Wisconsin Electric POWER COMPANY
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June 20, 1979

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

Attention: Mr. A. Schwencer, Chief
Operating Reactors Branch #1

Gentlemen:

POINT BEACH UNIT 2 CYCLE 6
STARTUP PHYSICS TESTING - ROD WORTH MEASUREMENTS REPORT

Attachment A to our letter of May 24, 1979, reported the results of
the Unit 2 beginning-of-Cycle 6 rod worth measurements which employed the
"rod swap" methodology. As a result of discussions with a member of your
staff it was discovered that the formulation of Section 3.2 of the Rod Worth
Measurements Report was not consistent with the equations submitted to the
NRC by Westinghouse in November 1978. The results presented in Table 2 of
the report should accordingly be changed to reflect the 1978 formulation.

Specifically, the equation and definitions presented in Section 3.2
should read as follows:

$$W_X^I = W_R^M - \Delta_\rho 1 - (\alpha_X)(\Delta\rho 2) + W_X^E \text{ where:}$$

W_X^I = The inferred worth of Bank X, pcm

W_R^M = The measured worth of the reference bank, Control A, from
fully withdrawn to fully inserted with no other bank in
the core.

α_X = A design correction factor taking into account the fact
that the presence of another control rod bank is affecting
the worth of the partially inserted reference bank.

$\Delta\rho 2$ = The measured worth of the reference bank from its elevation,
at which the reactor is just critical with Bank X in the
core, to the reference bank fully withdrawn condition.
This worth of the reference bank is measured with no other
bank in the core. Therefore, the α_X correction factor is
used.

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$\Delta\rho1$ = The measured worth of the reference bank from the fully inserted condition to the elevation at which the reactor was just critical prior to the worth measurement of Bank X. In the test $\Delta\rho1$ is zero.

W_X^E = The worth of Bank X from the initial position (before the start of the exchange) to 228 steps. This worth is measured by the normal endpoint worth method.

Using this formulation, Table 2 should read as follows:

TABLE 2

COMPARISON OF INFERRED/MEASURED BANK WORTHS WITH DESIGN PREDICTIONS

UNIT 2 CYCLE 6

Bank X	$\Delta\rho2$ (pcm)	α_X	W_X^E (pcm)	W_X^I (pcm)	W_X^P (pcm)	**(%)
CC	658	0.977	40	966	1005	-3.9
SB	815	0.997	20	776	807	-3.8
SA	459	1.026	23	1121	1125	-0.4
CD	902	0.994	34	706	742	-4.8
CB	959	1.041	39	610	606	+0.7
CA	-	-	-	1569*	1560	+0.6
TOTAL				5748	5845	-1.7

$*W_R^M = 1569$

$$**\frac{(W_X^I - W_X^P)\,100}{W_X^P}$$

As you will note, the conclusions of the May 24, 1979 letter are unchanged. The review and acceptance criteria for the measurements were met and the adequacy of the nuclear design rod worth predictions was demonstrated.

Very truly yours,

C. W. Fay, Director
Nuclear Power Department