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March 26, 1984

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

Attention: Mr. D. G. Eisenhut, Director
Division of Licensing

Subject: Catawba Nuclear Station
Docket Nos. 50-413, 50-414

Dear Sir:

By letter dated February 8, 1983, the NRC issued Generic Letter No. 83-10c concerning resolution of TMI Action Plan Item II.K.3.5, "Automatic Trip of Reactor Coolant Pumps." In response to your letter, Duke provided plans and a schedule for completion of these tasks by letter dated April 22, 1983. Generic resolution of this item was pursued through a Westinghouse Owners Group program. The submittals which fulfill the established requirements have been transmitted to you by Westinghouse Owners Group letters OG-110, dated December 1, 1983 and OG-117, dated March 12, 1984. Plant specific items not addressed by these submittals are addressed in this letter.

Section I of the attachment to Generic Letter 83-10c discusses "Pump Operation Criteria Which Can Result in RCP Trip during Transients and Accidents." Sub-section 1 of Section I presents guidelines for establishing setpoints for RCP trip. The Westinghouse Owners Group response to this section of Generic Letter 83-10c is contained in Revision 1 to the Westinghouse Owners Group Emergency Response Guidelines, which has been issued to member utilities. Operator training and implementation are scheduled for completion by initial fuel load.

The RCP trip criterion being adopted in the Catawba plant specific emergency procedures not only assures RCP trip for all losses of primary coolant for which trip is considered necessary, but also permits RCP operation to continue during most non-LOCA accidents, including steam generator tube rupture events up to the design basis double-ended tube rupture. The generic applicability of the RCP trip criterion selected has been documented by the Westinghouse Owners Group report entitled, "Evaluation of Alternate RCP Trip Criteria," which has been submitted to the NRC for review in letter OG-110.

The Westinghouse Owners Group has also submitted to the NRC, via letter OG-117, the report entitled, "Justification of Manual RCP Trip for Small Break LOCA Events." As stated above, these submittals completed the Westinghouse Owners Group documentation comprising a generic reply to NRC Generic Letter 83-10c.

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Subsection 2 of Section I of the attachment to Generic Letter 83-10c provides guidance for justification of manual RCP trip. Subsection 2a requires that compliance with 10 CFR 50.46 be demonstrated in an Appendix K small break LOCA analysis given that the RCPs are tripped two minutes after the onset of reactor conditions corresponding to the RCP trip setpoint. The Westinghouse Owners Group has generically verified, in the OG-117 submittal, that predicted LOCA transients presuming the two minute delayed RCP trip are nearly identical to those presented in safety analysis reports utilizing the WFLASH evaluation model. Thus, the Final Safety Analysis Report for the Catawba Nuclear Station demonstrates its compliance with the Subsection 2A guidelines.

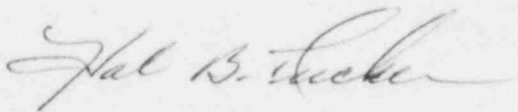
The Westinghouse Owners Group has also performed most probable, best estimate WFLASH analyses to demonstrate, generically, compliance with the guidelines presented in Subsection 2b of Section I of the attachment to Generic Letter 83-10c. These analyses identify that the minimum time available for operator action for the complete range of LOCA break sizes exceeds the value contained in draft ANSI Standard N660; they show that reactor coolant pumps may be tripped at any time during a LOCA event without resulting in excessive clad temperatures. The applicability information presented in the generic report affirms the applicability of these best estimate analyses to Catawba. Therefore, in combination with the Subsection 2a justification cited above, the best estimate analyses justify that manual RCP trip is acceptable for Catawba when RCP trip setpoints consistent with Revision 1 to the Emergency Response Guidelines are in use. Furthermore, the generic report demonstrates that no additional contingency emergency procedures are required to address the scenarios which may follow a missed RCP trip setpoint.

Subsection 3 of Section I of the attachment to Generic Letter 83-10c requests additional plant specific information concerning RCP trip. Subsection 3a discusses the level of quality of the instrumentation that will be utilized to signal the need for RCP trip. The RCP trip criterion for Catawba will be a loss of Reactor Coolant System subcooling. A loss of subcooling is calculated by comparing wide range hot leg temperature, core exit thermocouple temperature, and wide range pressure to an error-adjusted saturation curve. This calculation is provided by the Operator Aid Computer and is displayed on a CRT. The operator can also manually determine a loss of subcooling by comparing pressure and temperature to a subcooling margin curve. These instruments have been categorized by Duke as Type A variables as specified by Regulatory Guide 1.97, Revision 2. As such, they are qualified to a level that is adequate for the intended function. Subsection 3b requires that timely restart of the reactor coolant pumps be included in the emergency procedure. The Catawba emergency procedures include such guidance where appropriate. Subsection 3c requires that the training program provide instruction and emphasis on the responsibility of the operator to trip the reactor coolant pumps on a loss of subcooling. Such instruction and emphasis will be provided and are supported by the prominence of the reactor coolant pump trip guidance in the Catawba emergency procedures.

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In summary, the generic information presented by the Westinghouse Owners Group in the reports entitled, "Evaluation of Alternate RCP Trip Criteria" and "Justification of Manual RCP Trip for Small Break LOCA Events," and the plant specific information included in this letter provide the response to Generic Letter 83-10c for the Catawba Nuclear Station. The implementation of the upgraded emergency procedures which include the reactor coolant pump trip on loss of subcooling resolves all issues associated with RCP trip for SBLOCA mitigation.

Very truly yours,



Hal B. Tucker

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cc: Mr. James P. O'Reilly, Regional Administrator
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