

DEC 06 1976

Dockets Nos. 50-269  
50-270  
and 50-287

Duke Power Company  
ATTN: Mr. William O. Parker, Jr.  
Vice President  
Steam Production  
Post Office Box 2178  
422 South Church Street  
Charlotte, North Carolina 28242

Gentlemen:

RE: OCONEE UNITS NOS. 1, 2 & 3

During the course of our review of emergency core cooling system (ECCS) evaluation models, it has come to our attention that the Babcock and Wilcox (B&W) ECCS evaluation model, which was used for your facility, uses a nucleate boiling heat transfer correlation during blowdown after critical heat flux (CHF) is first predicted. This may not conform to the requirements of Appendix K to 10 CFR Part 50. The criteria for compliance with Appendix K has been established by the NRC staff and discussed with B&W representatives. Enclosed is a copy of our letter to B&W requesting that a corrected ECCS model be submitted for our evaluation as soon as possible.

This matter is similar to one identified with respect to another nuclear steam system supplier's evaluation model; and, based on our experience in connection with developing a correction for that model, we have concluded that there are acceptable correlations which can be used and which have a small effect on the calculated peak clad temperature. It is expected that the effect on calculated peak clad temperature would be small enough so that modification of your Technical Specifications will not be required; however, this must be verified for your facility by reevaluation of the ECCS cooling performance using a corrected model.

ECCS 2

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OFFICE ➤						
SURNAME ➤						
DATE ➤						

DEC 06 1976

Accordingly, submit as soon as possible, a reevaluation of your ECCS cooling performance using an NRC staff approved model that does not use a nucleate boiling heat transfer correlation during blowdown after CHF has been predicted by the approved CHF correlation.

Sincerely,

**Original signed by**

A. Schwencer, Chief  
Operating Reactors Branch #1  
Division of Operating Reactors

cc: Mr. William L. Porter  
Duke Power Company  
P. O. Box 2178  
422 South Church Street  
Charlotte, North Carolina 28242

Mr. Troy B. Conner  
Conner & Knotts  
1747 Pennsylvania Avenue, NW.,  
Washington, D.C. 20006

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

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