

DUKE POWER COMPANY

P.O. BOX 33189
CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

April 28, 1983

TELEPHONE
(704) 373-4531

Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 2900
Atlanta, Georgia 30303

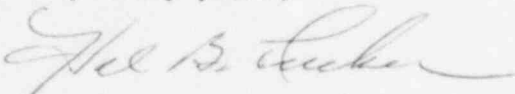
Subject: McGuire Nuclear Station
Docket No. 50-369

Dear Mr. O'Reilly:

The removal of burnable poison rod assemblies at McGuire Unit 1 (Re: Reportable Occurrence Report No. RO-369/83-11) does not affect the F_{xy} limits; however, the change does affect the plot of $[F_Q^T \cdot P_{Re1}]$ vs. Axial Core Height which is usually included for information with the Radial Peaking Factor Limit Report. Thus, a new Radial Peaking Factor Limit Report is attached for your information.

This report is not required by Technical Specification 6.9.1.12 because the F_{xy} limits are not being revised. Therefore, the requirement to submit this report 60 days prior to the effective date of the limits does not apply.

Very truly yours,



Hal B. Tucker

REH:jfw
Attachment

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

Mr. W. T. Orders
NRC Resident Inspector
McGuire Nuclear Station

Attention: Chief, Core Performance Branch

8305100366 830428
PDR ADOCK 05000369
S PDR

OFFICIAL COPY

IE 27

Radial Peaking Factor Limit Report

The F_{xy} limits for RATED THERMAL POWER within specific core planes for the mid-Cycle 1 Redesign of Unit 1 shall be:

1. F_{xy}^{RTP} less than or equal to 1.71 for all core planes containing bank "D" control rods, and
2. F_{xy}^{RTP} less than or equal to 1.55 for all unrodded core planes.

These $F_{xy}(z)$ limits were used to confirm that the heat flux hot channel factor $F_Q(z)$ will be limited to the Technical Specification values of:

$$F_Q(z) \leq \left[\frac{2.32}{P} \right] [K(z)] \quad \text{for } P > 0.5 \text{ and,}$$

$$F_Q(z) \leq [4.64] [K(z)] \quad \text{for } P \leq 0.5$$

assuming the most limiting axial power distributions expected to result from the insertion and removal of Control Banks B, C and D during operation, including the accompanying variations in the axial xenon and power distributions as described in the "Power Distribution Control and Load Following Procedures", WCAP-8403, September, 1974. Therefore, these F_{xy} limits provide assurance that the initial conditions assumed in the LOCA analysis are met, along with the ECCS acceptance criteria of 10CFR50.46.

See Figure 1 for a plot of $[F_Q^T \cdot P_{Re}]$ vs. Axial Core Height.

Figure 1
Maximum $F_Q^T \cdot P_{Rel}$ Versus Axial Height
During Normal Core Operation

