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U. S. Nuclear Regulatory Commission  
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Subject: Catawba Nuclear Station, Unit 2  
Docket Nos. 50-414  
Report Pursuant to 10 CFR 50.46, Changes to or  
Error in an ECCS Evaluation Model

#### Background

Catawba Unit 2 implemented Westinghouse RFA fuel starting with Cycle 11. The transition to RFA fuel required a reanalysis of the UFSAR Chapter 15 safety analysis, including the LOCA analysis. Large break LOCA (LBLOCA) calculations were performed by Westinghouse using the 1981 Westinghouse Large Break LOCA Evaluation Model with BASH. The limiting case was identified as an Integral Fuel Burnable Absorber (IFBA) fuel rod. The peak cladding temperature (PCT) for this case is 2094 degrees F which includes a 50 degree F penalty that accounts for transition core effects.

#### Discussion

On May 15, 2000, Duke Energy Corporation (Duke) was notified of an input error in the limiting large break LOCA calculation. The error resulted in a 20-second delay in the hot assembly average rod burst time. Correction of the error results in a PCT penalty of 29 degrees F. The previous analysis of record (AOR) PCT was 2044 degrees F, without the 50 degrees F transition core penalty. The new calculation with corrected input results in PCT of 2073 degrees F. In addition, it was discovered that the IFBA fuel rod was no longer limiting. In the previous analysis, it was assumed that the IFBA fuel rod case would represent the limiting condition. As such, an IFBA fuel rod was used in the mixed assembly study. However, this assumption was reexamined and a non-IFBA fuel rod was analyzed and resulted in a PCT of 2090 degrees F. This change represents an additional penalty of 17 degrees F. Thus, the overall change in AOR PCT is +46 degrees F.

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U. S. Nuclear Regulatory Commission

June 12, 2000

Page 2

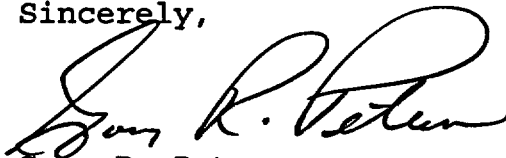
The overall change in PCT has been determined from a comparison of the previous limiting case (IFBA fuel rod) to the new limiting case (non-IFBA fuel rod). If the change in PCT was determined from previous non-IFBA fuel rod results to the revised non-IFBA fuel rod results, then the change in PCT could be in excess of 50 degrees F. Therefore, Duke is conservatively classifying the change in PCT as significant, and reporting this information within 30 days.

Since all affected calculations have been reanalyzed, no schedule for reanalysis is required. It should be noted that all of the 10 CFR 50.46 acceptance criteria continue to be met.

In summary, the large break LOCA AOR PCT is changed from 2094 degrees F to 2140 degrees F (this includes the 50 degrees F transition core penalty). Two revisions have been made to the analysis, 1) correction of the hot assembly average rod burst time, and 2) consideration of the non-IFBA case in the mixed assembly blockage study. These revisions have no impact on the small break LOCA analyses.

Any questions concerning this report may be directed to Kay Nicholson at 803-831-3237.

Sincerely,



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