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January 29, 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

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Dear Mr. Giambusso:

In accordance with your letter of October 9, 1973 concerning Anticipated Transient Without Scram (ATWS), and in compliance with the regulatory position set forth in WASH-1270 (Section 11C, Appendix A), the following analysis of ATWS consequences is provided for Oconee Nuclear Station.

The Babcock and Wilcox Company has submitted Topical Report BAW-10099, "Babcock and Wilcox Anticipated Transient Without Scram Analysis," to the Commission. This topical report provides analyses of the ATWS consequences for a generic 177 fuel assembly plant, similar to the Oconee units, for the following transients under postulated no reactor scram conditions:

a. Pressurizer safety valve stuck open
b. Loss of normal feedwater
c. Loss of off-site power
d. Two reactor coolant pump coastdown
e. Rod withdrawal at power

The analyses indicate that, for the generic plant, core conditions are maintained within allowable cladding and fuel temperature limits for the safety valve stuck open accident, the rod withdrawal accident and the two pump coastdown accident. The generic plant analyses are representative of the Oconee units; thus, Oconee is also considered to meet those allowable parameters.

The analyses of the loss of normal feedwater accident and the loss of off-site power accident presented in the topical report show that the allowable Reactor Coolant System pressure is exceeded. Further analyses are performed which include the effects of a control rod runback from the

normal Integrated Control System (ICS) action that occurs upon the loss of normal feedwater, and the effects of a minimum dropped control rod reactivity insertion of 0.5% $\Delta k/k$ for the loss of off-site power. The analyses performed, considering these reactivity insertions, show that the pressure transients for the generic plant are within allowable limits. The assumption of a control rod runback is considered valid due to the independence of the control and shutdown systems. A partial rod drop of only 0.5% $\Delta k/k$ (approximately five rods) is considered conservative because of the extremely remote probability of a mechanical common mode failure of all control rod drive mechanisms which would prevent the release of rods in the event of loss of off-site power.

Although the Oconee plant differs from the generic plant primarily by having a smaller initial core power, greater initial steam generator inventory and smaller pressurizer relief capacity, the results stated in the topical report are considered to be typical of the Oconee plant.

It is concluded that by considering in total the inherent plant features, the time when the plant was designed, the low probability of occurrence for the ATWS events, and the calculated transient results, that the existing plant design represents an acceptable risk to the health and safety of the public.

Very truly yours,

A. C. Thies

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