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DESCRIPTION:

Ltr ref our 8-20-73 ltr ... trans the following:

ENCLOSURES:

Oconee Nuclear Station Unit 1,
Cycle 2 Power Distribution Comparison Report

ACKNOWLEDGED
DO NOT REMOVE

PLANT NAME: Oconee #1

FOR ACTION/INFORMATION 6-6-75 JGB

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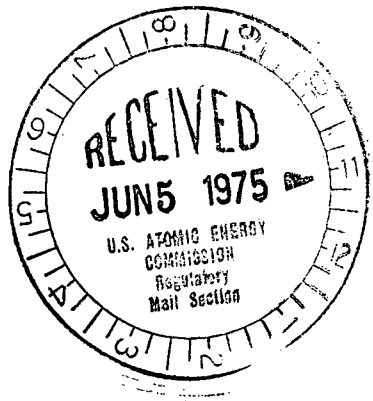


June 3, 1975

Mr. Angelo Giambusso, Director
Division of Reactor Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Giambusso:

Attached is the Cycle 2 Power Distribution Comparison Report, which provides a comparison of the power distributions measured shortly after the first refueling of Oconee Unit 1 with Babcock & Wilcox Company's PDQ computer code predictions. This report completes the power distribution comparison requirements requested by Mr. R. C. DeYoung's letter of August 20, 1973.

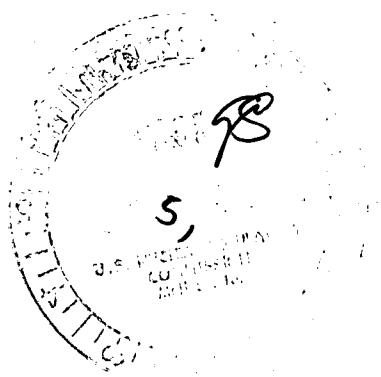
Very truly yours,

A. C. Thies

A. C. Thies

ACT:vr

Attachment



6148

OCONEE NUCLEAR STATION
UNIT 1

Cycle 2 Power Distribution Comparison Report

This report provides a comparison of the radial power distributions measured shortly after the first refueling of Oconee Unit 1 with those predicted by Babcock & Wilcox Company's PDQ computer code calculations.

The measured core power distributions were obtained from the fixed incore detector data. The measured data were corrected wherever necessary by replacing signals from inoperative detectors with values obtained by interpolation or extrapolation of signals from adjacent detectors.

The predicted power distributions were obtained from two-dimensional PDQ thermal-hydraulic feedback calculations, using a standard two-zone representation for each fuel assembly in one-quarter core geometry.

Figure 1 shows the comparison of the measured and calculated radial power distributions corresponding to a core burnup of approximately 23 EFPD into Cycle 2. The difference between the measured and the calculated peak radial power is 4.49 percent, and the root mean square percent difference between the measured and the calculated radial power densities for all fuel assemblies is 3.79 percent. Therefore, the measured and predicted core power distributions agree quite well.

FIGURE 1

COMPARISON OF MEASURED AND CALCULATED
RADIAL CORE POWER DISTRIBUTIONS

	8	9	10	11	12	13	14	15
H	1.21 1.02	1.17 1.18	1.20 1.22	1.40 1.36	0.95 0.95	1.17 1.21	1.00 1.00	1.09 1.02
K		1.03 1.13	1.16 1.17	1.02 1.05	0.84 0.85	0.65 0.63	0.92 0.93	1.02 1.00
L			1.14 1.16	1.06 1.07	0.94 0.90	0.80 0.85	1.35 1.29	0.82 0.84
M				1.56 1.49	0.96 0.98	0.91 0.97	1.14 1.10	
N					0.96 1.01	0.91 0.90	0.76 0.74	
O						0.75 0.73		
P								
R								

xx.x	Measured
yy.y	Calculated (PDQ)

CONDITIONS

	Measured	Calculated
Core Average Burnup (EFPD)	23	25
Power Level (%FP)	98	100
Boron Concentration (ppm)	782	782
Control Rod Group Position (%wd)		
Groups 1-5	100	100
Group 6	88	100
Group 7	17	17
Group 8	7.2	37.5