

June 30, 2004

Mr. G. Peterson
Vice President
McGuire Nuclear Station
Duke Energy Corporation
12700 Hagers Ferry Road
Huntersville, NC 28078-8985

SUBJECT: MCGUIRE NUCLEAR STATION, UNITS 1 AND 2 - REQUEST FOR
ADDITIONAL INFORMATION RE: THE PROPOSED AMENDMENTS
CONCERNING SPENT FUEL ASSEMBLY STORAGE (TAC NOS. MC0945
AND MC0946)

Dear Mr. Peterson:

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated September 29, 2003, and supplemented on April 22 and May 20, 2004, you submitted an application for amendments to the operating license for McGuire Nuclear Station, Units 1 and 2. The amendments would revise Technical Specifications concerning spent fuel assembly storage. The NRC staff has reviewed your submittal and has determined that additional information is required. Our questions are provided in the Enclosure. We discussed these questions with your staff on June 22, 2004. Your staff indicated that a response could be provided within 30 days of the date of this letter.

If you have any further questions on this matter, please call me at (301) 415-1388.

Sincerely,

/RA/

James J. Shea, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-369 and 50-370

Enclosure: Request for Additional Information

cc w/encl: See next page

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*Previous concurrence via e-mail

NRR-088

OFFICE	PDII-1/PM	DSSA/SRXB	PDII1/SC (A)
NAME	JShea	JUhle*	SCoffin
DATE	'06/21/04	'06/21/04	'06/30/04

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REQUEST FOR ADDITIONAL INFORMATION
ON SPENT FUEL ASSEMBLY STORAGE AMENDMENT REQUEST
MCGUIRE NUCLEAR STATION, UNITS 1 AND 2
DOCKET NOS. 50-369 AND 50-370

Following review of the amendment request submitted by Duke Energy Corporation (Duke or licensee) regarding changes to the spent fuel pool (SFP) loading restrictions at McGuire Nuclear Station, Units 1 and 2, the staff identified the need for additional information to complete its review. Duke provided responses to the previous requests for additional information (RAIs) in letters dated April 22 and May 20, 2004. Following review of those RAI responses, the NRC staff had determined that additional information is required in order to complete our review.

1. In Duke's response to RAI Question #8 from the April 22 letter, the licensee stated that, "It was assumed that the maximum burnup computational uncertainty calculated over the range of elevated burnups, 0.00454 Δk , would occur at 50 gigawatt days per metric ton (GWD/MTU) and would be zero at 0 GWD/MTU." Therefore, the licensee assumed a linear relationship between the burnup uncertainty and the burnup over the range of 0 to 50 GWD/MTU. Based on the NRC staff's understanding of the RAI response, burnups greater than 50 GWD/MTU would be assumed to have the maximum burnup computational uncertainty of 0.00454 Δk . Therefore, the NRC staff requests the licensee provide the following information:
 - a. For storage configurations which credit fuel assembly burnups in excess of 50 GWD/MTU, the NRC staff requests the licensee identify the value of the burnup computational uncertainty used.
 - b. If a burnup computational uncertainty of 0.00454 Δk was applied to storage configurations which credit burnups in excess of 50 GWD/MTU, the NRC staff requests the licensee provide additional information to justify why this value remains conservative and a larger uncertainty was not needed.
2. In response to RAI Question #10 from the April 22 letter, the licensee stated that, "Discharge data from 'best-estimate' future core designs were used to quantify the isotropic content of W-RFA fuel, because this design has only recently been introduced into the McGuire reactors, and so the historic W-RFA data are currently limited." As stated on pages 25 and 26 of Attachment 6, the NRC staff agrees that the licensee's modeling of integral burnable poisons as discrete burnable poisons will provide conservative results due to the effects this will have on the assumed neutron spectrum around the fuel assemblies. However, the NRC staff requests that since the licensee is relying on "best-estimate" assumptions of reactivity-important core parameters during future cycle reloads, the licensee should provide a description of the process it will use to confirm that the each fuel assembly was exposed to more conservative core parameters than assumed in the analysis, prior to placing it in the SFP.

3. In response to RAI Question #15 from the April 22 letter, the licensee stated, "Each month, the burnup and isotropic weights for each fuel assembly is determined based on flux maps taken during cycle operation." The NRC staff requests the licensee identify the NRC approved methodology used to perform flux maps and determine cycle burnup.
4. In the cover letter for its September 29, 2003, license amendment request, Duke stated that this amendment would change McGuire Nuclear Stations spent fuel pools' licensing bases to 10 CFR 50.68 from 10CFR 70.24 with an exemption. The NRC staff requests that Duke provide a brief summary of how it will satisfy each of the requirements in 10 CFR 50.68(b) upon approval and implementation of this amendment.

McGuire Nuclear Station

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