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June 15, 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 No. 50-413

Dear Mr. Denton:

On June 8, 1984, Duke Power telephoned Mr. Kerry Landis at Region II to notify the NRC of a potentially reportable item relating to recent information concerning the analysis performed by Duke Power for a Main Steam Line Break (MSLB) in the Catawba Nuclear Station doghouses. Based upon the original Westinghouse analysis for an in-containment MSLB which considered a saturated steam condition in the steam generators, Duke Power also had assumed a saturated steam condition for a MSLB in the doghouses which are located outside containment. The results of this analysis served as a basis for doghouse design, including resulting environmental parameters to be employed for equipment qualification in this area of the plant. Westinghouse has since determined that a MSLB can cause steam generator tubes to uncover, allowing superheated steam to form, generating higher steam line exit temperatures. Based upon this new, preliminary mass/energy release datum from Westinghouse, revised Duke Power environmental analysis indicates an increase in doghouse temperature greater than the previous design basis of 330°F. Currently, the doghouse equipment qualification documentation is based upon the 330°F parameter.

To date, Duke Power's review of this problem has determined that some of the essential components that must function to mitigate the consequences of this event are located in the doghouses, but we have not yet fully determined if any design modifications or revision to equipment qualification documentation will be necessary.

Duke Power has reviewed this situation with respect to the pending request to load fuel and perform pre-critical testing for Catawba Unit 1. It was concluded that the consequences would be less severe than analyzed in FSAR Section 15.1.5 for the following reasons:

1) Prior to initial criticality, there would be no fission product inventory in the core.

2) The moderator temperature coefficient at beginning-of-life (BOL) is slightly positive. Therefore, the core would not go critical as a result of a MSLB accident.

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Our present action plan for resolving this problem is to complete our review of the effects of this overtemperature condition, determine if any plant modifications or revisions to equipment qualification documentation are necessary, schedule for their implementation (should the final analysis indicate that modifications are required), and submit a report by July 9, 1984. This report of Duke Power's finding/conclusions will be sent to Region II and to NRR.

Duke Power will continue to keep you advised as to any other major items of concern should they occur as our review progresses. In the interim, please let me know if you have any questions concerning this matter.

Very truly yours,

Hal B Tucker /gc

Hal B. Tucker

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