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December 28, 1987

U. S. Nuclear Regulatory Commission
Attn: W. T. Russell, Regional Administrator
Region I
631 Park Avenue
King of Prussia, PA 19406

Reference: Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, License No. DPR-66
Radial Peaking Factor Limit Report - Cycle 7

Gentlemen:

Enclosed are the Cycle 7 Radial Peaking Factor Limit Report and associated graph, Maximum (F_q^T * P_{rel}) vs. Axial Height During Normal Operation. This is provided in accordance with technical specification 6.9.1.14. A copy of this letter and attachments have been forwarded to the Director, Nuclear Reactor Regulation, U. S. Nuclear Regulatory Commission as stated in the above technical specification.

Very truly yours,

J. D. Sieber
Vice President, Nuclear

Attachment

cc: Mr. J. Beall, Sr. Resident Inspector
Dr. T. E. Murley, Director Office of NRR
Mr. P. Tam, Project Manager
Document Control Desk

BEAVER VALLEY UNIT 1

CYCLE 7

RADIAL PEAKING FACTOR LIMIT REPORT

This Radial Peaking Factor Limit Report is provided in accordance with paragraph 6.9.1.14 of the Beaver Valley Unit 1 Technical Specifications.

The F_{xy} limits for RATED THERMAL POWER within specific core planes for Cycle 7 shall be:

1. $F_{xy}^{RTP} \leq 1.71$ for all core planes containing D-BANK

2. For unrodded core planes:

   $F_{xy} \leq 1.68$ from 1.8 ft. elevation to 2.6 ft. elevation

   $F_{xy} \leq 1.62$ from 2.6 ft. elevation to 4.6 ft. elevation

   $F_{xy} \leq 1.63$ from 4.6 ft. elevation to 6.6 ft. elevation

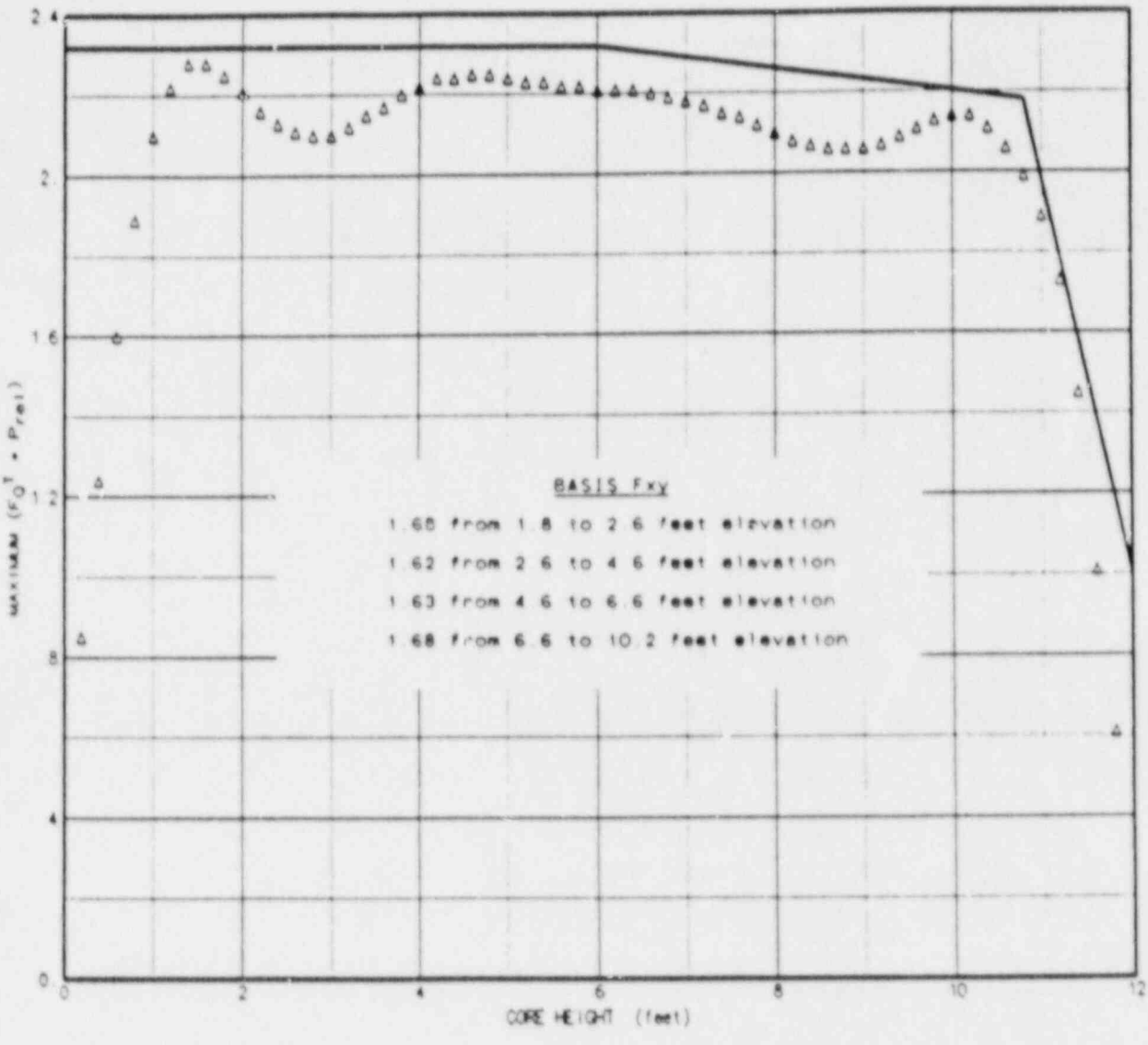
   $F_{xy} \leq 1.68$ from 6.6 ft. elevation to 10.2 ft. elevation

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:

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

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

assuming the most limiting axial power distributions expected to result from the insertion and removal of control banks C and D during operation, including the accompanying variations in the axial xenon and power distribution as described in the "Power Distribution Control and Load Following Procedures," WCAP-8385, September, 1974. Therefore, these F_{xy} limits provide assurance that the initial conditions assumed in the LOCA analyses are met, along with the ECCS acceptance criteria of 10 CFR50.46.



MAXIMUM (F_Q^T * P_{REL}) VS AXIAL CORE HEIGHT

DURING NORMAL OPERATION