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ROBERT S. HUNTER
Vice President - Nuclear Engineering

Donald C. Cook Nuclear Plant
Operating License DPR-58
Docket No. 50-315

August 6, 1976

Mr. J. G. Keppler, Regional Director
Office of Inspection and Enforcement
United States Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

This letter is to confirm our telephone report to your Mr. D. C. Boyd at approximately 1030 hours on August 6, 1976, pursuant to the requirements of Appendix A Technical Specifications and the U.S. Nuclear Regulatory Commission Regulatory Guide 1.16, Revision 4, Section 2.a.

At that time we reported that on August 5, 1976 Westinghouse informed us by telephone of recent developments that bear on the safety analysis of the Donald C. Cook Nuclear Plant which in their judgment constitute unreviewed safety questions.

The first issue involved the temperature of the fluid in the reactor vessel upper head. Past ECCS analyses assumed that the temperature in the upper head was equal to vessel inlet temperature. Recent model tests, improved analytical techniques and one in-plant measurement suggest this to be in error and a more appropriate assumption is that the upper head temperature is 75% of the difference between vessel outlet and inlet temperature (added to inlet temperature).

The impact of this finding with reference to the Cook Nuclear Plant is a necessary reduction in F_0 to prevent operation at an unacceptable power level. The current plant allowable F_0 is 1.98. Westinghouse

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tells us that the current analysis suggests an increase in this value to 2.05, but because of this upper head temperature problem, this analysis will only permit operation with an F_0 of 2.02, which is above our current technical specification limit of 1.98. Our actual core peaking factor as determined by current in-core measurements is substantially below the current technical specification limit.

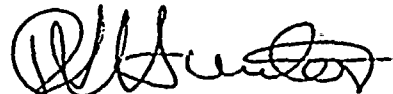
Another consequence of this upper head fluid investigation concerns the effects on the steam line break analysis, but Westinghouse has reviewed the specific Cook case and informed us that this has no effect on Cook Nuclear Plant.

A separate problem involves rod bow. Recent results indicate that the rod bow DNB penalty is higher than previously used as a licensing basis. The combination of this penalty with available margin will result in an estimated reduction of 8% in DNBR. To maintain safe operation of the plant this reduction has been incorporated by revising the $F_{\Delta H}$ limit in our in-core flux mapping program. To do this, we have lowered our $F_{\Delta H}$ operating limit by 4%, from 1.51 to 1.45, a value which we are assured by Westinghouse will compensate for this 8% DNB penalty. Our actual $F_{\Delta H}$ as determined by current in-core measurements is less than the modified limit.

Westinghouse advised us that they will keep AEP informed on the results of meetings with the NRC on these matters and the acceptability of the recommended operating modification.

This letter constitutes the 24-hour written notification, and the written followup report which Section 2.a of Regulatory Guide 1.16, Revision 4, requires to be submitted within two weeks of the telephone notification. If we receive additional information from Westinghouse on this subject which relates to our response, we will inform you.

Very truly yours,



R. S. Hunter

Vice President - Nuclear Engineering

RSH kb

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