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RECIP.NAME RECIPIENT AFFILIATION
STOLZ,J.F. Operating Reactors Branch 4
DENTON,H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Forwards "Evaluation of Transient Nuclear Instrumentation Power Range Flux Error," in response to NRC 810114 ltr.

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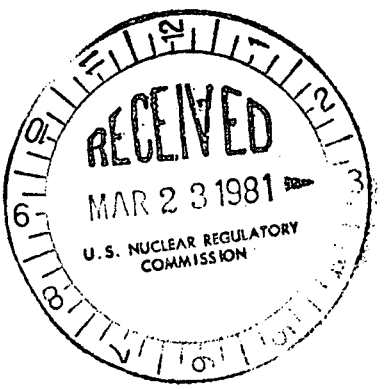
March 19, 1981



Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: J. F. Stolz, Chief
Operating Reactors Branch No. 4

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

Dear Sir:

In response to a Staff letter dated January 14, 1981, please find attached a report, prepared by Duke Power, entitled "Evaluation of Transient Nuclear Instrumentation Power Range Flux Error". This report is submitted as the Duke evaluation of the potential for and consequences of the error in the transient contribution of the high flux trip setpoint to be greater than the currently assumed 2% FP error, for certain transient conditions.

The transient contribution to the error in the high flux trip setpoint has been investigated to identify the source and magnitude of the error, and to determine the impact of the error on the transient analyses documented in the Oconee FSAR. Our evaluation confirms that the two concerns identified by Babcock & Wilcox, overcooling transient induced errors and low worth rod ejection transient induced errors, can exceed the 2% error currently assumed. Utilizing plant data from several test programs, the magnitude of the error for overcooling transients has been quantified. For the rod ejection transient the magnitude of the error has been analytically quantified.

A review of the affected transients was undertaken and plant specific analyses were performed to determine the impact of the flux error. The approach taken in the plant specific analyses was to select the appropriate assumptions to enhance the flux error effect and maximize the resulting core power level. This approach provides a conservative evaluation of the worst case transient response.

The results of the worst case plant specific analyses show that even when a conservative set of assumptions are used, the worst transient response does not result in any increase in fuel failures beyond that already documented in the FSAR. Therefore, the present accident and transient analyses, and the Technical Specification limits derived from them, remain valid.

Very truly yours,

William O. Parker, Jr.

RLG:pw
Attachment

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