

July 14, 2003

Mr. Michael S. Tuckman  
Executive Vice President  
Duke Energy Corporation  
526 South Church St  
Charlotte, NC 28201-1006

SUBJECT: WILLIAM B. MCGUIRE NUCLEAR STATION, UNITS 1 AND 2 AND CATAWBA  
NUCLEAR STATION, UNITS 1 AND 2 RE: MIXED OXIDE LEAD FUEL  
ASSEMBLIES (TAC NOS. MB7863, MB7864, MB7865, AND MB7866)

Dear Mr. Tuckman:

By letter dated February 27, 2003, you submitted applications for amendments to the operating licenses for McGuire Nuclear Station, Units 1 and 2 and Catawba Nuclear Station, Units 1 and 2. The proposed amendments would revise the Technical Specifications to allow the use of four mixed oxide (MOX) fuel assemblies at either the Catawba or McGuire station. The Nuclear Regulatory Commission staff has reviewed the information provided and has determined that additional information is required as follows.

The submittal states that the fuel assemblies containing MOX fuel may be stored in the regions 1A and 2A of the spent fuel pools in the McGuire plant. In determining reactivity of the fuel stored in these regions, credit is taken for 25 percent and 40 percent of the Boraflex neutron absorber in the region 1A and 2A fuel racks, respectively. The credit was based on the prediction that the Boraflex will not degrade beyond these values prior to the end of 2006. In making these predictions, certain conditions to which Boraflex panels are exposed were assumed. Since Boraflex degrades and loses its neutron absorbing properties with increasing radiation dose that it receives, any increase in dose rate will result in either shorter time periods for which the currently specified credit applies, or lower values for the allowable percentage of Boraflex. The MOX fuel has properties that differ from the low enriched uranium fuel. Could these properties expose the Boraflex to higher radiation dose rates? If that is found to be the case, what would the effect be on the Boraflex credit assumed in reactivity calculations?

We discussed these questions with your staff on July 14, 2003. Your staff indicated that a response could be provided by August 30, 2003. Please contact me at (301) 415-1493, if you have any other questions on these issues.

Sincerely,

*/RA/*

Robert E. Martin, Senior Project Manager, Section 1  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-369, 50-370, 50-413, and 50-414

cc: See next page

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\* See previous concurrence

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