December 2, 1976

Mr. Kenneth E. Suhrke
Manager, Licensing
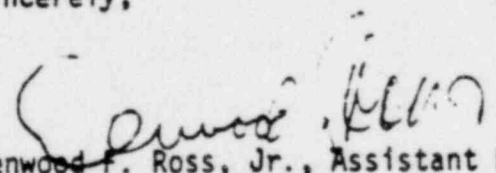Babcock and Wilcox
P.O. Box 1260
Lynchburg, Va. 24505

Dear Mr. Suhrke:

During the course of our review of emergency core cooling system (ECCS) evaluation models, it has come to our attention that use of a nucleate boiling heat transfer correlation during blowdown after critical heat flux (CHF) is first predicted, may not conform to the requirements of Appendix K to 10 CFR 50. The criteria for compliance with Appendix K have been established by the NRC staff and were discussed with you. This is similar to the matter identified with respect to the Combustion Engineering (CE) evaluation model.

Based on our experience in connection with developing a correction for the CE model, we conclude that there are acceptable correlations which can be used and which would have a small effect on calculated peak clad temperature.

We are instructing all operating plants which have been evaluated for ECCS performance using your model to submit a re-evaluation using a model corrected to preclude the use of a nucleate boiling heat transfer correlation during blowdown after CHF has been predicted by the approved correlation. Since the expected effect on peak cladding temperature is small, continued operation of these plants within the limits of the existing Technical Specifications, in the interim until the required recalculations are performed, will continue to provide reasonable assurance that calculated peak clad temperature will remain within the limits of 10 CFR 50.46 and will result in no undue risk to the public health and safety. However, it is essential that you submit the corrected model for our evaluation as soon as possible since new licensing actions involving CP and OL applications or reload cores may be impacted until your evaluation model is fully in compliance with Appendix K.

Sincerely,

Denwood F. Ross, Jr., Assistant Director
for Reactor Safety
Division of Systems Safety
Office of Nuclear Reactor Regulation

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