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May 18, 1983

1CAN058304

Director of Nuclear Reactor Regulation
ATTN: Mr. J. F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: Arkansas Nuclear One - Unit 1
Docket No. 50-313
License No. DPR-51
NUREG 0630 - Results of Bounding Analysis

Gentlemen:

By our letter dated March 15, 1983 (1CAN038305), AP&L committed to provide the results of B&W's supplemental emergency core cooling system calculations to address the impact of the cladding models presented by the NRC staff in NUREG 0630. Our letter indicated that problems identified during our review of the previous B&W report needed to be resolved, and also stated that B&W had experienced inconsistencies with the results from a NUREG 0630 analysis of another plant which could affect the validity of the ANO-1 analysis.

These matters have been reviewed by AP&L and discussed with the B&W Owners Group. B&W has verified the validity of the ANO NUREG 0630 analysis by performing hand calculations to confirm the computer code analysis results. In addition, B&W has now completed the revision of the bounding analysis report. The report indicates that the bounding analysis assessment, performed without compensating models, resulted in a 0.5 kw/ft. penalty at the 2 ft. elevation for the LOCA kw/ft. limits. This limit was also assigned to the 4 ft. and 6 ft. elevations.

AP&L has no plans for implementation of these penalties at the present time. We do not feel such penalties are appropriate for the following reasons. First, the NUREG 0630 models may be overly conservative. It is our understanding that this matter is scheduled for discussions before the ACRS in the near future. Secondly, as you are aware, impending changes are being considered to Appendix K of 10CFR50 that could have beneficial impact on kw/ft. limits. Third, the NRC has suggested that compensating models may be allowed in assessing the NUREG 0630 impact.

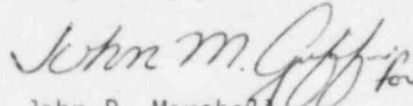
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AP&L has directed B&W to proceed with an assessment of one such compensating model, the use of the "FLECHT-SEASET" heat transfer correlation. B&W has recently completed the analysis which demonstrates that a 0.5 kw/ft increase in LOCA limits is justified at the 2 ft. and 4 ft. core elevations. The NUREG 0630 related penalty at the 6 ft. elevation would not affect the operating Technical Specification limits. Based on the results of the bounding analysis and the compensating model, the NUREG 0630 data will have no net effect. B&W is now preparing a revised NUREG 0630 report which will incorporate the results of the FLECHT-SEASET work. We expect to receive the report shortly, and will submit a copy for your review at that time.

Very truly yours,



John R. Marshall
Manager, Licensing

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