

July 26, 2002

Mr. M. S. Tuckman
Executive Vice President
Nuclear Generation
Duke Energy Corporation
526 South Church St
Charlotte, NC 28202

SUBJECT: CATAWBA NUCLEAR STATION, UNITS 1 AND 2 AND MCGUIRE NUCLEAR STATION, UNITS 1 AND 2 RE: REQUEST FOR ADDITIONAL INFORMATION - REVIEW OF DUKE TOPICAL REPORT DPC-NE-2009, REVISION 2 (TAC NOS. MB4502, MB4503, MB4504 AND MB4505)

Dear Mr. Tuckman:

The Nuclear Regulatory Commission is reviewing your application dated February 28, 2002, entitled "Topical Report DPC-NE-2009, Revision 2 - Updates to Chapters 2, 4, and 5" and has identified a need for additional information as identified in the Enclosure. These issues were discussed with your staff on July 24, 2002. Please provide a response to this request within 45 days of receipt of this letter so that we may complete our review.

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

Enclosure: Request for Additional Information

cc w/encl: See next page

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DATE	7/25/02	7/25/02	7/25/02	7/25/02

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REQUEST FOR ADDITIONAL INFORMATION
LICENSE AMENDMENT REQUEST APPLICABLE TO
REVISIONS TO TOPICAL REPORT DPC-NE-2009, REVISION 2
CATAWBA NUCLEAR STATION, UNITS 1 AND 2
MCGUIRE NUCLEAR STATION, UNITS 1 AND 2
DUKE ENERGY CORPORATION

The staff has reviewed Duke Energy Corporations's submittal dated February 28, 2002, "Topical Report DPC-NE-2009, Revision 2 - Updates to Chapters 2, 4, and 5" and has identified a need for the following additional information.

1. Section 5.3 of DPC-NE-2009, Revision 2, states that the WRB-2M critical heat flux (CHF) correlation will be used for the robust fuel assembly (RFA) design, whereas the BWU-N CHF correlation will be applied for the non-mixing vane span of the RFA fuel.
 - A. Discuss the applicability of the BWU-N correlation to the RFA non-mixing vane span. The discussion should include whether the RFA fuel design is within the range of the test assemblies data base used to develop the BWU-N correlation. The test assemblies data base parameters include the fuel diameter, pitch, hydraulic diameters, grid design (grid thickness, height, and vane design), grid spacing, and heated length.
 - B. The WRB-2M correlation described in WCAP-15025-P-A, "Modified WRB-2 Correlation, WRB-2M, for Predicting Critical Heat Flux in 17 x 17 Rod Bundles with Modified LPD Mixing Vane Grids," is applicable to the 17 x 17 fuel with 0.374 inch outer diameter rods and modified low pressure drop grids, with or without modified intermediate flow mixing grids. Is the WRB-2M correlation not applicable to the RFA non-mixing vane span? Why is the BWU-N correlation used?
 - C. Discuss how two different correlations are applied to the different spans of a fuel assembly. Is the VIPRE-01 code programmed to automatically perform the switch in the correlations? Has verification and validation been done to ensure correctness of VIPRE-01 in the correlation switch?
2. For the transition cores with co-existence of the RFA and Mark-BW fuel designs, Section 5.7 of Revision 2 of the report, states that a transition core departure from nucleate boiling ratio penalty for the RFA design is determined using the 8 channel RFA/Mark-BW transition core model for initial transition reload cycles, and using the 75 channel model for subsequent cycles where the RFA fuel composes greater than 80 percent of the assemblies in the core.

Explain why it is necessary to use different core models depending on whether the RFA fuel composes greater than 80 percent of the assemblies.

McGuire Nuclear Station
Catawba Nuclear Station

cc:

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