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LIC-92-086R

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, DC 20555

References: 1. Docket No. 50-285
2. Letter from OPPD (W.G. Gates) to NRC (Document Control Desk) dated November 27, 1991 (LIC-91-320A)
3. Letter from OPPD (W.G. Gates) to NRC (Document Control Desk) dated February 12, 1992 (LIC-92-020R)

Gentlemen:

SUBJECT: Additional Information Concerning Fort Calhoun Station (FCS) Cycle 14 Reload Application

On February 13, 1992, during the preparation of reactor physics analyses to support Cycle 14 startup operations, a member of the OPPD staff identified a discrepancy in a predicted fuel assembly k_∞ value in a core location which will contain hafnium flux suppression rods. A subsequent review concluded that an error did exist in the Batch N fuel assembly cross section data set containing hafnium rods which was developed by ABB Combustion Engineering. Since the cross section data set was used in the Cycle 14 core reload analysis (Reference 2), it was necessary to evaluate the impact on the safety analysis using the corrected cross sections. The purpose of this letter is to document the impact of this error and provide the necessary changeout pages to the Cycle 14 reload application to support the NRC review.

The impact of the corrected cross sections on Reference 2 was a reduction in the Box No. 1 power (containing the hafnium rods). This change resulted in a small increase (indicated in Table 1) in the integrated radial peaking factor of the limiting fuel assembly. Other parameters input to the safety analysis also changed. However, the changes were in the conservative direction or were incorporated into the safety analysis by reanalyzing the potentially non-conservative events. Table 1 summarizes the Reference 2 parameter values versus the corrected values for the Cycle 14 analysis.

Attachment 1 contains changeout pages for Reference 2 reflecting the effects on the safety analysis with the use of revised input parameters of Table 1. The changes are noted by revision bars in the right-hand page margin. It should also be noted that the clarifications identified in Reference 3 have also been incorporated into the changeout pages.

The use of NEM biases/uncertainties is conservative for use with the NEM-based analyses. In Attachment 2, justification for use of the Reference 3 NEM-based biases/uncertainties for peaking factors is provided.

In summary, the effects of the cross section error are considered to be small with the slight increase in integrated radial peaking factor being the most significant change to Reference 2. It is concluded that based on Attachment 1, acceptable results continue to be obtained and that application of the Reference 3 NEM biases/uncertainties further minimizes the impact of the cross-section error.

The above information, together with telephone discussions with the NRC on February 21, 1992, should address the NRC's questions on this matter. As discussed, this information has been submitted expeditiously in order to support the planned April 26, 1992 start-up of FCS.

If you should have any questions, please contact me.

Sincerely

W. G. Gates
Division Manager
Nuclear Operations

WGG/sel

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