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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Subject: McGuire Nuclear Station
Docket Numbers 50-369 and -370
Catawba Nuclear Station
Docket Numbers 50-413 and -414
Responses to Questions on
Topical Report DPC-NE-3001

On January 29, 1990, Duke submitted the subject Topical Report, "Safety Analysis Physics Parameters and Multidimensional Reactor Transients." By letter dated December 24, 1990, the NRC staff provided questions regarding the subject Topical Report. Attached are formal responses to the staff's questions.

If there are any further questions, please call Scott Gewehr at (704) 373-7581.

Very truly yours,

M. S. Tuckman

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SAG/252/lcs

xc: (W/Attachments)
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1. Will the DPC methods be applied to cores including fuel from multiple fuel vendors? If so, justify the use of VIPRE01, ARROTTA and RETRAN-02 and the selected options/data for this application?

Response:

The DPC methods described in DPC-NE-3001 will be applied to reload cores which may include fuel from different fuel vendors. Due to the relative similarity of current PWR fuel designs, it is anticipated that the DPC methods will remain valid. At present, the Westinghouse optimized fuel assembly (OFA) design and the B&W Mark-BW fuel design have been analyzed. The neutronic differences in these fuel designs are accommodated by determining values of safety analysis physics parameters that conservatively bound both fuel types, or by explicitly analyzing a specific reload design. Fuel design data input to the VIPRE-01, ARROTTA, and RETRAN-02 codes are selected to be consistent with one of these approaches. The VIPRE-0 and RETRAN-02 analyses model both fuel types to ensure that the impact of fuel design data is explicitly calculated. In the ARROTTA rod ejection analysis, the relatively small neutronic differences between OFA and Mark-BW fuel designs are insignificant when compared to the conservative adjustments made to the cross sections in order to model a highly peaked core with bounding physics parameters. In addition, the selection of code options is not affected by a different fuel design. The fuel assembly design data employed in the analyses will be consistent with the fuel types comprising the reload core.