

# DUKE POWER COMPANY

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VICE PRESIDENT  
NUCLEAR PRODUCTION

April 28, 1983

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Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Attention: Ms. E. G. Adensam, Chief  
Licensing Branch No. 4

Re: McGuire Nuclear Station, Unit 2  
Docket No. 50-370

Dear Mr. Denton:

My letter of February 18, 1983 provided responses and clarifications to several items that the NRC had requested informally. Among the items addressed was "B<sub>4</sub>C Control Rod Surveillance", in which the NRC staff had expressed concern over potential boron leaching from the B<sub>4</sub>C pellets encapsulated in the Unit 2 control rods. Duke stated that we will verify reactivity worth on all control banks including the shutdown banks during initial physics testing and during startup physics testing following the first refueling shutdown. However, under the McGuire Technical Specifications it is not possible to measure all rod banks for McGuire 2 initial startup.

In approving use of the hybrid control rods, the NRC placed three requirements on Westinghouse for physics testing and surveillance of these rods. They are:

1) measurement of all bank worths each cycle, 2) several worth checks throughout the first cycle, and 3) visual examination of the rods after three cycles.

For McGuire 2 Cycle 1 Zero Power Physics Testing, Duke intends to perform measurement of all banks (by boron addition or dilution) except shutdown banks A and B, as was done on McGuire 1 Cycle 1. The Westinghouse rod swap topical report, which would allow measurement of all banks using rod swap, has not yet received a SER from the NRC and therefore cannot be used. After the worth of shutdown bank C has been determined, shutdown bank B and part of shutdown bank A will be "swapped" with the highest worth stuck rod. After this rod swap is performed shutdown bank A will be diluted, and a "boron endpoint" performed with the remaining portion of shutdown bank A. From the information obtained, the worth of all rods minus the highest worth stuck rod is calculated (must be within  $\pm 10\%$  of predicted). Also the boron concentration with all rods minus the highest worth stuck rod is calculated (must be within  $\pm 50$  ppm or predicted). It should be noted that this is the way Westinghouse compares rod worths determined by dilution to rod worths determined by rod swap in WCAP-9863, "Rod Bank Worth Measurements Utilizing Bank Exchange".

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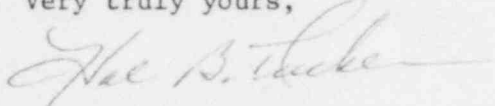
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For reload testing we expect to initially measure all banks using rod swap. Duke will be reviewing all physics test measurement programs and may be recommending reductions in these programs in the future. Such reduced scope programs will be developed consistent with industry standards, Duke experience, and merit of performing the particular measurement.

Estimated critical positions (ECPs) will be used throughout Cycle 1 to satisfy the worth check requirements. A visual inspection of the hybrid control rods will be performed after the third cycle of operation, as required by the SER.

If there are any questions regarding this matter, please advise.

Very truly yours,



Hal B. Tucker

PBN:jfw

cc: Mr. James P. O'Reilly, Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region II  
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Mr. W. T. Orders  
NRC Resident Inspector  
McGuire Nuclear Station