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DESCRIPTION:

Ltr re our 3-14-75 ltr....trans the following:

ENCLOSURES:

Possibilites of significant changes in chmeical concentrations during LOCA.....

ACKNOWLEDGED
DO NOT REMOVE

PLANT NAME: Oconee 1, 2, & 3

FOR ACTION/INFORMATION 4-21-75 ehf

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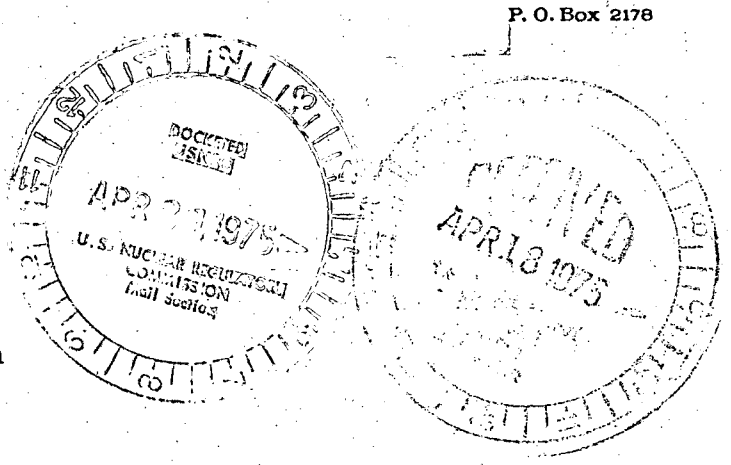

April 16, 1975

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

Re: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287

Dear Mr. Giambusso:

In response to a March 14, 1975 letter from Mr. R. A. Purple, a review of the system capabilities and operating procedures of the Oconee Nuclear Station has been performed to evaluate the possibility of significant changes in chemical concentrations, during the long term, after a postulated loss of coolant accident (LOCA). This review has considered all aspects of station design, including component qualification in the LOCA environment, in addition to a detailed review of operating procedures.

On August 5, 1974, the Babcock and Wilcox Company submitted Topical Report BAW-10091 to the Commission. This report describes the B&W ECCS evaluation model for conformance to Appendix K of 10 CFR 50 along with specific application to 177-FA Class plants with lowered-loop arrangement. Duke Power Company adopted this topical report and submitted and implemented proposed technical specifications to bring the operation of the Oconee units into conformance with the LOCA limits contained in BAW-10091. Subsequent to this submittal, the Commission staff raised several questions with B&W concerning the report. Supplement 1 to BAW-10091 was submitted on January 15, 1975 which responded to these questions. Several of these questions and responses pertained to boron precipitation during long-term cooling and are discussed below.

The response to Question 117 (pp. 3-85 through 3-87) described operator actions which are required to initiate and maintain long-term cooling. The response to Question 120 (pp. 3-88 through 3-99) described the analysis which demonstrates that boron precipitation will not occur during long-term cooling due to the leakage gaps between the outlet nozzles and the core support shield opening during the cooldown period following a LOCA. It is believed that these gaps will open and, therefore, no additional operator action will be required to prevent boron precipitation.

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The attached evaluation, however, describes three modes of operation which could be utilized to assure that boron precipitation would not compromise long-term core cooling capability following a LOCA if it is assumed that the above described gaps are not available. The three modes of operation are described in Section III with the associated operating procedures described in Section V of the evaluation. Existing systems are considered adequate for implementing Modes 1 and 2; however, dose calculations have not been completed to determine the feasibility of operation of manual valves in the Auxiliary Building in the post-LOCA environment. The described operating procedures for Modes 1 and 2 could be implemented if the expected dose is within acceptable values. If the dose rate is not acceptable, a number of manual valves in the Auxiliary Building could be replaced with electric motor operated (EMO) valves; however, the procurement and installation time required could be approximately two to two and one-half years.

Mode 3 would be required to provide additional assurance that a single failure of a motor operated valve used in Modes 1 or 2 would not prevent recirculation. Implementation of this mode would require the installation of two motor operators on valves in the Reactor Building. Procurement and installation time required for this modification could also be approximately two to two and one-half years.

A review of the dose calculations described above and of longer initiation times for implementation of the long-term cooling mode following a postulated LOCA is being performed to determine the necessity for additional modifications. The results of this review will be submitted by June 1, 1975. It is re-emphasized, however, that it is considered that the methods described in BAW-10091, Supplement 1 are adequate to prevent boron precipitation and that the steps described in the attached are unnecessary.

Very truly yours,

A. C. Thies

ACT:vr
Attachment