling System (ECCS) evaluation model which specifically treats upper plenum injection (UPI) including "a set of sample calculations encompassing a spectrum of large-break LOCAs". In our letter to you dated December 10, 1982 we referenced Westinghouse Electric Corporation letter No. NS-TMA-2172 dated December 6, 1979 for the description of the modifications to the Westinghouse ECCS Evaluation Model which specifically treat UPI for Point Beach Nuclear Plant, Units 1 and 2.

The attachment to this letter contains the results of the ECCS large-break LOCA analysis of Point Beach, Unit 1, with Westinghouse optimized fuel using the Westinghouse 1981 Evaluation Model modified to account for UPI. The results indicate a 151°F benefit in calculated Peak Clad Temperature (PCT) for the UPI base case (30% core coverage) in comparison to the non-UPI case. The results were computed for the 0.4 double-ended cold leg LOCA blowdown transient rather than a spectrum of large-break LOCAs because this case has historically been limiting for two-loop plants.

A030

The attachment also contains the results of sensitivity studies regarding the percentage of core coverage achieved by UPI. The results indicate a 146°F benefit, a 60°F benefit, and a 130°F penalty in PCT for 50%, 70%, and 100%, respectively, of core coverage with UPI water. However, Westinghouse has concluded, based on test results included in the 1979 letter, that 30% of core coverage by UPI water is an upper bound for Point Beach.

Attached to an NRC letter to us dated June 27, 1978 was "Safety Evaluation Report on Interim ECCS Evaluation Model for Westinghouse Two-Loop Plants". This SER imposed an interim 60°F PCT penalty on Point Beach for the effects of UPI compared to the results of the large-break LOCA analyses using the standard Westinghouse ECCS evaluation Model. Based on the results of the attached UPI analyses, it is requested that a final SER be prepared promptly so that this interim 60°F PCT penalty can be removed. It is our intention to perform future large-break LOCA analyses using the standard Westinghouse ECCS Evaluation Model, which has now been shown by the attached report to be conservative with respect to the effects of UPI phenomena.

We would be pleased to answer any questions you may have regarding this information.

Very truly yours,

C. W. Fay

Vice President - Nuclear Power

C. W. Fay

Attachment

Copy to NRC Resident Inspector

Westinghouse Electric Corporation
Water Reactor Divisions

Nuclear Services Integration Division
Box 2728
Pittsburgh Pennsylvania 15230

February 18, 1983

WEP-83-515

Mr. D. K. Porter, Superintendent
Nuclear Engineering Section
Wisconsin Electric Power Company
231 West Michigan Street
Milwaukee, WI 53201

Wisconsin Electric Power Company
Point Beach Units 1 and 2
Final Report - UPI

Dear Mr. Porter:

Attached is the final report on the Point Beach LOCA results obtained by using the Westinghouse 1981 Evaluation Model modified to account for upper plenum injection. Comparisons with a non-UPI case and the results of the core coverage sensitivity study are also included in this report.

If there are any questions, please call C. C. Sprumont at (412) 256-5409.

Yours very truly,

C Sprumont /for

W. J. Johnson, Manager
Operating Plant Projects
Mid-America Region

CCS/j

Encl.

cc: J. J. Zach, 1L
C. W. Fay, 1L
H. Hanneman, 1L
C. A. Lins, 1L - W