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September 18, 1984

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

Attention: Ms. E. G. Adensam, Chief
Licensing Branch No. 4

Re: Catawba Nuclear Station
Docket Nos. 50-413 and 50-414

Dear Mr. Denton:

On June 29, 1984, Duke Power provided additional information on the initial test program for Catawba Units 1 and 2. Included in this submittal as a part of Attachment 2 was a proposed exception to Regulatory Guide 1.68, Rev. 2, Appendix A, Section 5.f. In Supplement 3 to the Catawba SER, the Staff found this proposed exception unacceptable without further technical justification.

Appendix A, Section 5 of Regulatory Guide 1.68, Rev. 2 provides an illustration of the types of tests that should be performed during the power-ascention test phase. Paragraph (f) requests a demonstration that core thermal and nuclear parameters are in accordance with predictions with a single high worth rod fully inserted and during and following return of the rod to its bank position. As noted in FSAR Table 14.2.7-1 (Page 3), which was submitted in the above referenced letter, exception is taken to the above requirement following return of the rod to its bank position.

Catawba utilizes the Westinghouse movable incore detector system for obtaining flux (reaction rate) data for synthesizing the core's power distribution. Because of the mechanics of this system, full core mapping can take a nominal two (2) hours. It is therefore not meaningful to take a core power distribution map immediately following the return of a rod to its bank position. Changes in xenon would make the resulting measurement meaningless. Other alternatives are to wait on peak xenon or equilibrium xenon before recording the power distribution. This would require a nominal 9 to 10 hours delay if taken at peak xenon or longer if taken at equilibrium xenon. Neither approach is considered practical.

The movable incore detector system discussed above is a standard system for Westinghouse NSSS units. Because of the impracticality of full core mapping during a misaligned rod test, to the best of our knowledge, this test has never been performed on similar Westinghouse NSSS units. For this reason, Westinghouse does not provide synthesis factors for this particular core condition and no comparision with predictions could be made as required by the A.5.f position.



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In Chapter 14 of Catawba SSER-3, the Staff noted that their review of this startup test on other plants indicated that although the data taken on this test would not be in xenon steady state, the xenon transient effects would be small compared to the time scale of a dropped rod. The Staff's discussion did not indicate if the startup tests reviewed by the Staff were from facilities with fixed incore detectors, which would allow a "snap-shot" core power distribution, or at a facility more comparable to Catawba with a movable incore detector system.

Recognizing the impracticality of the full core flux mapping during transient conditions, it is our conclusion that the requested partial exception to Regulatory Guide 1.68, Rev. 2, Appendix A, Section 5.f is technically justified and we therefore request that the Staff approve the requested exception in a future supplement to the Catawba SER.

Very truly yours,

H. B. Tucker/1811

Hal B. Tucker

ROS:slb

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